

ANNUAL REPORT

2019-20



Environics Trust



Meeting in Majhi Tikra, Kudumkela, Chhattisgarh

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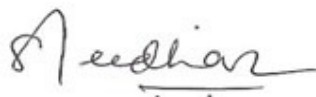
PREFACE

Environics Trust (www.environicsindia.in) was registered in March 2003 with the following objectives:

To conduct research and development on environmental issues and human behavioural aspects; 2. To implement programmes for community development; 3. To promote art and culture, innovate and implement technical and institutional designs for an integrated development of the society; 4. To assist, guide local governments, state and central government and international agencies in their development efforts; 5. To provide assistance to communities to redress injustices and uphold their rights; 6. To diffuse useful, educational, literacy, social, academic, professional and other knowledge; 7. To apply results from scientific research for protecting local and global environment; 8. To promote Environics as a discipline converging various subjects related to environmental sciences and human behaviour.

Environics Trust considers sustainable development as a process that conserves existing options and generating more alternatives for systems to be in ecological harmony. These processes must address the four non-orthogonal aspects of equity, environmental soundness, economic efficiency, and endogeneity. In its mission to find innovative solutions to the problems of community development, Environics has been following these four practices; 1) Participatory Research; 2) Community Based Action 3) Enterprises Development and Servicing and 4) Communication and Training.

This year beyond our regular activities the focus was on understanding various dimensions of “Just Transition”. We approach from a perspective of energy transition and climate justice which have become a crucial to the sustenance of various ecosystems across the globe. Some glimpses are captured in this Annual Report.



R.Sreedhar, Managing Trustee



JUST TRANSITION

From Impacts of Power Plants to enabling communities to demonstrate

Captive Power Plants in India

As per the Central Electricity Authority, there are 6094 captive power plants in the country¹. These include plants using various sources like Diesel, steam, Hydro, Solar, Wind, Gas and Steam. These numbers are for the year 2018-2019 as on 20 Aug 2020. The total installed capacity is 75,207 MW. CEA had undertaken an exercise in 2017 to compile the data on captive power plants in the country and had held several regional meetings.

The most number of plants use Diesel as the fuel followed by Steam (assuming that steam reflects use of coal and lignite to generate steam). While the number of plants using Diesel as the fuel is more, the installed capacity generation is almost three times that of Diesel plants.

Fuel Source	Number of Plants	Installed Capacity (MW)
Diesel	4309	15556
Steam	933	47694
Solar	339	1064
Wind	281	2003
Gas	221	8787
Hydro	11	103
Grand Total	6094	75207

Looking at plants State wise, the maximum number of plants are in Tamil Nadu followed by Haryana. J&K and Daman and Diu have the least number of plants

State	Number of Captive Plants	State	Number of Captive Plants
Tamil Nadu	1000	Odisha	109
Haryana	832	Kerala	90
Karnataka	707	Himachal Pradesh	59
Gujarat	520	Puducherry	54
Maharashtra	387	Jharkhand	49
Punjab	337	Chandigarh	34
Rajasthan	313	Assam	31
Andhra Pradesh	288	D & N Haveli	22
Telangana	283	Goa	22
West Bengal	245	Bihar	20
Uttar Pradesh	213	Delhi	12
Madhya Pradesh	200	Meghalaya	12
Chhattisgarh	128	Daman & Diu	6
Uttarakhand	115	Jammu & Kashmir	6
Grand Total		6094	

Steam Based PLants

For the Steam Based Captive plants, the maximum number are located in Karnataka and minimum are located in Chandigarh. There are 933 total plants (Units) in the country with an installed capacity of 47,694 MW

Steam Based Captive Plants - State Wise			
State	Number of Plants	State	Number of Plants
Karnataka	115	Jharkhand	19
Maharashtra	111	Bihar	13
Tamil Nadu	102	Assam	9

¹ http://cea.nic.in/reports/others/planning/pslf/list_CPP_2018-19.pdf

Andhra Pradesh	86	Uttarakhand	9
Chhattisgarh	81	Haryana	8
Gujarat	71	Kerala	6
Odisha	65	Puducherry	6
Rajasthan	45	Himachal Pradesh	5
Uttar Pradesh	43	Meghalaya	3
Madhya Pradesh	39	D & N Haveli	2
Telangana	34	Goa	2
Punjab	31	Chandigarh	1
West Bengal	27		
Grand Total		933	

Steam Based Plants – Installed Total Capacity

State	Installed Capacity (MW)	State	Installed Capacity (MW)
Odisha	10895	Punjab	538
Madhya Pradesh	6873	Haryana	277
Chhattisgarh	5999	Uttarakhand	179
Gujarat	3682	Bihar	171
Tamil Nadu	3290	Kerala	165
Karnataka	3253	Assam	133
Maharashtra	2719	Meghalaya	39
Andhra Pradesh	2240	Himachal Pradesh	35
Uttar Pradesh	2064	Chandigarh	25
Rajasthan	1763	Puducherry	14
Jharkhand	1497	Goa	10
Telangana	1143	D & N Haveli	8
West Bengal	680		
Grand Total		47694	

Top Captive Plants

The Top captive plants using steam with an installed capacity of more than 500 MW are below in the table. The list as provided by CEA may have some discrepancies as the LANCO Amarkantak Power plant in Korba is shown as a Captive power plant.

State/UT	Name of Industry with Address	Type of Industry	Installed Capacity (MW)
Madhya Pradesh	Naval Singh Sahkari Shakkar Karkhan Maryadit Burhanpur	Sugar	4500
Odisha	Vedanta Aluminium Ltd., Jharsuguda	Aluminium	3015
Chhattisgarh	Bharat Aluminium Co.Ltd.P.O. Korba	Iron & Steel	1440
Odisha	NALCO Ltd.,Smelter & Power Plant, Nalconagar, Angul	Aluminium	1200
Odisha	Aditya Aluminium Limited	Aluminium	900
Odisha	Jindal Steel and Power Limited	Iron & Steel	840.5
Uttar Pradesh	Hindalco Industries Limited (Renusagar power division)	Aluminium	840
Chhattisgarh	Jindal Steel & Power Ltd, Patrapali	Iron & Steel	824
Jharkhand	Tata Steel Limited, Jamshedpur	Iron & Steel	615
Chhattisgarh	Lanco amarkantak power ltd, Pathadi, Tilkeja, korba,	Textile	600

Karnataka	JSW Steel Ltd	Iron & Steel	600
Gujarat	Reliance Industries Ltd.Hazira Mfg.Divn	Chemical	564.5
Andhra Pradesh	Rashtriya Ispat Nigham Limited,	Iron & Steel	522.6
Madhya Pradesh	Ultratech cement Ltd, (Vikram cement works, Khor)	Cement	506
Odisha	Bhusan Power & Steel Ltd.	Iron & Steel	506
Chhattisgarh	SNPCL Puraina	Misc.	500

Sector-wise Steam Based Plants

The Sugar Industry has the most number of Captive Steam Based plants closely followed by Iron and Steel while Jute has the least. In terms of installed capacity, Iron & Steel industry has the highest capacity followed by Sugar and Aluminium industries. Although Aluminium industry has only a few Units, the capacity is large for these units.

Row Labels	Number of Plants (Units)	Sum of Installed Capacity (MW)
Sugar	164	7305
Iron & Steel	161	12454
Cement	98	4652
Chemical	89	2949
Textile	73	2122
Paper	71	1510
Misc.	58	1973
Rubber	49	894
Mineral Oil & Petroleum	34	2141
Elect. Engg.	29	1841
Food Products	28	281
Non Ferrous	19	1162
Fertiliser	14	479
Aluminium	13	7038
Mining & Quarrying	10	330
Collieries	6	128
Heavy Engg.	6	168
Light Engineering	5	98
Plastic	3	106
Automobiles	2	52
Jute	1	5
Grand Total	933	47694

1. While the number of plants using Diesel as the fuel is more, the installed capacity generation is almost three times that of Diesel plants.
2. Karnataka has the most number of captive steam based plants at 115 but the most installed capacity is in the state of Odisha at 10895 MW
3. 66 steam based plants have a capacity of less than or equal to 1.5 MW
4. 288 steam based plants have a capacity between 1.5 MW and equal to 10 MW
5. Only 76 plants have a capacity of more than 100 MW in the steam based plants, out of which 16 have a capacity more than 500 MW while 4 have a capacity of more than 1000 MW
6. Out of 16 plants with capacity above 500MW, 7 are from the iron and Steel industry while only 1 is from Sugar industry

Air Pollution and Monitoring

Air Pollution in the country has been deteriorating to dangerous levels over the past few years, mainly due to the increased pace of mining, industrial activity, construction activity, vehicular emissions, etc. The air quality in NCR and surrounding regions, has been especially making headlines due to the levels breaching the severe category regularly.

However, several regions in the country especially the coal mine areas have air quality even worse than Delhi but do not figure in the news either because the air pollution levels are not measured in these places or because the data is manipulated so as not to cause alarm. The monitoring stations installed by the companies are either non-functional or have been manipulated to ensure that the readings are all within legal limits. However, these legal readings fail to disclose the cumulative impact of a large number of mines/industries in a small city like Angul or Korba where multiple industries are located, and all routinely report pollution levels within limits.

Environics Trust has installed 97 low cost Air pollution monitor devices in multiple locations in the states of Chhattisgarh, Jharkhand, Odisha, Delhi, West Bengal and Uttar Pradesh to evaluate the pollution levels in several highly industrialised areas.

These devices clearly indicate that Air pollution is very high in these highly industrialised/mining cities and urgent measures are needed.

An analysis of Pollution data during Diwali season to ascertain the impact of bursting of crackers was done which clearly indicated an impact. (<http://environicsindia.in/2018/12/20/air-quality-the-impact-of-diwali/>)

The community engagement where the community residing near these industrial activities was done to make these people aware of the pollution, its impacts and their rights towards air pollution.

Some articles published on our website

1. <http://environicsindia.in/2017/06/19/air-pollution-reality-or-imagination/>
2. <http://environicsindia.in/2018/04/24/air-pollution-in-angul-district/>
3. <http://environicsindia.in/2018/11/15/air-pollution-in-selected-sites-in-september-2018/>

Environics trust has been continuously monitoring the pollution parameters using the low-cost devices installed in different areas. The trust has also been in the process of developing other models of devices which can be wearable and can contain more sensors in addition to continuously endeavour to lower the prices.

During the current financial year, a daily tracker has been initiated on the website which is updated regularly to indicate the AQI values of different cities where the devices are located. In addition, a WhatsApp group of the people in the communities where the devices are installed has been started wherein daily values of Air Quality Index values is sent in addition to other news about air pollution. This helps in further creating awareness among the community members and help them understand data and take further steps.

Regular Analysis is being performed on the monitored data. In addition, the data was analysed during the month of March 2020 to ascertain the impact of country wide lockdown due to Covid-19 epidemic. The data clearly showed a substantial decrease in air pollution across all monitored locations.

<http://environicsindia.in/2020/01/07/air-pollution-brief-analysis-for-the-quarter-october-december-2019/>

Air Sampling Study in Kymore, Madhya Pradesh

Although workplace asbestos concentrations (AC) have been reported several times, the past environmental AC are relatively poorly studied. The purpose of this study was to determine current environmental exposure levels and evaluate neighborhood exposure levels in an Indian asbestos roof sheet factory situated in Kymore, Madhya Pradesh. In India, asbestos–cement products make up 90 per cent of all commercial applications and these products are also being used as low-cost building materials. As per government data, India consumes about three lakh tons of chrysotile every year, mostly imported from Kazakhstan and Russia. Though India has

banned the mining of asbestos in the 90s, but it still imports the raw fibre from countries like Russia and Kazakhstan. The global annual production of asbestos in 2018 was 1884 MT in 2017 and India had topped the chart as an importer of asbestos.

Kymore is a small city in the district Katni, Madhya Pradesh where an age old Asbestos cement sheet manufacturing “Everest Industries Ltd.” is present. The Everest Industries Limited was identified to do the study. The Company was incorporated in the name and style Asbestos Cement Ltd., as a private limited company under the Indian company's Act, VII of 1913 with two corporate shareholders viz., C.P. Cement Co. Ltd. and Turner & Newall Ltd., U.K. The manufacturing business was expanded progressively by establishing a second sheeting factory at Mulund (Mumbai) in 1937, a third factory at Calcutta in October 1938 and a fourth factory at Podanur near Coimbatore in Tamil Nadu in November 1953.

Apart from Everest Industries Ltd. Kymore has one cement manufacturing unit of ACC cements and one limestone mine within its vicinity. The air quality (as visible) of the area is beyond dangerous. Surrounded by hills Kymore has quite an arid air, carrying asbestos fibres freely across the city. White dust can be seen all across the area.

Since a previous study has been done in 2016 by the Canadian group ECOH, and many evidences were found around Kymore for surficial soil contamination, the study will help in giving an overview of the current situation, where health risk assessment can be done due to air pollution for those, who are in the direct neighborhood of the plant.

Several medical camps have been organised over the past few years and 734 victims so far have been identified out of which 393 are secondary exposures. (This data does not include many cases of environmental exposure.) The number will keep on increasing due to lack of constant and efficient monitoring by the state pollution control board and other authorities. With the mildness of the regulations and lack of regulatory implementation of existing laws it is becoming more challenging to ensure the safety health for both workers and communities.

Asbestos is classified as hazardous substance according to the Hazardous Wastes (Management and Handling) Rules, 1989. Under the Amendments 2000 and Draft Amendments 2002 of the act, asbestos comes under Schedule I (rule 3) and it must have scientific disposal. Most of the companies are lax about the waste disposal and the packaging of the manufactured products. The main objective of the project was to do an environment monitoring for an Asbestos Plant where the negligence in the regulations can be traced and the existing scenario can be revealed.

The concentrations of the actual minerals in the ambient air quality can be analysed and the investigation can be used concurrently with other visual affirmations. This will be a part of evidence gathering which can be used in advocacy with the concerned authorities. The evidence gathered can be very effective to prove the inefficiency in implementation of regulations by the authorities. The industries remain uncontested in such situations due to lack of scientific data as proof, this program aims to bridge the gap and provide authentic data support in such instances. The data when used in advocacy, cannot be denied. The analysis can be the background to validate the argument of inefficient regulatory mechanism.

In order to achieve the desired objective a 5-day community air sample collection was done with the help of seven pumps donated by SKC. In total 35 samples were collected from different locations around the plant. A detailed spreadsheet has been annexed for reference and certainty of the identified location. Each identified location was within one kilometer of the periphery of the identified AC sheet plant. Exposure assessment is a crucial element of environmental epidemiology. Because ARDs have long latency periods of 10 to 50 years, past exposure data is important to evaluate the causal relationship with current ARDs.

INPUTS FOR PROPOSED REFORMS IN MINING SECTOR

Introduction

It is heartening to note that right in the beginning, the note has reiterated the intent to be transparent and based upon the learnings from the past and aspiring to bringing in best practices, harmonising the other important concerns of our country - employment, technology, growth, and environment – which we believe should be at the heart of these policies and practices including the key elements of equity, self-reliance and the fundamental rights of the citizens particularly the Adivasis and people directly affected by these developments. Needless to point out that the Government of India itself recognises that over 65 million of our people have been displaced and not properly rehabilitated in the pursuit of this development.



It is therefore an onerous and responsible task that the Ministry is embarking, especially given the pandemic which restricts the ability of several communities to deliberate upon the impacts of such far-reaching legislative changes. We wish that the process is conducted in a manner that proceeds with Free, Prior and Informed Consent of the different constituencies and particularly the vulnerable and poor who would be directly impacted as an aspirant of global best practices and natural resource stewardship.

India is endowed with huge resources of many metallic and non-metallic minerals. Since independence in 1947, there has been a rapid growth in the mineral production both in terms of quantity and value. Currently, India produces as many as 87 minerals, which include 4 fuel, 10 metallic, 47 non-metallic, 3 atomic and 23 minor minerals (including building and other materials).

The mining activities are extremely poorly regulated despite the fact that as early as 1948, the founding fathers of the constitution realized this need. During the Constitutional debates, they said as early as in 1948, “Industrialisation has brought in its wake an ever-increasing demand for mineral resources. These resources are non-replenishable and mostly scarce. Proper control over regulation and development of mines and minerals is, therefore, a matter of national concern.” Today over 80,000 mines operate illegally as against nearly 10,000 legitimate leases. Only a third of the legal mines actually report to the Indian Bureau of Mines, the regulator and only a tenth of them is inspected.

Lingering Concerns Exacerbated

"Sustainable development" implies that economic activity should be designed to create wealth for the use of present and future generations. If natural resources cannot be developed and exploited to create wealth for the nation, the result may be poverty and deprivation. Crisis management soon takes over from sustainable economic development. We are very concerned that this short duration given for feedback and the pace at which the Government is trying to accelerate the transfer of natural resources to the private sector and open up new land may be a reflection of a decision being made more as a perception and response to the current economic downturn. It is therefore all the more important for the Government to deeply introspect and explore along with a very large cross section of the people.

To begin with we want the Ministry to carefully reflect upon some of the crucial aspects highlighted by an important committee on “State Agrarian Relations and the Unfinished Task in Land Reforms”. As the preface to this report succinctly pointed out and is extremely relevant in the context of the new mining regime being proposed, “(T)he process of liberalisation-globalisation has been

in vogue for approximately two decades now. This era has witnessed twin phenomena — rapid growth for the country as a whole and a slowdown in agriculture. The former requires land which is not only inelastic in supply, but the actual availability has been shrinking on account of the competing demands from various sectors.” The Covid-19 pandemic has very clearly brought out that the economy built over such a neglect of farming can be in doldrums with an economic drought of two-quarters and the self-reliant and even the small positive growth is only coming from our farm and forestry sector, thereby making the role of your Ministry very crucial in appraisal of mineral resources of the country, their allocation and optimal utilisation.

We further quote some important paragraphs from this report, to highlight why by merely brushing aside such concerns will result in the creation of impediments for the aspired “Atmanirbhar Bharat”, here

“1.7 Along with the very limited success of the land reform policies undertaken in India in different plans, the overall trajectory development including the State owned mega projects relating to infrastructure and industrialization, and recent changes in legal statutes regarding ownership and acquisition of land by private enterprises have further increased the share of landless and marginal farmers. The anxiety of rapid industrialization has acquired a new thrust in the period of economic reforms and has necessitated acquiring land on an even larger scale. One of the most contentious legislations in this regard is the SEZ Act.

1.8 Nowhere is the distress more evident than in the tribal areas, particularly those falling within the Schedule V. The tribal people have been the biggest victims of displacement due to development projects. Though constituting only 9% of the country's population, the tribal communities have contributed more than 40% to the total land acquired so far. The Parliament has legislated the most radical of its Acts in the form of Panchayats (Extension to the Scheduled Areas) Act, 1996, applicable to 9 of the States. All these States under Schedule V have stringent laws protecting the corpus of tribal lands which, however, continue to be subjected to a steady erosion. There have been disturbing trends noticed in the recent times. PESA area constitute the main target of mining/industrial zone/protected forest reserve after denial of rights/access of local community. In Assam alone, about 3, 91,772 acres of land has been transferred for development projects without considering either the ecological consequences or other adverse effects on life and livelihood of the marginalized communities.

1.9 Massive transfers of agricultural and forest land for industrial, mining and in the name of development or infrastructural projects have created rural unrest and distress migration in those areas. Findings indicate that about 7,50,000 acres of land has been transferred for mining and another 250,000 acres for industrial purposes during last 2 decades [Center for Science and Environment]. There have been regular reports of extensive displacement of poor peasantry under SEZs. Widespread conversion of agriculture land for non-agricultural purposes is being observed throughout the country. The major drivers of such rampant conversion are decreasing incentives from agriculture, increasing pressure of industrialization and urbanization, and changing aspirations of the people. The conversion of prime agriculture land is also a factor of decline of availability of food grains. This has become a huge challenge as India needs to secure food grains for its more than 1.1 billion people.

1.10 Though the Government stands committed to protection of the tribal corpus of land, and in all the Schedule V States there is a protective legislative framework, tribal lands is subject to continued erosion through the institution of moneylenders, collusive title suits, illegal permissive or forcible possession, unredeemed usufructuary mortgages, fraudulent transfers, abandonment and making of incorrect entries in the records-of-rights. The problem is aggravated by misplaced emphasis on evidence, lack of familiarity of the tribals with the court procedures, poor staying capacity on the part of tribal communities, lengthy procedures, rent seeking behaviour, rising demand for tribal land on account of the operation of the market forces and creation of a high value illegal tribal land market. Under the traditional systems it is the community which has always had the command over the natural resources including the land resources. This lacuna was sought to be corrected by the enactment of the Panchayat (Extensions to the Scheduled Areas) Act, 1996, better known by its acronym PESA.

1.11 PESA, inter alia, restores the community's command over the natural resources and empowers the Gram Sabha to identify and restore the alienated tribal lands and to protect the tribal way of life. PESA calls for four pronged strategy for successful implementation: i) amendment of laws that are contradictory to its provisions; ii) putting in place a set of procedural laws in conformity with the true intent of PESA; iii) creating effective support institutions; and iv) capacity building among the local communities and the bureaucracy. In none of the States it has been implemented so far. The hope is that a faithful implementation of PESA will go a long way in quietening the turbulence in the tribal areas.

1.12 *All these key concerns need to be acted upon urgently for reasons of efficiency as well as equity. Ignoring just aspirations of the masses in rural India for inclusive development will only entail huge economic and political costs. To move towards the objective of inclusive development, which is the motto of the Eleventh Five Year Plan, one of the urgent inputs that ought to be carefully designed is land use policies. Land has multiple purposes to serve. Along with primary activities like agriculture, mining, forestry etc. it is also the basic requirement for industrialization. As mentioned earlier the process of rapid industrialization has resulted in acquisition of land on a large scale and displacement of people. Industrialization is important for development but it need not be and cannot be supported at the expense of agriculture and the basic rights of the people for land and livelihood. Thus, it is very important that every State clearly demarcates land to be used for different purposes.”*

A Quick Overview

Mining of major minerals was a forte of the Public Sector Undertakings until the nineties when the country embarked on the economic policy of privatization and globalization. New ways were and are being devised for exploitation of the resources and to hand over wealth of the nation for small short-term gains. The rapidity with which the global interests want to usurp these resources is reflected to the stock markets and it is with an exponential rate that mining is devouring lands and livelihoods of many communities. Most mineral resources are co-terminus with Forests and Schedule Areas and mining has become a major source of destruction of the environment and livelihoods of the local communities and has reached alarming proportions. Most of these mining blocks are in the Schedule V areas which have protection under the Constitution, legislations and through the Samata Judgment. The States have clearly circumvented these protections by taking lease by state corporations and entering into JVs with private companies.

Mining has a low contribution to the economy. GDP from mining has never exceeded 5% of the GDP even after liberalization. In comparison, small and medium enterprises contributed significantly (29%), employing more people and affecting less people. In the case of coal, the private sector was a key player until it was nationalized in the seventies again to be opened up in the last decade. As of today, nearly twenty per cent of the known coal reserves of the country have been handed over to the private sector. If as a country, we continue to tread this path with the same ambition, few successive governments can auction away the entire resources of the country, significantly undermining any idea of self-reliance. Allocations and auctioning have been completely irrational, such as for example, Bauxite deposits in possession by some companies could last them for a century forfeiting the rights of several generations of people and several governments, which is a clear indication of sacrificing resources in one-go and also negating the chance of communities to assert their rights now and in the far future.

The nature of mineral resources and the learnings from world over indicate the need for a completely different conceptualisation of the resource, how revenues from its extraction and use are apportioned for now and for the future generations and the need for strict limits to the quantum of production. The use of mineral resources to prop up the economy must be reflective of the huge input of other critical resources into production stream – e.g. inputs for 1000 kg primary aluminium production requires >5000 kg of bauxite ore, 13,000 litres of fresh water, 27500 litres of sea water, 15,711 kWh of electricity consumption. It clearly depicts that mining of a mineral is not limited to the mineral alone, it is highly intensified resource use of other resources or raw materials. Thus, it is ecologically unsustainable to promote indiscriminate production and expecting that unbridled market-forces to be competent to “harmonise” as expected by this move will be achieved.

With heavy mechanization, technologies available in terms of robotics and mass-load transport systems, the labour or employment is decreasing. Statistics indicate that mining employed far more people in 1951 as compared to 2019! In small scale and largely informalised mining, labour norms are flouted both in terms of remuneration as well as provision of facilities and massive exploitation of children and women is not unknown even to the policy makers.

Occupational hazards in mining industry are under reported, unreported and fail to recognize the huge costs at the societal level. Underground coal mines result in 1 death for 2.5 mT of coal mined and in surface mines we lose a person for every 10 tonnes. Even at micro levels of processing and disposal there is 1 death per 5 mT of Coal input and 1.3 disabling injuries per mT. A huge proportion of coal mine workers suffer from Coal Workers Pneumoconiosis (around 25% of coal workers). Noise pollution (>90dB) is a huge,

neglected aspect which is increasingly affecting workers as the mines are mechanized and the protective gears do not respond to working conditions or are not appropriately suitable to conditions. Despite the recent regulation on mine closure and reclamation areas impacted by coal fires are increasingly affecting a large conglomerate of settlements. Planning Commission had set up a Working Group on Occupational Safety and Health (OSH) under the chairmanship of Secretary, Ministry of Labour and Employment. The report concluded on the existing situation “In spite of many initiatives, the standards of safety in mines have not yet reached to a worldwide accepted norm of Zero Harm at Workplace. Further, there are periodic occurrences of disasters in coal mines.” This calls for fresh initiatives with use of modern technologies and tools, scientific data acquisition, analysis and formulation of action plans on each identified thrust areas, proper implementation and effective monitoring of results.

Villages in the mining regions are getting devoid of drinking water due to breaching of the water table and increased competitive use of water by industry and mining. It is not mining alone, once we see the downstream industry, we realize that huge quantum of water is being gulped by the industry – e.g. it is estimated that this water can serve 300 million populations. On the other hand, the slippages in rural drinking water supply are huge i.e. the overall quantity and quality problem is glaring. With the introduction of coal bed methane i.e. emptying the last residues, the kind of water evacuation is likely to damage land at large scale.

The impacts are widespread and diverse and have created socio-economic and cultural impacts over different geographies and ecosystems – from the Western Ghats which is an UNESCO Heritage Site and a Global Biodiversity Hotspot to Stone Quarries of Rajasthan where silicosis is a blight on a huge population still emerging from the cover of denial by the government, and from coal mines in Meghalaya leading to Acid Mine Drainage to beach sands in Kerala causing cancer from radiation. Even constitutionally protected tribal areas Scheduled Areas, (Schedule V and VI), where a large proportion of the mineral wealth of the country rests, have not been spared of this onslaught. Some of these areas, though euphemistically called “aspirational” are actually in the clutches of “chronic” poverty.

The current trend is to promote more mining and a complex set of factors external as well as internal are driving more investments. India opened up its FDI in mining without any bottlenecks for the investors in 1991. The policies initially aided the State and later, the corporates, as promoter of economic growth and private profitability by rapidly abstracting mineral wealth of the country. Various actors have invested into the sector, including national and international companies, banks, equity funds, and also “round-tripping” of illegal funds etc. It is now predicted to almost doubling its current size within the next 15 years.

The irony is while the mining is being promoted, there is no commensurate development in practice of conservation aspects which is building a huge cost towards environment. The regulatory regime is in place, but these are again skewed by executive decisions to promote investments. Moreover, monitoring is not effective thus leading to lowest compliance. The push is to change government policies and make them favourable to industry, thus the mining companies and the State are equally alienated from the host communities. The financial transactions are very opaque, with investments banks which are large in number channelizing funds which is difficult to track. The whole issue of capital mobility and its role in expanding mining is still poorly understood.

Ecosystems are getting disturbed beyond their resilience, like the river ecosystem is getting hugely affected, so is the wildlife corridors. The interrelationship between governance of a welfare state and mining is marred by huge gaps and strange complicated structures. The glaring anachronism in terms of neglect of mapping human, botanical, zoological and atmospheric resources is huge; the result of which is these overlying resources are not accounted and treated as overburden by companies and government. Thereby the whole process is damaging the huge potential of community and undermining the wealth of the ecosystem.

By and large in the mining operation and investment world, the key beneficiaries are investors, banks, owners, politicians and contractors, consultants and even reclaimers. The cost is being paid by local communities, workers, environment, ecosystem, and small investors.

Evolution of Current Policy and Law

The first Industrial Policy Resolution adopted in 1948 codified the national policy in respect of mines and minerals. Mining sector also received due attention in the second 'Industrial Policy Statement' issued in 1956. As a follow-up measure to Industrial Policy

Resolution of 1956, the Mines Minerals Regulation and Development Act 1948 (MMRD) was repealed and MMRD Act 1957 was enacted. Under this Act the Mineral Concession Rules 1960 and the Mineral Conservation and Development Rules 1958 (MCDR) were issued. The new Industrial policy in 1991 oriented towards market liberalisation.

The National Mineral Policy 1993 was an exercise to keep the mineral sector tuned to the restructuring measures adopted in the trade and fiscal sectors. The new Mineral Policy declared in March 1993, has made a radical departure from the earlier policies by throwing open the mineral sector to private companies and by allowing equity participation by foreign companies in joint venture in mining promoted by Indian Companies. Further Amendments in MMRD Act, 1957 in 1999 was brought in to reflect the changed emphasis on “development” rather than “regulation” and was amended to MMDR Act.

The slow pace of Foreign Direct Investments (FDI) in the mining sector even five years after the liberalization of the investment regime, the lack of enthusiasm for investment in prospecting shown by the domestic private sector, and the lack of resources with public sector agencies meant that the sector was unable to significantly contribute to growth. During the Mid-term Appraisal of the 10th Plan in the Planning Commission, it was observed that the 1993 policy had not been able to achieve the aim of encouraging the flow of private investment and introduction of high-end technology for exploration and mining because of procedural delays, etc. A need for review of NMP, 1993 with a High-Level Committee on National Mineral to review the situation led to the National Mineral Policy (NMP), 2008, which confers lot more concessions to investors while also expressing the need for environmental and social safeguards.

The Mines and Minerals (Development and Regulation) Amendment Act, 2015 received the assent of the President on the 26th March, 2015 concluded the long and protracted process of consensus-building on the legal framework. However, a host of new amendments and legislations and subordinate legislations which is to serve as the basis for responsible extraction of the country's natural resources largely set aside the earlier efforts and brought in changes which are largely making it easier for continuing indiscriminate mining, engendering poor corporate governances and grossly ignored the concerns of the people.

Towards a Way Ahead: Key Points in the Context of the new Amendments

Mining is one of the most environmentally and socially destructive economic activity. It has a low contribution to the GDP but the conflict it engenders is enormous and widespread. Our country today has the dubious distinction of having illegal mines significantly outnumbering the legal mines. The future should usher in an era of Mineral Development with regional development as the focus rather than the current attitude of exploiting minerals for mere profit. We recognize that the minerals will be ours forever if we restrain mining, but the wealth of the soil and other biota and the rich heritage of the communities will be lost forever if we mine the minerals below them.

Mechanisms like paying the Net Present Value, compensation, resettlement and rehabilitation do not reflect the true long-term value of the ecosystem services which the terrain and the plant and animal resources provide, nor does it do justice to local communities. The future must make these important elements in the design.

Some of these aspects are indicated here given the extremely limited time given for providing these submissions;

Rationalising and regularization of the on-going mining activities on a war footing

In the context of mining, mineral deposits are available to a limited extent no matter how huge the resource is and ideally need to be endowed for posterity. In the past, a run-away expansion of ‘strategic minerals’ did not take place as countries sought to have them for their domestic military needs. Even in our country, Aluminium was considered once such metal and is very key to illustrate our point. If we concede the need for this metal in improving the living standards and utilising the existing technologies for the benefit of all, resources need to be extracted. There are several ways of ensuring this but the emerging concept of expanding existing areas of extraction and conserving identified deposits is extremely critical and explained in the context of bauxite in India. The current reserves of bauxite are distributed between deposits, which are as large nearly 500 million tonnes such as in Panchpatmali, to pocket size deposits of few thousand tonnes in Ratnagiri Coast. Some of these large deposits are already being

extracted. The proposition is that opening up of several new areas involves severe and widespread environmental consequences and social discontent. In the context of the Eastern Ghat Bauxites in Orissa, it makes immense sense in opening up only few areas with large deposits and not 'pock-mark' the entire region with several deposits being opened up. The current market situation of bauxite, with several global players being viable with imports from large distances means that deposits which are within couple of hundred kilometres does not impact the viability of the project. The case for conservation of mid-sized deposits (~ 50-100 mt) is also important from a medium term economic and technical perspective. The rapid improvement in our technological capability in aero-space will mean that in the next two decades we will have the indigenous capacity to utilize this important element in our industries which if opened up today will be depleted by the time the country needs them and perhaps will not have the choice of the resources. If we take the case of existing and proposed bauxite-alumina complexes in the Eastern Ghats, the requirement of each company is of the order of 3 million tonnes per annum. While these could be achieved by opening up several places of smaller deposits it makes ecological and economic sense to restrict to couple of large deposits, some of which have already been opened up. Such an initiative, where policies enable brownfield expansion and Greenfield conservation will not only enable unhindered development of the industry currently but will also provide the State with options for the future without having to commit all the known deposits to investors.

The unacceptable situation of illegal mining must be put to an end. Irrational exploitation of differing grades of ores for short term gains has to be restrained. Illegal mining of minor-minerals particularly of river-bed across the country have been destroying the river systems and needs urgent attention. This calls for a total moratorium on new leases and ensuring "zero-tolerance". Enhancing the efficiency of the mining activities and generating more resources from "brown-field" expansion rather than opening up new "green-field" areas has to be a high priority. Ensuring strict compliance of all the environmental, social and labour laws governing mining activities and several environmental, social and labour laws are constantly violated in several mining contexts. The blight of occupational diseases particularly such as asbestosis and silicosis must be completely eliminated. The laws should be made convergent with proper oversight authorities. So far, the compliance is based on the reports of the company and meagre assessment by the State Pollution Control Boards. The density of stations and the quality of monitoring leaves much to be desired. Creating awareness in the communities on the laws and the compliance conditions, the monitoring process itself is important and can provide a number of opportunities for gainful occupation of the local youth. Environmental monitoring units can be established across the regions with locally trained people for conducting assessments and maintaining ambient records. A number of such centres can be useful in monitoring water quality, soil chemistry and other such analysis that is periodically required by the community and the local administration. Such local data inputs with satellite-based monitoring will provide an excellent basis for identifying critical areas and methods to tackle them.

The state and centre must announce a "zero-tolerance" policy. It must be mandatory for every village official to immediately notify any mining activity in their jurisdiction. The State must ensure support to the local officials in strictly controlling this menace. In areas where it is rampant special multi-agency cells should be created. Creating even a small production sharing or ownership basis for local communities can lead to a greater participation of people in controlling this menace. Revenues and penalties collected, and vehicles seized must be brought into the revenues of the concerned District Mineral Foundation. The area and scale of mining can be increased based on compliance, which can act as an incentive to good companies.

Greater Exploration and Building of State Reserves

Increasing State investments on exploration of all resources and have a detailed map before embarking on deeper exploration and even in that process especially through non-invasive technologies and augmenting the reserves both on-land and within our exclusive economic zone in the oceans. Exploration investment in the country is abysmally low and does not even constitute two per cent of the global exploration investments and needs to be raised significantly.

There are very little resources going into developing new exploration methods. While our EEZ extends to 200 km from the coast, current investments are restricted only to search for oil and gas and disturbing the near shore environment.

The recent and continuing fire in Baghjan Oil field in the North East, the continuing fire in the coal fields of eastern India and several other accidents and poor recovery of mineral resources, loss of associated minerals all point to the need for the state to develop and nurture a huge knowledge base at its disposal. Since science and particularly geoscience is not a "coin-in-slot"

operation, depending upon speculators with short term interests and contractors, including what seems to be the favoured model of MDO by the state will lead to grave uncertainties both in terms of governance and optimal utilisation of resources and to be able to knowledgeably deal with the crisis situations. Developing a widespread understanding of the strategic value of different minerals and ensuring conservation of requisite quantities of such minerals must be recognised, and specific efforts must be made to conserve minerals essential for the country's future. Minerals such as bauxite, titanium, several heavy metals which will be crucial for future development of materials need to be assessed for our long term needs rather than for profits to corporates in the current period or even economic returns for the current generation.

Enabling and emphasizing on local value addition and restricting export of minerals;

Though every state government talks about value addition, in the name of lack of technology or that mining is a stand-alone industry important mineral are being exported with very little benefit to the state or the communities. Value addition must be the norm rather than as an exception. The long term consequences of climate change and strategic future mineral availability should form the key consideration in the development of minerals. It is important to recognize that mineral bearing areas do not suffer from the classic situation of "resource curse" which is seen across the globe. In order to do this effort must be made to identify economic opportunities which are not dependent on mining.

Skilling People in Mining Area

Continuous de-skilling of the tribals and other farming communities is seen from the fact that majority of them become migrant labourers. Their past skills and knowledge have very little significance in their new contexts and mechanisms to either use their skills in a profitable manner or to acquire skills required to excel in the changed context are completely lacking. Therefore, a focussed attempt at developing skills at various levels from policy, management and operational and implementation levels are required. This will necessitate a very detailed research on the mining areas, the perspective plans of the industries in the area, the level of current skills and demands. Mechanisms need to be evolved to ensure that these opportunities can be accessed by the local communities.

A number of opportunities do exist in these areas. A set of activities can emerge from the regulatory requirements themselves, such as green-belt development, transportation, compensatory afforestation and in goods and services required for the mining and industrial activities. Several other opportunities can be based on local resources and strengthening and channelizing existing skills. A concerted effort needs to be made to enable cooperatives in mining and other sectors and to encourage local enterprises. This requires inputs at various levels and positive encouragement from state and district administration. Some of these enterprises can initially be enabled to form joint ventures with other State or Private entities.

Dealing with legacy and existing issues

Among the major impediments in mining is the sense of betrayal and abandonment by the tribals. Unless this feeling is assuaged, the new initiatives will be met with suspicion. Therefore, in each mining areas extensive survey of the past displacement and the status of those communities should be undertaken and wherever it is immediately feasible to provide relief and proper rehabilitation. There are several sites across the mining and tribal belt where this investment and the concern being exhibited to those who have been deprived in the past will be a good model for communities to experience. This will be a good baseline for the future activities and the efforts can be measured in terms of the long-term impacts and specific actions needed. Since this is a sensitive task and may involve raising expectations among the tribals, this exercise needs to be conducted by an independent third party. Since the law now provides for sustained availability of financial resources, these could be systematically addressed. Legacy issues are not restricted to social aspects, but several mines have not been properly closed and have also not completed activities such as reclamation and compensatory afforestation. These could provide additional occupations to the tribals.

The conservation of non-renewable resources is an important in the context of long-term future of any country and more so of emerging economies like India. In several countries in the liberalization, privatization and globalisation may have actually been increasing their GDP while becoming poor on the long-term if the issues of long-term conservation and investments in the

improvements of social attributes do not take place concurrently. It is time we consider these aspects deeply in the manner of demonstrating natural resource statesmanship rather than making errors as have been made in several parts of Africa and Southeast Asia, where remediation costs and social conflicts are debilitating any economic gains that mining industry could bring in.

Fit and Proper Person Test

1. WHAT IS A FIT AND PROPER PERSON TEST?

The concept of a fit and proper person test is remarkably simple and all of us relate to the idea. Suppose, we are appointing a person, or we are ourselves being employed or engaged by anyone, there is an interview, some documents of the credentials are checked, some references are sought, tests and interviews are conducted and the antecedents are checked before the actual engagement.

Essentially what is being done is to ensure that the person has the requisite skills, aptitude, integrity, and habits which would make the person deliver for the purpose he is engaged. In order to ensure transparency of the process, considering implications to the larger number of people, formal criteria are established for undertaking such an exercise. This is an exercise we carry out whether the position is of a domestic help or the Director of an MNC.

It is therefore reasonable to expect that as a custodian of the natural resources the Government would evolve an elaborate fit-and-proper person test when handing over national wealth for management to a company.

In the context of natural resources, especially minerals being non-renewable, the fit-and-proper person test must be preceded by a detailed analysis of the need, timing and the general and specific consequences of such a decision to hand-over the asset.

Though there are several laws, policies and judicial orders that govern different stages of the extractive process in India. This paper is to emphasise on the Governments to do the pre-requisite analysis and conduct rigorous assessment and ensure with fair degree of certainty that the company bidding for the asset is fit and proper for the task and it will deliver maximum economic return, operate with integrity, adhere to environmental and social norms.

Further, the fit and proper person provisions must be met on a continuous basis for the duration of a mining lease including the period of closure. We often see that the companies and also the government treats environment and forest clearances as a onetime affair. The dilution of legislation also provides for a great laxity in evaluating the company as fit-and-proper, but also in implementing the law in its true spirit.

In the context of mining laws in the country, apart from the Mineral Concession and Mineral Conservation and Development Rules, which are fundamental to the operation, the fit and proper person test should include the ability of the company and the agency enabling the mining activity, whether of the Central or State Government to ensure that the process can be undertaken within the Sustainable Development Framework (SDF), even if its own conception has certain limitations. The SDF enunciated by the Government is based on the following eight key principles.

1. Incorporating Environmental and Social Sensitivities in decisions on leases
2. Strategic Assessment in Key Mining regions
3. Managing impacts at the Mine level impact through sound management systems
4. Addressing Land, Resettlement and Other Social Impacts.
5. Community engagement, benefit sharing and contribution to socio-economic development.
6. Mine Closure and Post Closure Mining operations
7. Ethical functioning and responsible business
8. Assurance and Reporting.

IF WE STRICTLY WANT TO ENSURE THAT THE WEALTH, WE ARE ASKING SOME TO MANAGE ON BEHALF OF THE COUNTRY, WE NEED TO DEFINITELY UNDERTAKE THIS EXERCISE. WITHOUT PREJUDICE, MOST MINING COMPANIES CURRENTLY OPERATING MAY NOT PASS SUCH A TEST.

2. WHO IS A FIT AND PROPER PERSON?

Currently there is no agency in the government which has a comprehensive system to establish the criteria, conduct the requisite examination and ensure that a company to which mineral resources are given for mining and sale. On the basis of our analysis, we present some simple and initial criteria, which need to be further evolved, and urge the Government and alert the communities on the need for such an exercise to ensure the optimal use of our resources.

Last year, the State Government of Victoria issued a guidance² under section 13(g) of their Mineral Resources (Sustainable Development) (Mineral Industries) Regulations 2019 replacing the earlier practice of undertaking a test of “public interest”.

In the context of mining, a fit and proper person is not narrowly construed or confined, nor does it remain constant over time Issued as guidance. One of the important aspects among the range of other factors often taken into consideration to assess a person’s overall status as a fit and proper person to undertake an activity, *includes the seriousness of previous unacceptable behaviours (including resultant harms and penalties), singular or repetitive patterns of unacceptable behaviours, reformed behaviours, mitigating circumstances and time elapsed.*

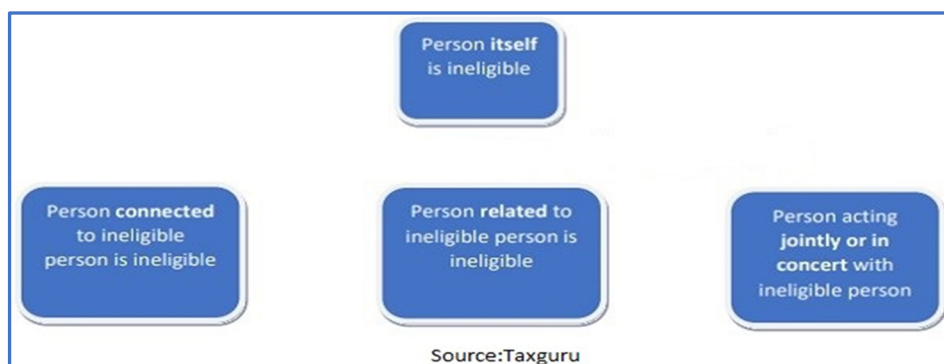
We try to elaborate on few aspects and would urge the Government to establish a working group to establish a clear set of parameters and an agency which will undertake the test before such entities are allowed to register for e-auctions.

FINANCIALLY FIT PERSON

Securities Exchange Board of India (SEBI) brought out a regulation³ on the Criteria for determining a ‘fit and proper person’. In the context of the financial processes in the market and for the purpose of determining as to whether an applicant or the intermediary seeking registration under any one or more of the relevant regulations is a ‘fit and proper person’. Similar set of parameters needs to be applied to the bidders in a mining context.

The SEBI criteria includes the following but as the regulation says it is not limited to these alone;

1. financial integrity;
2. absence of convictions or civil liabilities;
3. competence;
4. good reputation and character;
5. efficiency and honesty; and
6. absence of any disqualification to act as an intermediary as stipulated in these regulations.



The Financial Action Task Force suggests that the supervisor or Statutory Regulatory Body should also (a) take the necessary measures to prevent criminals or their associates from being professionally accredited, or holding or being the beneficial owner of a significant or controlling interest or holding a management function, e.g. through evaluating persons on the basis of a “fit and

² <https://ref.epa.vic.gov.au/business-and-industry/guidelines/licensing-and-works-approvals/fit-and-proper-person-test>

³ <https://www.sebi.gov.in/acts/fitproperregu.html>

proper” test; and (b) have effective, proportionate, and dissuasive sanctions in line with Recommendation 35 available to deal with failure to comply with Anti-Money Laundering/Combating the Financing of Terrorism (AML/CFT) requirements.

ENVIRONMENTALLY FIT PERSON

Environment and Forest Legislations lay out various assessment and processes for various activities, right from information access to the people, participating in the decision-making process and in case of grievance have access to justice. These are also reiterated by our endorsement of several United Nations convention.

In the context of mining leases, the antecedent behaviour of the company in terms of their environmental management records should be an important criterion before allowing them into the ring. The Mineral Conservation and Development Rules has these relevant sections on environmental aspects from the prospecting stage to the closure of mines.

12. Prospecting and mining operations

The prospecting and mining operations shall be carried out in such a manner so as to ensure systematic development of mineral deposits, conservation of minerals and protection of the environment.

32 (5) The holder of a mining lease shall keep the following:

(a) A key plan on a scale of 1: 50,000 incorporating the following:

i. an administrative surface map showing the boundary of the mining lease, and the adjoining area lying preferably within five kilometres thereof; ii. contours at not more than twenty meters intervals; iii. natural drainage system such as rivers, streams, nalahs, water reservoirs, ponds, lakes, irrigation dams and canals; iv. roadways and railways; v. places of historical and archaeological importance, monuments, places of worship, pilgrimage and of tourist interest; vi. forests with tree density, sanctuaries, wastelands, agricultural lands, grazing lands; vii. boundaries of all villages and towns with their population; viii. predominant wind direction; ix. any other relevant features: Provided that where topographical map is classified as restricted, the particulars referred to in items (i) to (ix) shall be incorporated in the key plan to the extent available in the administrative surface maps.

(b) An environment plan of the area of mining lease inclusive of the adjoining area within five hundred meters of the boundary of a lease area on 1: 5000 scale incorporating the following:

(i) an administrative surface map showing the boundary of the mining lease; (ii) contour lines at five meters intervals; (iii) all features indicated in sub-clauses (iii) to (ix) of clause (a) above; (iv) area occupied by mine workings, area deforested, area covered by dump with the height of the dump, processing plant, surface building, workshop, mining township; (v) area reclaimed and area afforested, location of protective barriers, check dams erected to contain solid and liquid effluents generated by prospecting, mining, beneficiation or metallurgical operations carried out in the mine; (vi) all pumping stations and the courses of discharge of mine water: Provided that the particulars with regard to items (ii), (iv) and (v) shall be applicable only up to sixty meters beyond the boundary of lease area.

21. Abandonment of mines

(1) The holder of a mining lease shall not abandon a mine or a part of mine during the subsistence of the lease except with prior permission in writing of the authorised officer of the Indian Bureau of Mines or the State Government, as the case may be.

(2) The holder of a mining lease shall send to the authorised officer of the Indian Bureau of Mines or the State Government, as the case may be, a notice in Form-D of his intention to abandon a mine or a part of a mine so as to reach them at least ninety days before the intended date of such abandonment. Such a notice shall be accompanied by plans and sections on a scale as specified in rule 31 of these rules setting forth accurately the work done in the mine up to the time of submission of the notice including the measures envisaged for the protection of the abandoned mine or part thereof, the approaches thereto and the environment: Provided that the authorised officer of the Indian Bureau of Mines or the State Government, as the case may be, may require the plans and sections to be prepared on any other suitable scale.

35. Sustainable Mining

- (1) Every holder of a mining lease shall take all possible precautions for undertaking sustainable mining while conducting prospecting, mining, beneficiation or metallurgical operations in the area.
- (2) Every holder of a mining lease shall monitor his mining and allied activities as per the notified template of star rating in the format prescribed in this behalf by the Indian Bureau of Mines from time to time and will submit online its self-assessment report before 1st July of every year for the previous year, to the Regional Controller or the authorised officer of the Indian Bureau of Mines.
- (3) The confirmation of the star rating will be done by the authorised officer of the Indian Bureau of Mines through inspection.
- (4) The Regional Controller or the authorised officer of the Indian Bureau of Mines may suspend the mining operations in those mines where at least four-star rating has not been achieved within a period of three years from the date of notification of these rules after giving a show cause notice of forty five days, to qualify for star rating.
- (5) The suspension will be revoked only after verification through inspection of compliance of the star rating requirement specified in sub-rule (4) that the mine qualifies for star rating.

36. Removal and utilisation of topsoil

- (1) Every holder of a prospecting licence, prospecting license cum mining lease or a mining lease shall, wherever topsoil exists and is to be excavated for prospecting or mining operations, remove it separately.
- (2) The topsoil so removed shall be utilised for restoration or rehabilitation of the land which is no longer required for prospecting or mining operations or for stabilising or landscaping the external dumps.
- (3) Whenever the topsoil cannot be utilised concurrently, it shall be stored separately for future use.

37. Storage of overburden, waste rock, etc

- (1) Every holder of a prospecting licence, prospecting license cum mining lease or a mining lease shall take steps so that the overburden, waste rock, rejects and fines generated during prospecting and mining operations or tailings, slimes and fines produced during sizing, sorting and beneficiation or metallurgical operations shall be stored in separate dumps.
- (2) The dumps shall be properly secured to prevent escape of material therefrom in harmful quantities which may cause degradation of environment and to prevent causation of floods.
- (3) The site for dumps, tailings or slimes shall be selected as far as possible on impervious ground to ensure minimum leaching effects due to precipitations.
- (4) Wherever possible, the waste rock, overburden, etc., shall be back-filled into the mine excavations with a view to restoring the land to its original use as far as possible.
- (5) Wherever back-filling of waste rock in the area excavated during mining operations is not feasible, the waste dumps shall be suitably terraced and stabilized through vegetation or otherwise. (6) The fines, rejects or tailings from mine, beneficiation or metallurgical plants shall be deposited and disposed in a specially prepared tailings disposal area such that they are not allowed to flow away and cause land degradation or damage to agricultural field, pollution of surface water bodies and ground water or cause floods.

38. Precaution against ground vibrations

Whenever any damage to public buildings or monuments is apprehended due to their proximity to the mining lease area, scientific investigations shall be carried out by the holder of the mining lease so as to keep the ground vibrations caused by blasting operations within safe limit.

39. Control of surface subsidence

Stoping in underground mines shall be so carried out as to keep surface subsidence under control.

40. Precaution against air pollution

Air pollution due to fines, dust, smoke or gaseous emissions during prospecting, mining, beneficiation or metallurgical operations and related activities shall be controlled and kept within 'permissible limits' by the holder of prospecting licence or a mining lease.

41. Discharge of toxic liquid

Every holder of prospecting licence, prospecting licence cum mining lease or a mining lease shall take all possible precautions to prevent or reduce the discharge of toxic and objectionable liquid effluents from mine, workshop, beneficiation or metallurgical plants, tailing ponds, into surface water bodies, ground water aquifer and useable lands, to a minimum. These effluents shall be suitably treated, if required, to conform to the standards laid down in this regard.

42. Precaution against noise

Noise arising out of prospecting, mining, beneficiation or metallurgical operations shall be abated or controlled by the holder of prospecting licence, prospecting licence cum mining lease or a mining lease at the source so as to keep it within the permissible limit.

43. Permissible limits and standards

The standards and permissible limits of all pollutants, toxins and noise referred to in rules 40, 41 and 42 shall be those notified by the concerned authorities under the provisions of the relevant statutes from time to time.

44. Restoration of flora

Every holder of prospecting licence, prospecting licence cum mining lease or a mining lease shall carry out prospecting or mining operations, as the case may be, in accordance with applicable laws and in such a manner so as to cause least damage to the flora of the area held under prospecting licence, prospecting licence cum mining lease or mining lease and the nearby areas.

FIT IN THE CONTEXT OF GENDER, SOCIAL AND HUMAN RIGHTS

Fair and better management of mining resources demands that community dialogue must be considered as utmost priority. The mining impacted communities, particularly women, need to be recognised as an important stakeholder during the entire mining process as they are the primary custodian of the resources. For sustainable mining, the rights of the communities must be protected, and any violation of their rights must be accounted as a criminal offence with appropriate consequences along with permanent cancellation of mining contract. Integrating women in the mining cycle must include their active participation in the decision making & labour force, childcare provisions, safe and supportive environment.

Every holder must recognise the human rights risks that they may contribute through their activities and thus must provide a Human Rights Impact assessment report that should include Gender and social impacts assessments as a part of the scrutiny process. The holder must have a gender equality policy as well as a zero-tolerance policy for harassment and gender-based violence. Every holder must adopt the Gender Guidance Tool⁴ produced by the UN Working Group on Business and Human Rights to integrate gender perspective in the mining related work.

3. THRESHOLDS AND DECISION MAKING

In the recent past, including the World Bank's Ease-of-Doing-Business index, there has been a tendency to develop indices which are based on several indicators.

These provide a composite ranking. However, these indices and even GRI reporting does not reflect gross violations and hide more the aspects that are relevant. In the case of a fit-and-proper person test, one violation should be sufficient to eliminate the entity.

⁴ https://www.ohchr.org/Documents/Issues/Business/Gender_Booklet_Final.pdf

Therefore, in the context of the coal block auctions, we consider any one violation, economic, environmental, or social by the entity must be a good enough reason to disqualify them. Some of the entities have proved to be repeat violators.

4. APPLICATION TO THE COMMERCIAL COAL BLOCK BIDDING

The coal auctions for 38 blocks are in process for commercial mining and 42 companies have submitted their bids.

To ensure the integrity of the bidding process and subsequent allocation of coal blocks, an attempt has been made to scrutinize the bidding companies under the fit and proper person test to help detect possible warning signs. Evidence generation is based on reports from regulatory bodies, reliable internet sources, legal findings, and news sources.

Fit and Proper Person Test – Stage I – Precedence					
SNo	Bids	Company	Economic	Environmental	Social
1.	12	Adani Enterprises Limited			
2.	1	Adicorp Enterprises Private Limited			
3.	1	Agarwal Mining Private Limited			
4.	1	Alankar Tradelinks Private Limited			
5.	4	Aurobindo Realty and Infrastructure Private Limited			
6.	1	Bansal Construction Works Private Limited			
7.	1	Bharat Aluminium Company Limited			
8.	1	Bhupati Mining Private Limited			
9.	1	Boulder Stone Mart Private Limited			
10.	2	Chowgule and Company Private Limited			
11.	1	Cuprum Bagrodia Limited			
12.	1	D B Power Limited			
13.	1	Dilip Buildcon Limited			
14.	4	EMIL Mines and Mineral Resources Limited			
15.	1	Everdeliver Logistics Private Limited	Has been technically disqualified		
16.	1	Fairmine Carbons Private Limited			
17.	1	Gangaramchak Mining Private Limited			
18.	5	Hindalco Industries Limited			
19.	2	India Coke and Power Private Limited			
20.	1	Inspire Construction and Coal Pvt. Ltd			
21.	5	Jindal Power Limited			
22.	5	JMS Mining Private Limited			
23.	1	Mahavir Clean Fuel Mining Pvt. Ltd			
24.	1	National Aluminium Company Ltd			
25.	1	ND Pharma Private Limited			
26.	1	Net Energy Private Limited			
27.	1	Nilkanth Coal Mining Private Limited			
28.	1	Nuvoco Vistas Corp. Ltd			
29.	1	Refex Industries Limited			
30.	1	Saraf Trading Company Private Limited			

31.	3	Sarda Energy and Minerals Limited			
32.	1	Shri Jaibaba Casting Pvt Ltd			
33.	2	Sunflag Iron and Steel Company Limited			
34.	4	The Andhra Pradesh Mineral Development Corporation Ltd			
35.	3	Vedanta Limited			
36.	1	Welspun Steel Limited			
37.	1	Yazdani International Private Limited			

5. CONCLUSIONS

The auction regime was brought in the country after the huge scam on allocations. The court felt that auction was the best process of price discovery. However, the 10 tranches of auction and consistent sweetening of the offers and the limited number of participants, especially those who have a bad track record, shows the need to conduct an elaborate fit-and-proper person test before allowing any entity to participate in the auctions.

Further, the auctions which do not have consent from the communities in the area are compromising the constitution by creating vested interests in third party lands through administrative feats.

This preliminary assessment clearly points out that all the bidders would not qualify if a serious analysis is undertaken by the Government, which is duty-bound to do this as a custodian of citizens wealth.

Therefore, the current auctions need to be kept in abeyance until a procedure is established and the entities are transparently screened.

Reducing Carbon Footprint – A Small Initiative

Delhi holds the undesirable record of being the most polluted capital city in the world. The air quality in Delhi falls in the 'severe' category most of the year round and the delhites get some respite only during rains. Most of the pollution in Delhi is due to burning of fossil fuels by vehicles, generators, industries and Power plants in the periphery. Almost all the power supplied to the state of Delhi is produced by burning of fossil fuels (coal and natural gas). In addition to the rising air pollution in Delhi, another major issue is 'Climate Change'. Changing weather patterns all around the globe is a scary phenomenon and increasing temperature due to greenhouse effect is a reality which needs to be tackled urgently.

Environics Trust has been working on climate mitigating measures for several years and have been at the forefront of fight against several projects which would have been detrimental to the environment. Fight against deforestation and fossil fuels have been an important aspect in all the work undertaken. Environics has also been an advocate for Renewable energy and communities have been encouraged to do their bit. In order to put into practice our stated position on using more renewables, Environics has installed a 5KW roof top solar power plant. The plant has been successfully installed and activated in March 2019. The benefit includes not only reducing our usage of fossil fuels generated power but also reaping a reward by selling excess power to the discom.

In the one year of operation, the plant has produced almost 6800 units of power. This has resulted in a financial saving of almost INR 54000 (considering power cost of INR 8 / unit). This means that we will be able to recover our installation cost in a period of only 55 months.

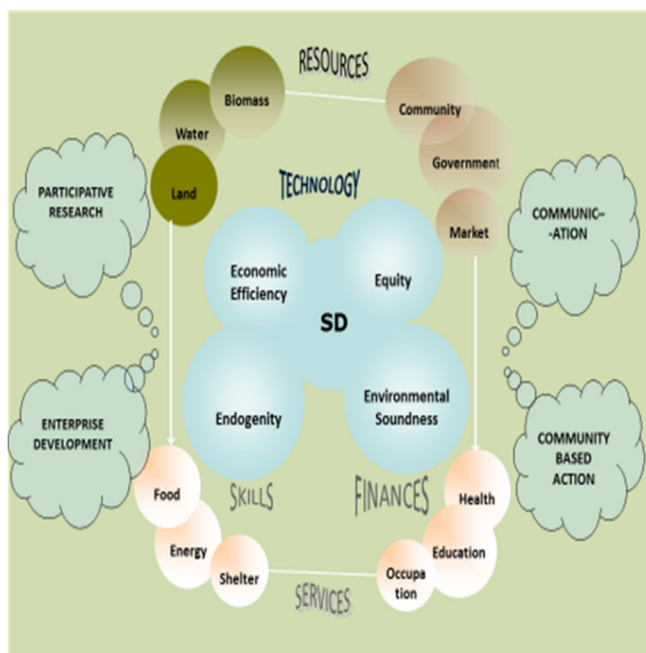
In addition, considering that 1KWh of power contributes 450 gms of CO₂ in the air and we have generated almost 6800 units, savings in terms of carbon reduction works out to be almost 3 Tons. This is a substantial saving and a significant step towards carbon reduction

ENABLING COMMUNITIES TO BE SUSTAINABLE BY DEMONSTRATING JUST TRANSITION

CONCEPT

Environics Trust and its precursor the Academy for Mountain Environics has over the past three decades has extensively and intensely worked with communities. Through this new initiative we aim to meld with the efforts of various entities.

We understand that sustainable development is only a model (<https://environicsindia.in/concepts/>) and it is only communities that can aspire and make themselves sustainable. The core of our model, which this pandemic has vindicated, is based on the two triads of biophysical environment and psychocultural contexts. We have understood and have enabled, Land – Water – Biomass to be able to meet the basic needs of Food- Energy- Shelter. Wherever these loops are locally closed those communities have been more resilient during this pandemic and several examples exist in pockets across the country which are well documented. The other triad of Communities- Governments-Markets, which we have created as societies, which are aimed to optimise the utilisation of the biophysical triad and also enable the provision of Health-Education-Occupation is much more complex. The more



Climate

*Runaway Climate Change
Impacting Billions especially in Asia*

Erratic and Extreme Events

Economy

*Huge Debt Burden of Countries
perpetuated by failing industry
leading to a predicted 2008 like
meltdown in 2020*

Work

*Mechanisation, Robotics and
Artificial Intelligence completely
changing the nature of work and
huge job loss*

resilient a community it has been able to resist the destruction of the biophysical environment and where encouraged and enabled by a conducive psychocultural environment have flourished. We have much limited examples of the entire community being sustainable, even remote Himalayan Communities and other indigenous communities because of globalization and global warming, primarily triggered by quest for power, control over resources and corruption.

CONTEXT

We are thus at a stage when we face an intertwined crisis of climate-communities-capital exemplified by frequent extreme weather events, conflicts in the community from local to global levels and inequities to such an extent that many nation states have lost their financial sovereignty.

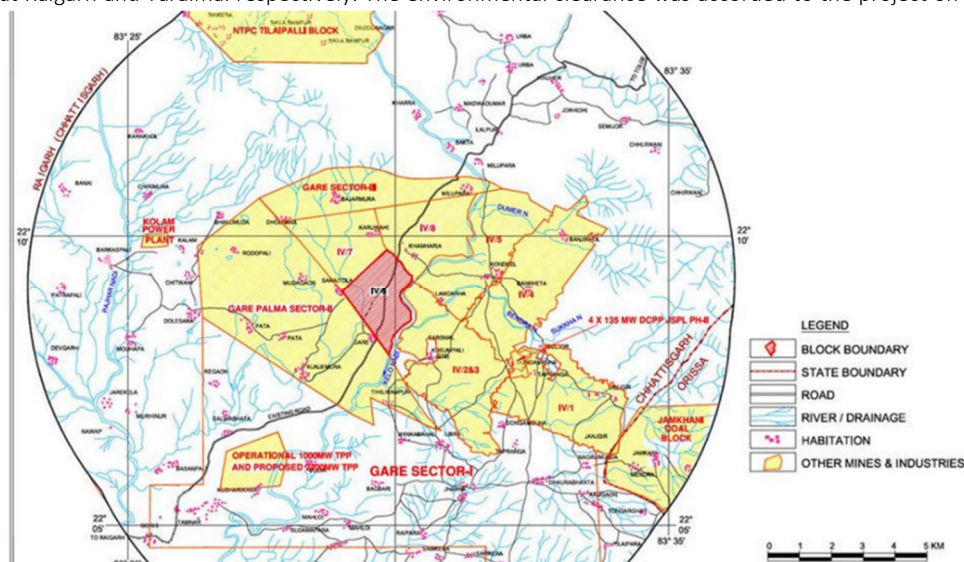
It is thus in this context and a growing complexity that we plan to collaborate. We recognise that our inputs are limited to three streams of Technology and/or Techniques – Skilled People or Groups – Finance and Financial Instruments, and to innovatively resolve problems of local communities. Through such process we hope to accrete communities that are sustainable and can relate to each other for mutual collaborative future. This programme is focused on an area in the Tamnar – Gharghoda

region of Raigarh District in Chhattisgarh. This is an area that has been in parts almost completely devastated by coal mining and is among one of the most polluted regions of our country. We have embarked on an area which is challenging both in terms of the current levels' poverty, diversity of population - despite being a Schedule V area. The future of coal and coal-based economy, which is the reason for "development" of the area and the consequent pollution and environmental degradation is clearly uncertain and economic and climate considerations will force a shift in the next couple of decades.



Enviroics Trust

It is therefore most challenging and critical to demonstrate how these communities can transition to sustenance or in fact re-transition after centuries through our intervention in a post-modern ecological system. The nearest town which is also the sub-district head quarter (Tamnar) is located at a distance of 10 km and district head quarter (Raigarh) is located within 45 km from Gare. The geographical area of the village is approximately 413.21 hectares (1,021.06 acres).⁵ Gare village falls under the Gare IV/6 coal block in Mand Raigarh Coalfield in Raigarh district of Chhattisgarh. The coal block was allocated to M/s Jindal Steel & Power Limited and M/s Nalwa Sponge Iron Limited by the Central Government vide MOC letter No. 13016/34/2005-CA-I on 13/01/2006 for mining coal to meet the requirement of their respective Sponge Iron Plants situated at a distance of 45 km and 25 km from the coal block at Raigarh and Taraimal respectively. The environmental clearance was accorded to the project on 18/05/2009 by the Ministry of



Environment and Forest vide letter no. J-11015/110/2007-IA-II.

From the onset the local community objected to the allocation of coal block and the acquisition of 382.42 hectares (942.53 acres), total mine lease area for the Gare IV/6 coal block mine lease area.

Things took an ugly turn during the 2008 public hearing where large scale violence broke out and innocent villagers

including women were severely beaten up by the state police. The National Green Tribunal (NGT) took cognisance of the villagers' complaints and in its judgement dated 24/02/2012 cancelled the environmental clearance accorded to the project.

The block was finally deallocated by the Supreme Court and has since then not been put up for auction. Encouraged by the victory in NGT's judgement, the villagers of Gare registered their own firm called **"Gare Tap Upkram Producer Company"**. The idea behind establishing the firm was to mine the coal themselves rather than surrendering their land to industrialists.

More than 500 villagers from 12 adjoining villages of Gare had pledged nearly 700 acres of land to the producer company. As days passed on, the villagers further decided against mining altogether and instead proposed setting up of production of alternate energy so that the land is not devastated by mining.

PROSUMER ENTERPRISE HUB

The first activity which we have been able to make it completely viable is the production and use of sanitary napkins. The units in Delhi,



RELEVANT TECHNOLOGY AND PRODUCTS

Panna, Rewa and is growing rapidly. In this model we train local women's group to produce high quality sanitary napkins, build a community of user/consumer who regularly procure from the group, provide feedback and link to new users. In Gare, the group secured land fighting against allocation to



FOCUSSED FINANCIAL SERVICES

a corporate and today cooperative farming using solar irrigation systems has been initiated in over 20 ha of land. It has also been enabling villagers to install solar systems at the household level and biogas through the state renewable energy corporation. The Korba Coal Mines Bhuvisthapith company has been helping small groups in adjoining forest villages in collecting, processing, packing and selling various products. It is also exploring large scale plantation, solar



VIBRANT NICHE COMMUNICATIONS

⁵ 1 Hectare = 2.47 Acre

installation. This year considering large number of people who have returned back to villages and the pace of the economic activities are not going to be able to draw them back, we have worked over the past few months to pull together various groups in our network and those relevant to put together a cluster of products and services.

Prosumer Hubs are facilitating and producing centres and Prosumer Clusters are centres where a variety of products and services are produced, and linkages are built to directly reach the user or the consumer. We will focus on Leveraging and Collaborating to Achieve for the Communities, essentially Leveraging Technology, Skills and Finances available and within reach of the institution and enabling diversity of institutional forms in the region. Considering the current pressing demand for the transformation of the economy and recognising the vulnerability of long supply chains this is a new venture to enable rural communities.

POTENTIAL MARKET FOR RENEWABLE ENERGY

The local champions suggest a jump start could be made if in the initial stages the potential market for renewables is materialised utilising the current market for Renewable Energy and the purchase obligations.

Section 86(l)(e) of the Electricity Act, 2003 mandates the State Electricity Regulatory Commission to promote co-generation and generation of electricity from renewable sources of energy by providing suitable measures for connectivity with the grid and sale of electricity to any person, and also specify, for purchase of electricity from such sources, a percentage of the total consumption of electricity in the area of a distribution licensee.

TECHNOLOGY AND PRODUCTS

- FARM AND FOREST
 - CEREALS, PULSES, SALT, OIL SEEDS, MUSHROOM, SPICES AND CONDIMENTS, FOREST PRODUCTS, FRUITS AND VEGETABLE
- SHELTER
 - HONEYCOMB, FLYASH, SOIL BLOCKS, PLUMBING, WIRING, BAMBOO
- ENERGY
 - BIODIESEL, MICROHYDRO, SOLAR, BIOGAS, WIND
- HEALTH
- SANITARY NAPKINS, OXYGEN CONCENTRATORS, AIR MONITORING

COMMUNICATION SYSTEMS

- COMMUNICATION
 - WIFI – COWMESH, RADIO, IVR SYSTEMS
 - ART-THEATRE-AUDIO-VIDEO

FISCAL GATEWAYS

- SMALL FINANCES THROUGH DIRECT LENDING TO SHG AND JLG
- ACCESS SERVICES TO VARIOUS LOCAL AND STATE FINANCIAL SYSTEMS

Status of RPO compliance as submitted by CSPDCL						
Year	Type of Source	Total Consumption (MU)	RPO		Actual Purchase	
			(%)	MU	%	MU
FY 2017-18	Solar	20,310.70	2.00%	406.21	1.64%	332.78
	Non-Solar		7.00%	1421.75	4.92%	999.30
	Total		9.00%	1827.96	6.56%	1332.08
FY 2018-19	Solar	22,333.08	3.50%	781.66	2.25%	502.62
	Non-Solar		7.50%	1674.98	3.52%	786.72
	Total		11.00%	2456.64	5.77%	1289.34

The

National Electricity Policy has emphasized urgent need to promote electricity generation based on renewable sources of energy. The Tariff Policy also provides that pursuant to the provisions of section 86(1)(e) of the Act, the SERCS shall fix a minimum percentage for purchase of energy from such sources taking into account availability of such sources in the region and its impact on retail tariffs.

Keeping the above in view, the Chhattisgarh State Electricity Regulatory Commission, in exercise of the power vested to the Commission under section 86(1)(e) of the Act read with section 181 of the Act, notifies Chhattisgarh State Electricity Regulatory Commission (Renewable Purchase Obligation and REC framework implementation) Regulations, 2016, for the period 2016-2021.

There is a huge potential for shifting to renewables and the demand from the members itself can initiate the process.



Discussions on the various potential activities by the members with FPO Expert

The Chhattisgarh Renewable Energy Development Agency was invited to present the schemes available to members as a part of the government's initiative. There is a ripe to install and use alternate energy solutions especially Solar Energy. The area receives large amount of sunshine throughout the year and the people have also shown a willingness to move to alternate energy. The issue of lack of finances is a major roadblock and the villagers through the producer company have already identified 4-acre plot which can be used to install a 1 MW solar based power plant which can benefit the entire village and help in preserving their land and environment. A cooperative farm has been started. Three solar irrigation pumps have already been installed with the help of CREDA.

RESEARCH AND LEARNING HUB

Activities of this nature require constant research, course correction and redesign and incorporating feedback from users and constantly striving to improve on the delivery. The needs of different sections of the community from elderly to infants, currently employed to never employed, forest gatherers and farmers are indeed diverse. Involvement of each of them in the design and delivery and iterations. The research would focus on the mapping of various elements, looking at the cluster of tools at hand and the scope and range of utility and developing more finished produce and skilled people in the region.

INVESTMENTS

Environics has been investing in this region in various ways from building collaborations, undertaking research, enabling understanding issues, building and strengthening institutions. In the current prices, one MW Solar needs an investment of around INR 55 million and based on the recent data on yield of 1.4 – 1.5 MkwH/MW installed and at a INR 4.78/KwH of approved tariff for the previous year can generate an annual revenue of over INR 6.5-7 Million with a saving of more than a million kg/year of CO₂. The purpose of such an investment is to have the cash flows required to launch several activities. We are earmarking Rs 1 million from our resources in this fiscal 2020-21 to initiate the process of finding appropriate resources and preparatory activities.

COMMUNITY FOREST RESOURCES

Environics has been accompanying several habitations in the State of Himachal Pradesh and enabling the claiming of rights and effective conservation and management of community forest resources. We enabled students from the Planning Faculty of Jawaharlal Nehru Fine Arts and Architecture University to undertake case studies to map these resources.

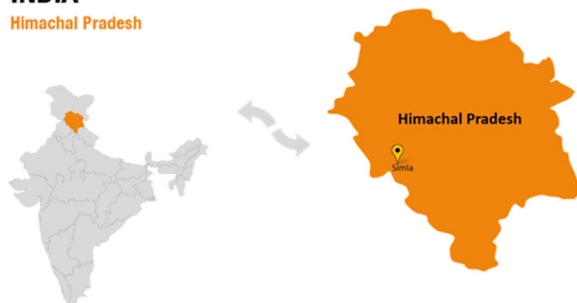
CASE STUDY – HIMACHAL PRADESH STATE

INTRODUCTION

Himachal Pradesh is a state in the northern part of India. Situated in the Western Himalayas, it is one of the eleven mountain states and is characterized by an extreme landscape featuring several peaks and extensive river systems.

INDIA

Himachal Pradesh



Area- 55,673 km² (21,495 sq mi).

Population - 6,864,602 according to the Census of India 2011.

Total Districts - 12.

Capital city - Shimla, Dharmashala.

The predominantly mountainous region comprising the present-day Himachal Pradesh has been inhabited since pre-historic times having witnessed multiple waves of human migration from other areas.

Himachal Pradesh is spread across valleys with many perennial rivers flowing through them. Almost 90% of the state's population lives in rural areas. Agriculture, horticulture, hydropower and tourism are important constituents of the state's economy.

The hilly state is almost universally electrified with 99.5% of the households having electricity as of 2016. The state was declared India's second open-defecation-free state in 2016.

LOCATION

Himachal Pradesh is situated in the Western Himalayas; it is one of the eleven mountain state. It shares borders with the union territories of Jammu and Kashmir and Ladakh to the north, and the states of Punjab to the west, Haryana to the southwest, and Uttarakhand and Uttar Pradesh to the south. The state also has a border with the autonomous region of Tibet to the east.

CHAMBA DISTRICT

Chamba is a town in the Chamba district in the Indian state of Himachal Pradesh. Chamba the land of lord Shiva is famous for its untouched natural beauty. The district has Dalhousie, Khajjiar, Chamba Town, Pangi and Bharamour as main tourist destinations. There are five lakes, five wildlife sanctuaries and countless number of temples.

Area - 6522 sq. km.

No of Tehsils/Taluks – 7.

No of Gram Panchayats – 283.

Total No of Villages- 1591.



Location of Chamba district in Himachal Pradesh

LOCATION AND GEOGRAPHICAL AREA

Chamba is bounded on north-west by Jammu and Kashmir, on the north-east and east by Ladakh area of Jammu And Kashmir State and Lahaul and Bara-Bangal area of Himachal Pradesh, on the south-east and south by the District Kangra of Himachal Pradesh and Gurdaspur District of the Punjab.

DEMOGRAPHY

Area	6,522 km ²
Total Population	5,19,080
Density	80/km ² (210/sq. mi)
Sex Ratio	986
Literacy	323842
Subdivisions	7
Tehsils & Sub-Tehsils	13
Development Blocks	7
Gram Panchayats	283

TOPOGRAPHY

The Chamba District is situated between north latitude 32° 11' 30" and 33° 13' 6" and east longitude 75°49 and 77° 3' 30", with an estimated area of 6522 square Kilometers and is surrounded on all sides by lofty hill ranges. The territory is wholly mountainous with altitude ranging from 2,000 to 21,000 feet.

ADMINISTRATIVE SETUP

For Administrative purpose, the district has been divided into 7 tehsils, namely Chamba, Dalhousie, Tissa, Chowari, Bharmour, Pangi, Salooni and 3 sub-tehsils namely Bhalai, Sihunta, Holi & Dharwala. There are 7 blocks in the district namely Chamba, Mehla, Tissa, Bhattiyat, Bharmour, Pangi and Salooni. There are 283 panchayats in the district covering 1591 villages.

HISTORY

Chamba district in the state of Himachal Pradesh, in northern India. According to the 2001 Indian census the town is situated on the banks of the Ravi River (a major tributary of the Trans-Himalayan Indus River), at its confluence with the Sal River. Chambial were the Rulers of Chamba State.

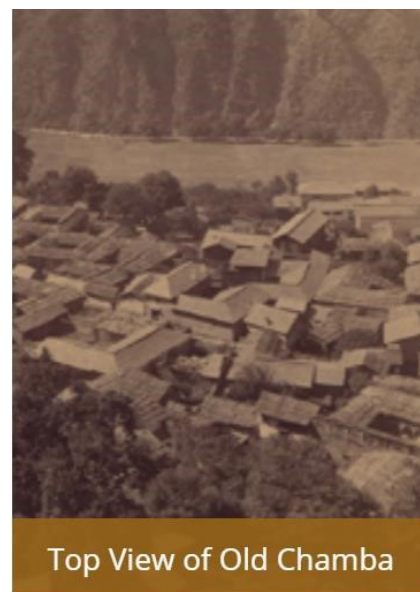
Chambials use suffix Varmans. Though historical records date the history of the Chamba region to the Kolian tribes in the 2nd century BC, the area was formally ruled by the Maru dynasty, starting with the Raju Maru from around 500 AD, ruling from the ancient capital of Bharmour, which is located 75 kilometres (47 mi) from the town of Chamba.

In 920, Raja Sahil Varman (or Raja Sahil Verma) shifted the capital of the kingdom to Chamba, following the specific request of his daughter Champavati (Chamba was named after her). From the time of Raju Maru, 67 Rajas of this dynasty have ruled over Chamba until it finally merged with the Indian Union in April 1948.

FOREST

Forest also plays an important role in the economy of the district. Forest occupies an area of 5,030 Sq. K.M. out of the total geographical area of 6,528 Sq. K.M. Major forest produce that comes from forests are in the form of bamboo, Chil, Oaks, Deodar, kail, fir and spruce etc.

The richness and diversity of our flora can be gauged from the fact that, out of total 45,000 species found in the country as many as 7,32% are reported in the State. More than 95% of the species are endemic to Himachal Pradesh and characteristics of Western Himalaya flora, while about 5% (150 species) are exotic, introduced over the last 150 year.



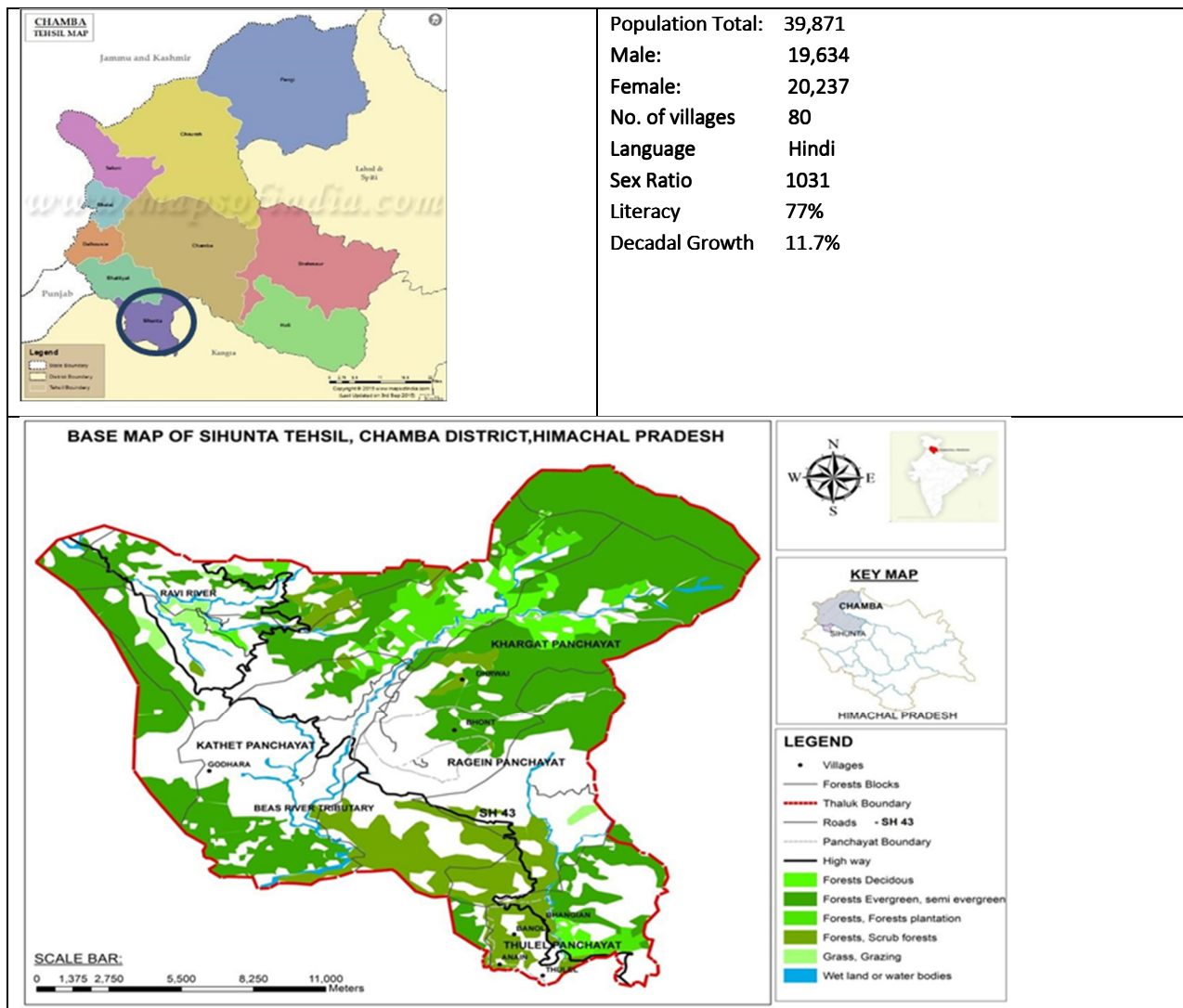
Top View of Old Chamba

SIHUNTA TEHSIL/TALUK

Sihunta Tehsil, with population of about 40 thousand is Chamba district's the 5th least populous sub district, located in Chamba district of the state Himachal Pradesh in India. There are 80 villages in the sub district, among them Hatli is the most populous village with population of 1588 and Karah is the least populous village with population of 13.

Kumharka is the biggest village in the sub district with an area of 13 km² and Kasba Tundi (270B) is the smallest with 0 km².

DEMOGRAPHY



Case studies of several districts were undertaken which enabled the students to gain an understanding of the issues and how their knowledge can be of aid in conservation.

FINANCIALS

We have been continued to be funded by Oxfam India, Foundation for Ecological Security, Asia Monitor Resource Centre, New Ways to Paulo Alto and 11.11.11 and Both Ends in our programmes. We are grateful to all of them for reposing confidence in our work.

All statutory reports including the Balance sheets, Receipts of Foreign Contributions and other relevant documents are available at

<https://environicsindia.in/statutory-docs/>