

# Environics Trust



## VIEWSLETTER

November 2018

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## International Solidarity

### **Asia Europe People's Forum ([AEPF](#))**

R. Sreedhar

The AEPF was initiated the mid-1990s from a common desire and need among people's organizations and networks across Asia and Europe to find new venues for dialogue, cooperation, and solidarity. The inter-regional conference was organized in 1996 coinciding the first Asia-Europe Meeting ([ASEM](#)) held in Bangkok. Currently the work of AEPF is organised around six clusters on issues which are of pressing importance. They are

1. Climate justice and Just transition
2. Just Trade and Corporate Accountability
3. Food sovereignty and resources justice
4. Peace and security
5. Democratization and human right
6. Social justice



This was the first time that Environics participated in the forum as a part of the Climate Justice and Just Transition Cluster. The Demand Climate Justice Alliance and Asian Peoples Movement for Debt and Development, CLARA of which Environics is already a partner and OilWatch, Gastivists and other Climate groups are a part of this effort.

Environics Trust has also been invited to contribute to the Social Justice cluster. A [Universal Charter on Social Protection](#) with the main objective to promote a different philosophy on social protection, one that goes beyond the traditional rights, that encompasses environmental needs and bridges the unacceptable gap between production and reproduction has been drafted and the idea is to deepen its acceptance in all countries.

We had detailed discussions on the new IPCC report that is going to be released soon and the alternative [CLARA](#) report which emphasises on indigenous land rights and false land based climate solutions. We also held an outside action in the streets of Ghent. Ghent is a Belgium city which claims to be climate friendly despite Arcelor Mittal's Steel Company in the city! However, it has taken several steps to avoid emissions.



Please read more about these in the links.

## **The Other Side of Development**

*Darkness under a potential power hub town, Janjgir-Champa, Chhattisgarh*

Alisha Khan

An old saying - 'All that glitters is not gold' - is apt for *Homo sapiens* of today as they are obsessed with '*development*', carrying a pre-conceived notion - how a city should look like. This eventually results a city losing its *in-situ* natural sheen and district of Janjgir-Champa is witnessing it too. Once surrounded by lush green forests and agro-farms with abundant water from River Mahanadi, this region is on the verge of losing its natural environs. Government's promises of providing concrete roof overhead, better earning opportunities, improved educational facilities, and above all a prosperous lifestyle, have painted a rosy picture in the minds of common people, especially in the rural stretches. In order to transform Janjgir-Champa as next 'power-hub' of the nation, irreversible damage is being done to its ecology and environment.

The rapid growth of Industrial sector, has barely touched the lives of hundred-thousand poor Adivasi communities (lacking any political voice) residing in the peripheral towns and villages. It is relevant to mention here that the region has a preponderance of Schedule Castes, like, *Barahar, Moghia, Meghwal, Sansi, etc.* According to Census 2011, out of a total population of 1,619,707 persons in Janjgir-Champa, only 13.9% people live in urban areas while 86.1% live in rural areas. Obviously, most of the population is illiterate, engaged in refineries, mining, and power houses as daily wagers, searching for a better future. However, the bigger picture behind this rapid development shows another facet. Fast-track industrialization will adversely affect forests and dependent communities (still a large rural population is dependent on natural resource base).

In December 2017, Environics Trust (E T) undertook a field-based research study, after learning that the region is soon going to be an industrial hub of thermal power, cement, and sponge iron production centre, involving government and private parties, both. The peace of this almost tranquil region was shattered when a JCB backhoe loader started working on this wet brown earth. The crane inched along to carve a neat road on the fertile lands for Marwa thermal power plant, whilst, affected communities helplessly watched road-construction leading to their doom. E T found that almost every industrial plant is affecting minimum of 3-4 peripheral villages, resulting in severe damages to lives, livelihoods and environment.

The agricultural lands, once lush green with paddy cultivation, today stand as barren and fallow except the glean marks. Taking into account the sufferings of affected communities, it became pertinent to oppose and raise voices against the companies and government plans. Local official, hand in gloves with companies, falsely implicated community members in police cases and forced them to surrender their only livelihood source - the land. The findings revealed that neither jobs were given to those whose lands were snatched nor the market price of land was paid. People were thus forced to choose one of the three options - migrate to

some other region, stay and suffer the consequences, or commit suicide. And indeed, suicides in the district have been registered, exhibiting frustration and desperation of adversely affected communities, stripped of their only source of livelihood. In his book *"India's Human Security – Lost Debates, Forgotten People, Intractable Challenges"* noted writer Prakash Jain stated – *"This district once had potential to bring 80% of its land under irrigation, is now thoroughly ravaged by newer industries."*

Bringing technology and power harvesting capabilities to the land, where significant segment of population still requires minimum food security, is accompanied with its own set of problem. Most threatening among these is the possibility of acid rain in the area, permanently affecting soil and its micro-biota, crop, trees, waterbodies, avian fauna, structural quality of certain households, etc.

The major rivers have also taken a toll and average pollution levels have already crossed safe limits, as corroborated by mysterious untimely deaths of fishes in the vicinity. The EIA (Environmental Impact Assessment) reports, mandatory for setting up these power plants, seem to be deficient on several major points especially the environment quality, sharply pointing toward the need for cumulative reappraisal of EIA. Coal-generated power in India has come under severe criticism due to emission of Green House Gases (GHGs) and thereby contributing to climate change, yet government and private parties continue to promote these units. Furthermore, associated ancillary issues like health hazards, eco-degradation, shrunken household economy, etc. have been left unaddressed.



Emissions from Thermal Power Plant and fly ash deposition on land in Janjgir Champa

The availability of water from rivers like Mahanadi, Hasdeo, Chourai, Sone, and Sheonath is essential for cereal crops such as rice and maize, spread over vast agricultural fields, with little wheat. Pulses like black gram, pigeon pea and groundnuts too are grown. One is intrigued why industrial units are being set up here, destroying the agricultural fields? Further, the toxic residues released from steel and power plants are polluting freshwater and other pristine resources of the region in a blatant manner, making a mockery of pollution control establishments. With this lopsided development, water for agricultural fields is gradually shrinking whereas water supply to industrial units has increased. Moreover, use of pollutant-infested water for irrigation has introduced chemical toxicity in the food chain, besides pushing farmers out of farming, due to lack of adequate water availability.

Disbursing cash compensation to the project affected people (PAPs) is an ill-flawed policy. Government snatches their lands (a permanent livelihood resource) *in lieu* of cash, which would last hardly a year or so. What will happen afterward to these families? For tribals, these lands have strong cultural-religious significance as they live with their ancestors and deities in the area since centuries and such values, like the mental trauma, can never be quantified. Land is a finite resource and agricultural land is shrinking due to ever-increasing industrialization, urbanization and infrastructure, repercussions of it will be prominently visible in next few decades, in terms of decreased yield and eventually a vulnerable food security.



A bird's eye view of coal mining are in Janjgir Champa

Government, supposed to act as a welfare agency of people, has apparently decided to protect interest of only a handful of prosperous elites at the cost of suffering masses, as is being manifested in Janjgir-Champa. Towards the end, I just want to say - *"Where once butterflies used to wander over the garden, soon the chemical exhaust will stroll over the town."*

## **Air Pollution in Selected Sites in September 2018**

Mohit Gupta

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.

### **Analysis of the Monitoring Data**

1. There are 720 hourly intervals starting from 1 Sep (1 AM) to 30 Sep (Midnight), 4 devices worked for all the intervals and another 3 worked for more than 700 intervals.
2. The air quality measured by the devices placed at Petrol Pump, TP Nagar, Korba and Ramadih, Angul have recorded AQI >100 for all intervals. The dust sensor for these devices need to be calibrated as the readings are recorded as maximum for all intervals.
3. The device placed at Ashok Nagar, Moradabad, Uttar Pradesh has recorded the poorest Air Quality index where in 89% of the readings had AQI > 100
4. Another 4 devices had AQI > 100 for more than 80% of the intervals. It is noticed that three (3) devices in Korba have recorded very poor air quality. This is despite the prevailing monsoon season and regular rainfall in the month of September 2018.

Table 1

Device Number	Location	No of intervals	Intervals - AQI >100	%age AQI >100
1212170176	Bargadwa Gorakhpur, Uttar Pradesh	563	469	83.30%
1201180019	Darri, Korba	562	473	84.16%
1201180030	TP Nagar, Korba	547	468	85.56%
1201180068	SS Green, Korba	410	329	80.24%

5. Four (4) devices have reported AQI more than 100 for 0 intervals

- a. KumundaAngul (567 intervals)
- b. Ghantianali Angul (132 intervals)
- c. Kusmunda Korba (512 intervals)
- d. Baraut, Uttar Pradesh (334 intervals)

The dust sensor for these devices may require re-calibration as the values reported are very low and not corresponding to the high values measured by other devices placed in vicinity.

6. Three (3) devices have reported AQI >100 of less than 20% of the intervals

- a. 1201180141 Korba (64 intervals out of 369; 17.34%)
- b. 1211170030 New Delhi (16 intervals out of 144; 11.11%)
- c. 1211170021 Kolkata (25 intervals out of 144; 17.36%)

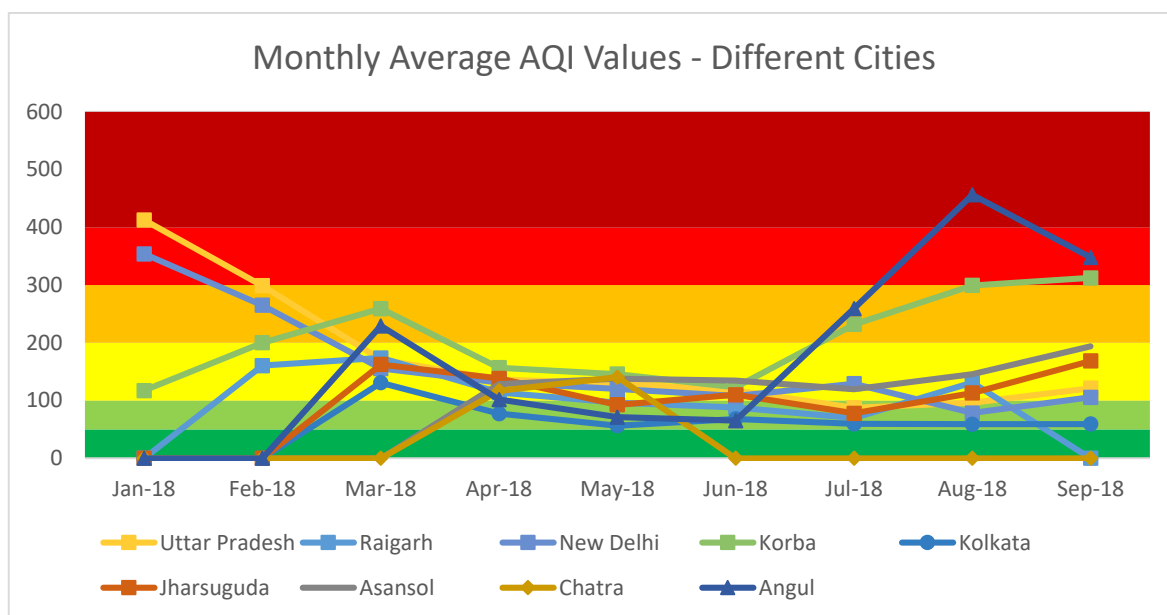
### Monthly Average AQI Values

The graph below shows the Monthly Average Air Quality Index (AQI) values for different cities. The Average values have been calculated for all the device placed in the city and for Uttar Pradesh all the devices placed in the state.

As per the National Air Quality Index, the quality of air has been broken into different segments based on the AQI values.

Good	Satisfactory	Moderate	Poor	Very poor	Severe
0-50	51-100	101-200	201-300	301-400	>401

- I. As per the graph and data, Angul remains the most polluted city. However, the air quality has improved from Severe to Very Poor category
- II. Korba Comes a close second and the air quality has deteriorated from Poor to Very Poor
- III. Kolkata remains the cleanest city with the air quality remaining in the Satisfactory category
- IV. Air Quality for other cities was in the Moderate category



Cities	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18
Cities in UP*	413	299	171	136	130	117	87	96	121
Raigarh	-	161	174	114	96	88	70	131	-
New Delhi	354	265	156	131	120	108	129	79	106
Korba	117	200	259	157	146	123	232	299	312
Kolkata	-	-	131	77	56	68	59	59	59
Jharsuguda	-	-	163	138	93	110	78	113	169
Asansol	-	-	-	128	138	135	119	146	194
Chatra	-	-	-	117	141	-	-	-	-
Angul	-	-	229	102	71	65	259	456	348

\* Allahabad, Ambedkar Nagar, Amethi, Azamgarh, Bagpath, Bhadohi, Balia, Basti, Chandauli, Chitrakoot, Faizabad, Ghazipur, Gorakhpur, Gonda, Hamirpur, Jalaun, Jaunpur, Jhansi, Kanpur, Kaushambi, Maharazganj, Mau, Meerut, Mirzapur, Moradabad, Muzaffarnagar, Pratapgarh, Robertsganj, Saharanpur, Sonbhadra, and Varanasi

An important aspect to notice is that other than Angul for which AQI improved and for Kolkata where it remained same, for all other cities, the Air quality has deteriorated. This is a serious matter and with the ending of the monsoon season, the quality can be expected to only get poorer. Festive season and lowering of temperature with the advent of winter may add to the increasing air pollution.

## Monthly AQI Values

Another important aspect to consider is the category of air quality for different days in the month.

The below tables, compiled city wise, shows the AQI quality for a City between different AQI categories. For UP, the data is shown for the entire state. The values show the number of days the air quality was reported in the respective category in the month. The average AQI value shows the monthly Air Quality level for the respective grouping.

The tables clearly show a trend of deteriorating Air Quality for more number of days recording Poor air quality as compared to previous months.

### Uttar Pradesh

Period	Good	Satisfactory	Moderate	Poor	Very poor	Severe	Average AQI
	0-50	51-100	101-200	201-300	301-400	>401	
Jan-18	0	0	0	1	11	19	412.80
Feb-18	0	0	0	12	16	0	298.89
Mar-18	0	1	21	9	0	0	171.19
Apr-18	0	1	29	0	0	0	136.33
May-18	0	2	29	0	0	0	130.00
Jun-18	0	7	23	0	0	0	117.44
Jul-18	0	22	9	0	0	0	87.49
Aug-18	0	21	10	0	0	0	96.38
Sep-18	0	7	22	1	0	0	121.25

### New Delhi

Period	Good	Satisfactory	Moderate	Poor	Very poor	Severe	Average AQI
	0-50	51-100	101-200	201-300	301-400	>401	
Jan-18	0	0	1	1	22	4	353.95
Feb-18	0	0	5	14	9	0	265.04
Mar-18	0	0	23	8	0	0	155.55
Apr-18	0	4	25	1	0	0	130.98
May-18	0	4	26	1	0	0	120.01
Jun-18	0	15	14	1	0	0	107.78
Jul-18	0	19	6	3	3	0	129.08
Aug-18	5	18	8	0	0	0	78.53
Sep-18	5	15	7	0	2	1	105.52

### Asansol

Period	Good	Satisfactory	Moderate	Poor	Very poor	Severe	Average AQI
	0-50	51-100	101-200	201-300	301-400	>401	

Jan-18	-	-	-	-	-	-	-
Feb-18	-	-	-	-	-	-	-
Mar-18	-	-	-	-	-	-	-
Apr-18	0	2	9	1	0	0	128.26
May-18	0	4	24	3	0	0	137.97
Jun-18	0	2	26	1	1	0	134.68
Jul-18	1	10	15	5	0	0	119.46
Aug-18	1	7	17	6	0	0	145.75
Sep-18	0	2	14	11	3	0	193.64

### Raigarh

Period	Good	Satisfactory	Moderate	Poor	Very poor	Severe	Average AQI
	0-50	51-100	101-200	201-300	301-400	>401	
Jan-18	-	-	-	-	-	-	-
Feb-18	0	0	9	3	0	0	160.54
Mar-18	0	0	19	12	0	0	173.73
Apr-18	0	4	26	0	0	0	113.99
May-18	0	21	10	0	0	0	96.33
Jun-18	2	18	10	0	0	0	87.99
Jul-18	5	19	5	0	0	0	69.73
Aug-18	1	3	1	2	1	0	131.08
Sep-18	-	-	-	-	-	-	-

### Korba

Period	Good	Satisfactory	Moderate	Poor	Very poor	Severe	Average AQI
	0-50	51-100	101-200	201-300	301-400	>401	
Jan-18	0	0	1	0	0	0	117.33
Feb-18	0	1	6	6	1	0	199.74
Mar-18	0	0	2	21	8	0	259.20
Apr-18	0	0	26	4	0	0	156.84
May-18	0	0	29	2	0	0	145.86
Jun-18	0	4	25	1	0	0	123.04
Jul-18	0	2	5	21	3	0	231.82
Aug-18	0	0	1	13	16	1	299.40
Sep-18	0	0	3	7	17	3	312.43

### Kolkata

Period	Good	Satisfactory	Moderate	Poor	Very poor	Severe	Average AQI
	0-50	51-100	101-200	201-300	301-400	>401	
Jan-18	-	-	-	-	-	-	-
Feb-18	-	-	-	-	-	-	-

Mar-18	0	3	23	4	1	0	130.69
Apr-18	4	18	8	0	0	0	77.24
May-18	8	22	0	0	0	0	56.40
Jun-18	6	20	4	0	0	0	68.15
Jul-18	14	13	4	0	0	0	59.50
Aug-18	12	14	3	0	0	0	59.06
Sep-18	2	3	1	0	0	0	59.30

### Jharsuguda

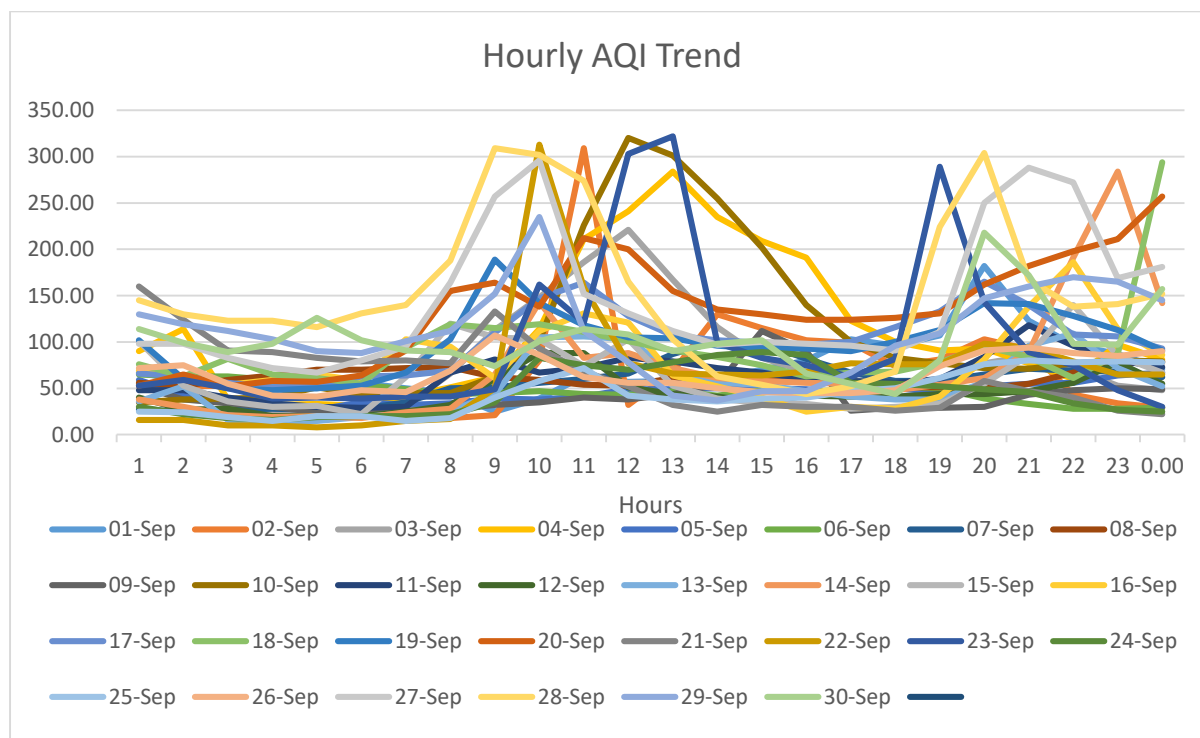
Period	Good	Satisfactory	Moderate	Poor	Very poor	Severe	Average AQI
	0-50	51-100	101-200	201-300	301-400	>401	
Jan-18	-	-	-	-	-	-	-
Feb-18	-	-	-	-	-	-	-
Mar-18	0	0	15	4	2	0	162.53
Apr-18	0	4	15	4	0	0	138.25
May-18	0	24	7	0	0	0	92.61
Jun-18	0	15	13	1	1	0	110.09
Jul-18	1	23	7	0	0	0	77.98
Aug-18	0	11	17	3	0	0	112.95
Sep-18	0	4	19	6	1	0	168.50

### Angul

Period	Good	Satisfactory	Moderate	Poor	Very poor	Severe	Average AQI
	0-50	51-100	101-200	201-300	301-400	>401	
Jan-18	-	-	-	-	-	-	-
Feb-18	-	-	-	-	-	-	-
Mar-18	0	0	8	12	3	0	229.28
Apr-18	0	17	12	1	0	0	101.79
May-18	1	30	0	0	0	0	71.11
Jun-18	8	18	4	0	0	0	65.15
Jul-18	12	0	1	2	6	10	259.18
Aug-18	1	4	2	0	0	23	456
Sep-18	3	4	8	1	0	14	347.87

## Analysis / Graph of some devices (Daily hourly AQI) – Devices which worked for all intervals

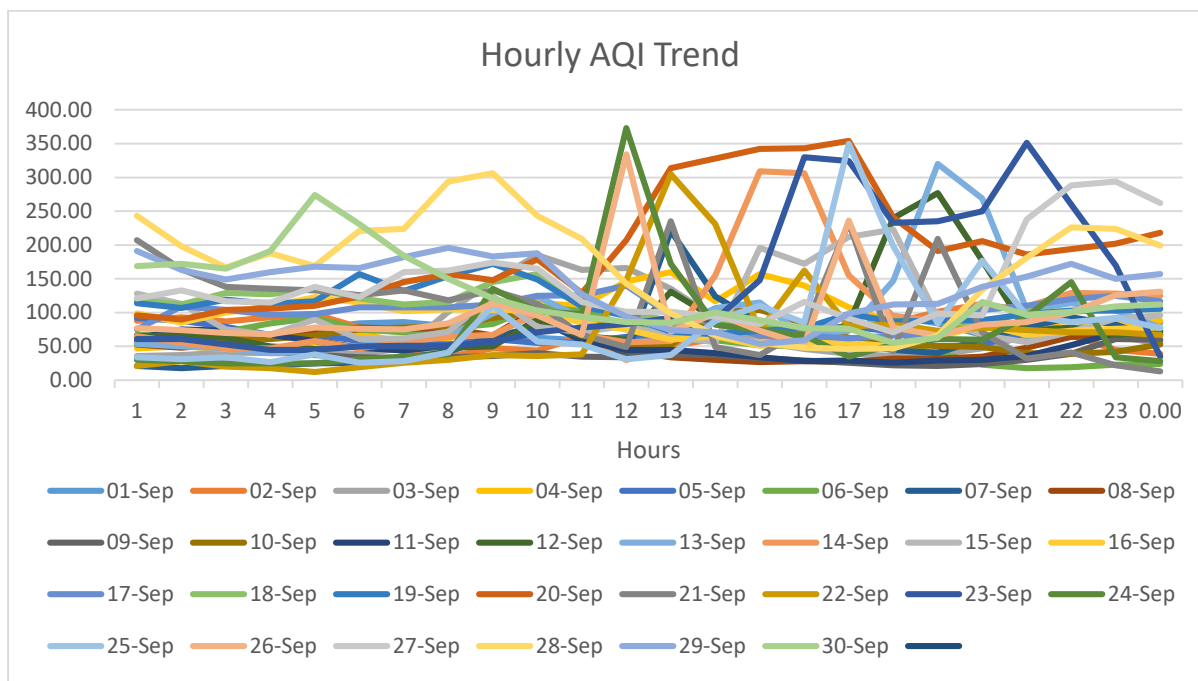
### I. Graph for Device Number 1201180043 placed at Neb Sarai, New Delhi



PM 2.5			PM 10			AQI			Entries AQI >100	AQI >100
Avg	Max	Min	Avg	Max	Min	Avg	Max	Min		
41.45	148.50	5.00	75.05	262.50	8.50	80.50	321.92	8.50	174	24.17%

- The device shows comparatively low readings early in the morning. The dust levels start rising in the morning around 7-8 AM and then remain high till noon
- The levels start going down in the afternoon and till about 5 PM dust levels are under control
- Around 5-6 PM, the dust levels start rising again and remain high usually till about 10-11 PM
- The overall quality of air is Satisfactory with only 24% of the intervals recording an AQI > 100

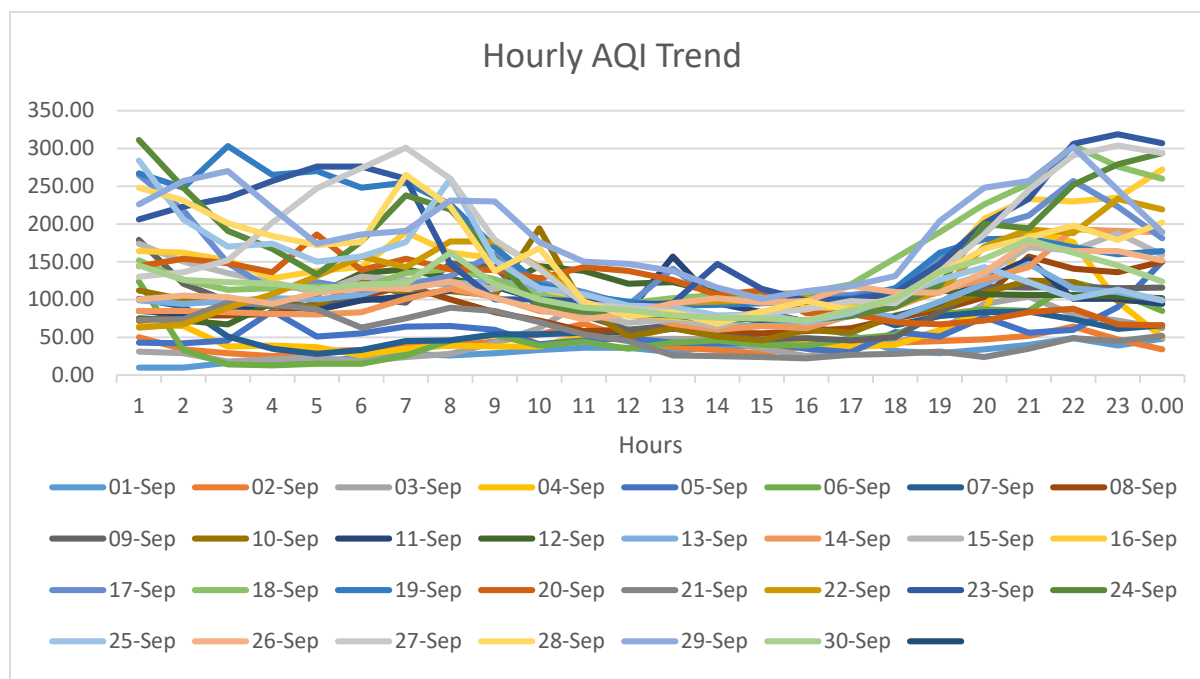
## II. Graph for Device Number 1201180043 placed at Neb Sarai, New Delhi



PM 2.5			PM 10			AQI			Entries AQI >100	AQI >100
Avg	Max	Min	Avg	Max	Min	Avg	Max	Min		
43.15	215.00	5.00	91.83	318.00	12.00	95.30	373.08	12.00	236	32.78%

- The device shows comparatively low readings early in the morning. The dust levels start rising in the morning around 9-10 AM
- The device is kept indoors and the indoor pollution has been generally noticed to be higher than the environmental pollution.
- The overall quality of air is Satisfactory with only 32% of the intervals recording an AQI > 100

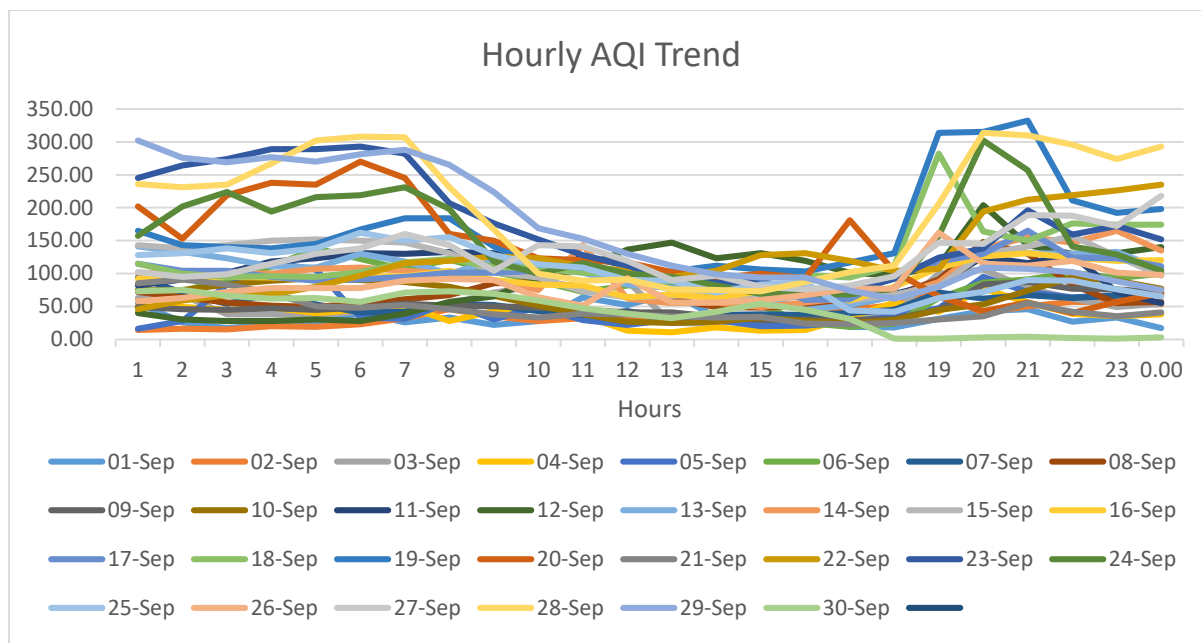
### III. Graph for Device Number 1211170146 placed at Adarsh Nagar, Mahmoorganj



PM 2.5			PM 10			AQI			Entries AQI >100	AQI >100
Avg	Max	Min	Avg	Max	Min	Avg	Max	Min		
55.12	144.50	3.50	104.62	258.00	10.00	111.61	318.85	10.00	345	47.92%

- The device records high readings in the early morning phase till about 10 AM.
- The dust levels start dropping around 10 AM and remain low till 6 PM
- The levels again start rising at 6 PM and remain high throughout the night
- The device may be placed in an industrial area which witnesses high commercial vehicular traffic in the night or some industrial activity where in the dust suppressing mechanisms have been shut in the night
- The overall quality of air is Poor with 47% of the intervals recording an AQI > 100

IV. Graph for Device Number 1211170147 placed at Nandan Kutir Balipur, Uttar Pradesh



PM 2.5			PM 10			AQI			Entries AQI >100	AQI >100
Avg	Max	Min	Avg	Max	Min	Avg	Max	Min		
49.55	162.00	0.50	86.60	272.50	1.00	96.59	332.31	1.00	276	38.33%

- The device records high readings in the early morning phase till about 9 AM.
- The dust levels start dropping around 10 AM and remain low till 6 PM
- The levels again start rising at 6 PM and remain high throughout the night
- The device may be placed in an industrial area which witnesses high commercial vehicular traffic in the night or some industrial activity where in the dust suppressing mechanisms have been shut in the night
- The overall quality of air is Poor with only 38% of the intervals recording an AQI > 100

Summing up, the above analysis strongly emphasize the acute need to strictly implement existing provisions of pollution monitoring norms, as prescribed under law. It acquires greater significance than commonly assumed as it adversely affect the health and well-being of workers, their families and population living in close vicinity, on the one hand, while also deteriorating quality of environment and ecology, on the other hand. Given the international commitments by our country, regarding climate change and SDGs, it becomes mandatory to minimize such pollution levels.

## **Women's Health Schemes in Madhya Pradesh**

Bharati



A Team of Environics Trust visited Khajuraho, Panna, Satna and Rewa districts of Madhya Pradesh in September 2018 and made observations at the Primary Health Center (PHC), Community health Center (CHC) and District Health Center (DHC) in these districts. During the visit, the team had regular consultations about the facilities being provided in the rural areas. The government planning, policies, and facilities for the rural populace, especially the female, were discussed in detail with Block Medical Officer (BMO), health counsellors, doctors and lab assistant.

During the course of interaction, we identified specific schemes, like, Sardar Vallabh Bhai Patel Yojna, Deen Dayal Upadhyay Yojna, Pradhan Mantri Matratva Vandana Yojna, Janani Suraksha Yojna, Mukhyamantri Shramik Sewa Prasuti Sahayata Yojna, as focal areas for our current study.

The BMO of Khajuraho, Mr Satyendra Gupta, provided us all the necessary information regarding these schemes. Under Sardar Vallabh Bhai Patel Yojna free medical facilities are provided to people. There are 121 types of medicines provided free of cost to the poor people of district. For vasectomy (*Nasbandi*) operation, as an incentive, female and male gets Rs 2000/- and Rs 4000/-, respectively.

## Janani Suraksha Yojana (JSY)



Patients interacting with a doctor

This scheme is being implemented by Health department of Madhya Pradesh. The scheme ensures safe delivery of babies, ultimately aimed towards the reduction of maternity and mortality rate.

Under Janani Suraksha Yojana (JSY) the government provides cash incentive for pregnant mothers to have institutional births as well as pre- and ante-natal care. Transport is made available to pregnant women under 'Parivahan Yojana'. During the last two and half years, more than ten lakh women have been benefited by Janani Suraksha Yojana. The scheme has proved to be successful in urban and rural areas, both. Under this scheme, Rs. 1400 is given to each pregnant women in the rural areas and Rs.1000 in the urban areas. The person bringing the pregnant woman to hospital for delivery is given Rs. 600 in the rural areas and Rs. 200 in the urban areas.

In this scheme, one can also call '108' for free ambulance services, named as Janani Express).



Janani Express under Janani Surakhsha Yojna

### Mukhya Mantri Shramik Sewa Prasuti Sahayata Yojna

If a registered unorganized labour woman cannot go to work during pregnancy, then she remains unpaid. Hence some women leave their job during pregnancy and in such cases government compensate/reimburse them in order to reduce their financial suffering.

**मुख्यमंत्री श्रमिक सेवा (प्रसूति सहायता) योजना, 2018**

- योजना के अंतर्गत पात्र हितग्राही को प्रथम 2 जीवित संतानों पर प्रसव पूर्व 4 जॉब कराने पर राशि रुपये 4000/- एवं शासकीय अस्पताल में प्रसव कराने पर कुल राशि रुपये 12000/- की पात्रता होगी।
- प्रथम गर्भ धारण करने पर पात्र हितग्राही को प्रधानमंत्री मातृ वंदना योजना के अंतर्गत प्रथम एवं द्वितीय किशत क्रमशः राशि रुपये 1000/- एवं रुपये 2000/- (कुल रुपये 3000/-) का भुगतान होगा। जिसमें लोक स्वास्थ्य एवं परिवार कल्याण विभाग द्वारा राशि रुपये 1000/- का भुगतान मुख्यमंत्री श्रमिक सेवा (प्रसूति सहायता) योजना 2018 के अंतर्गत किया जावेगा एवं शेष राशि का भुगतान महिला एवं बाल विकास विभाग द्वारा किया जावेगा।
- योजना के अंतर्गत प्रसव पश्चात द्वितीय किशत की राशि रुपये 12,000/- में जननी सुरक्षा योजना की राशि (शहरी क्षेत्र के लिये रु. 1000/- और ग्रामीण क्षेत्र के लिये रु. 1400/-) सम्मिलित है।

**स्तनपान, शिशु के लिये बरदान**

- जन्म के तुरंत बाद 1 घंटे के अन्दर शिशु को स्तनपान कराये
- माँ का पहला गाढ़ा पीला दूध शिशु को अवश्य पिलाये
- शिशु को 6 माह तक सिर्फ माँ का दूध ही पिलाये
- 6 माह के बाद शिशु को स्तनपान के साथ-साथ अन्य ऊपरी आहार भी दें।

**टीकाकरण बड़े समातक रखे, हर बाल टीकाकरण के लिये इसे साथ ले कर जाये।**

**5 साल 7 बार छूटे न टीका एक भी बार**

जन्म के समय 1 माह 2 माह 3 माह 4 माह 5 माह 6 माह 7 साल

जन्म से 5 वर्ष तक के बच्चों एवं गर्भवती महिलाओं का संपूर्ण टीकाकरण कराये

For taking advantage of this scheme, each pregnant women is given Rs. 16,000 into two instalments. The first instalment of Rs. 4000 is given for the last three months of pregnancy during the pre-delivery prenatal check by the doctor or Auxiliary Nurse Midwifery (ANAM). The second instalment of Rs. 12,000 will be given at the government hospital, after the institutional birth of the new-born.

Subsequently, the infant is also entitled for the Zero, Doz, VCG, OPD and HBV vaccination.



We were also chance witnesses to the actual implementation of scheme on the ground. While we were there, we witnessed a case where a woman named Mrs Tulsa Ahirwar gave birth to a healthy baby on 24 April but she was unable to get her entitlement of Rs 16,000, due to the wrangling between two wings of the same department - PHC & CHC.

Accredited Social Health Activist (ASHA) worker who has a major role to play, turned out to be the most corrupt link in this case. The ASHA worker did not take Mrs Tulsa Ahirwar to PHC but got her admitted in CHC for vaccinations, before the birth of the baby. Then for putting her signature on the official papers (a pre-condition for getting financial assistance under the scheme), ASHA worker sought bribe from Mrs Tulsa Ahirwar. Meanwhile, ANM of PHC named Ms Sridevi stated on record that she is not responsible to sign any official paper of Mrs Tulsa Ahirwar as she has not given any vaccination before or after birth of Tulsa's baby. As Tulsa has given birth to her baby in PHC which is near to her residence. We brought this case to the knowledge of BMO but he too was not able to resolve this issue, till our departure.

This episode points to a more rigorous monitoring system for the implementation of various women-related welfare schemes so that economically weaker women are not deprived of such well-intended schemes.

*It is an overview of mapping health schemes focusing on women. As the process is ongoing, we will share next round of our experiences, after our next field-work.*

## सेनेटरी नैपकिन यूनिट

नीतू ठाकुर

जब सेनेट्री पैड्स नहीं बने थे तब महिलाओं को पीरियड्स के दौरान होने वाले रक्तस्राव को रोकने के लिए लकड़ी, रेत, काई, और घास जैसी चीजों का इस्तेमाल करना पड़ता था, वह समय कितना दर्दनाक था. आज भी गांवों और छोटे शहरों में ऐसे बहुत से घर हैं जहां महिलाएं सेनेट्री पैड्स का इस्तेमाल नहीं करतीं ऐसे में बहुत सी महिलाएं सूती कपड़े को फाड़ कर पीरियड्स में इस्तेमाल करती हैं जिनके गीले होने पर वे उसे धोकर फिर से इस्तेमाल में लाने के लिए रख लेती हैं या फेंक देती हैं, जो बिल्कुल आरामदायक नहीं होता.

भारत में ऐसी बहुत सी जगहें हैं जहां पैड का प्रचलन नहीं है. आदिवासी इलाकों में तो बिल्कुल भी नहीं इसकी एक वजह यह भी है, कि भारत में पीरियड्स पर खुल कर कभी बात ही नहीं होती. पिछड़े इलाकों में तो आज भी जब महिला को पीरियड्स आता है तो उसे सप्ताह भर तक अशुद्ध समझा जाता है, इतने दिन वो अपने ही घर में अछूत जैसा रहती है, उन्हें पानी भी छूने नहीं दिया जाता है, सोने के लिए जमीन पर चटाई बिछाई जाती है और कोई उस रास्ते से नहीं जाता है. यह सब सुनकर अजीब लगता है, लेकिन ये आज भी समाज की सच्चाई है.

एनवीरोनिक्स ट्रस्ट ने महिलाओं को साफ एवं स्वच्छ रखने, महिलाओं को रोजगार प्रदान करने, और स्वावलंबी बनाने हेतु एक पहल की, जिसके अंतर्गत, नई दिल्ली नेब सराए में सेनेटरी नैपकिन यूनिट की स्थापना की गई. प्रारम्भ में हमने एक हैंडमेड पैड बनाने की योजना बनाई और इसकी शुरुआत 22 अक्टूबर 2016 को की गई. किसी भी यूनिट को चलाने के लिए कुछ विशेष सामग्री की जरूरत होती है और उस जरूरत को एनवीरोनिक्स ट्रस्ट ने पूरा किया.

एनवीरोनिक्स ट्रस्ट की मैडम वनीता जी, भारती जी, और मेरे द्वारा इसकी शुरुआत की गई . मैडम वनीता जी ने हमें हैंडमेड पैड बनाने का तरीका बतलाया. शुरुआती दिनों में, भारती जी एवं मैंने खुद पैड बनाने का काम किया कुछ परेशानियां हुईं पर उन परेशानियां को दूर भी किया गया. कहा जाता है कि कुछ अच्छा करने के लिए हमें मेहनत और परिश्रम दोनों करना चाहिए. पैड बनाने में थोड़ा समय और मेहनत तो लगी पर सही काम भी हुआ. पैड जब बनकर तैयार हो गए, तो इन पैड को कैसे महिलाओं के बीच पहुंचाएं, कैसे उनका फीडबैक मिले, इसके लिए हमें लोगों के बीच जाना था, उन तक पहुंचना था.



सेनेटरी नैपकिन यूनिट में कार्यरत महिलाएं

सबसे पहले तो हमारे ऑफिस में जो लेडीज स्टाफ हैं, उनको ये पैड दिए गए, कुछ हमने खुद भी इस्तेमाल किए. फिर नेब सराय की महिलाओं के बीच पैड पहुंचाने का काम किया ताकि फीडबैक मिल सके. गोंद संबंधी कुछ समस्या आई और बाकी सब ठीक था. जिन महिलाओं ने पैड लिए थे उन्होंने बताया कि ज्यादा चिपक रहा है फिर उस दिक्कत का उपाय किया गया. उसके बाद से कोई परेशानी नहीं हुई और पैड सही काम करने लगे.

किसी यूनिट को चलाने के लिए लोगों की जरूरत होती है, इसी तरह सेनेटरी नैपकिन यूनिट को चलाने के लिए भी कम से कम 6 महिलाओं की जरूरत थी.

इसके लिए हम लोगों ने एक पर्चा निकाला जिसमें हमने दो विकल्प दिए गए – एक तो पैसे देकर सीखो और दूसरा पैसे लेकर सीखो. इस तरह पैसे देकर कुछ महिलाएं आगे आईं. उनको एनवीरोनिक्स ट्रस्ट द्वारा दो महीने की ट्रेनिंग दी गई जिसमें उन्हें सिखाया गया कि पैड कैसे बनाया जाता है और वे आज अच्छी तरह से काम कर रही हैं. हमारी यूनिट में 5 महिलाएं हैं – सरोज, दयावती, कमलेश, कुसुम, और शकुंतला. हमारी यूनिट 1 वर्ष से ज्यादा समय से काम कर रही है और इसका परिणाम यह है कि हम पैड बनाने में और बनाये गए पैड को घर-घर तक पहुंचाने में सफल हुए.

शुरु में भारती जी और मैंने नेब सराय की महिलाओं के बीच घर-घर जाकर महिलाओं को जागरूक किया और उन्हें पैड दिए ताकि वे लोग आपस में बात करें और एक दूसरे को इस्तेमाल करने के लिए कहें. बहुत लोगों ने पैड लिए और तारीफ़ की.

हमारी नैपकिन के एक पैकेट में दस पीस होते हैं, जिन्हें हाथ से बनाया जाता है, ये महिलाओं के लिए सस्ता एवं स्वच्छ है जो समाज की हर महिला उपयोग कर सकती है और सबसे बड़ी बात यह है कि ये पैड कम दाम में उपलब्ध हैं.

हम लोगो ने महिलाओ के बीच कुछ सेनेटरी नैपकिन, मुफ्त में नमूने के रूप में भी बांटे और कुछ पैकेट कम पैसे में भी दिए गए. हमारी यूनिट में काम करने जो महिलाएं आती है वे भी घर-घर जाकर लोगो तक पैड पहुंचा रही हैं और उनका मोबाइल नम्बर, नाम आदि भी ले कर आती हैं. कोई पैकेट लेते हैं कुछ नमूने मांगते हैं फिर उन्हें इस्तेमाल कर बताते हैं. कुछ लोग फोन करके मंगवाते हैं तो कुछ घरों में जाकर पूछना पड़ता है. यूनिट में काम करने वाली महिलाएं आज स्वयं कपड़ा काटने से लेकर बेचने तक का काम कर रही हैं . यही नहीं अगर हमे कहीं प्रशिक्षण भी देना हो तो आज ये उसके लिए भी सक्षम हैं. हमारा उद्देश्य है कि ऐसी यूनिट हर गांव-शहर में लगाई जाएं ताकि हर महिला हाथ से बनाई नेपकिन इस्तेमाल कर सके और अपने शारीरिक स्वास्थ्य पर ध्यान दे सके.

पर आज के कृत्रिम दौर में लोग रेडीमेड उत्पाद खोजते हैं, हाथ से बनाई/बनी हुई चीजों को महत्व देना ही नहीं चाहते पर विवेकशील लोग इसका महत्व समझते हैं. हमारी पहल द्वारा बनाए गए पैड की बिक्री से पैसों के साथ-साथ, अब लोगों द्वारा पैड की मांग भी आने लगी. आज हमारी यूनिट पूरी तरह स्वावलंबी हो गई है और नेपकिन निर्माण की सामग्री जैसे सिलाई मशीन, सीलिंग मशीन, नॉन-वोवन फैब्रिक, आदि भी स्वयं के स्रोतों से खरीद रही है.

हमारा अगला लक्ष्य है यूनिट में कार्यरत महिलाओं का वेतन खुद के स्रोत द्वारा प्रबंधन. सेनेटरी नैपकिन यूनिट कम जगह और कम पैसे में स्थापित हो जाती है और हमारी निरंतर कोशिश है कि हम और आगे कैसे बढ़ सकते हैं.

एनवीरोनिक्स ट्रस्ट द्वारा सेनेटरी नैपकिन यूनिट की स्थापना से महिलाओं को रोजगार भी मिला और स्वावलंबी बनने की गर्व-मिश्रित खुशी भी. आज यह कोशिश की जा रही है कि हर गांव-शहर में ऐसी कई सेनेटरी नैपकिन यूनिट की स्थापना की जाए ताकि महिलाएं स्वावलंबी हो सकें.



सेनेटरी नेपकिन के बनने की पूरी प्रक्रिया के बाद, उसे शत प्रतिशत सुरक्षित करने के लिए अंतिम चरण में यू वी प्रकाश से गुजारा जाता है ताकि कीटाणु व अन्य प्रदूषकों को खत्म किया जा सके.

## **Thinking outside the box**

Aman

Injustice, prejudice and detrimental outlook of the social and legal entities, sadly, is omnipresent and more often than not, we fail to affirm and support the failing and neglected systemic framework of our Nation. Recently, I had an opportunity to participate in '*Front lines Defenders Award (Regional)*' ceremony in Delhi in October 2018.

Front Line Defenders or The International Foundation for the Protection of Human Rights Defenders is an Irish-based [human rights](#) organisation founded in [Dublin, Ireland](#) in 2001 to protect [human rights defenders](#) at risk, i.e. those who work non-violently to uphold the human rights of others as outlined in the [Universal Declaration of Human Rights](#).

Soni Sori was among five winners from their respective regions, on whom Front Line Defenders Awards were bestowed. The other winners are Nurcan Baysal (Turkey), the LUCHA movement ([Democratic Republic of Congo](#)), La Resistencia Pacífica de la Microregión de Ixquisis ([Guatemala](#)), and Hassan Bouras ([Algeria](#)). It made me introspect certain points: we have a supportive government till we question them, freedom till we demand answers, equal rights till we get in direct conflict with the powerful. Unless and until we don't get in the position where we question our human rights, we won't know if it's really there or we have been brainwashed to not see the real picture.

Some of the highlights of the event are given below.

- Soni Sori, an adivasi school teacher in Sameli village, Dantewada, Bastar, Chhattisgarh, has been working for protecting the rights of adivasi community in the Bastar region. She was arrested (2011) on charge of being a conduit of Maoists in the region. She was tortured and sexually assaulted by Chhattisgarh police in custody. She talked about her ordeal and acquittal in six of the eight cases due to lack of evidence. Subsequently, she joined a political front.
- Chandrashekhar Azad, founder of Ambedkar Army (2014) working towards empowerment, development and education of Dalit, Scheduled castes and marginalized communities. He was arrested on allegations of violence under National Security Act and released yesterday after one year of jail. Such '*preventive detention*' is uncommon as none of the cases had not been proved and he has no early record of unlawful activities.
- Arresting rights-defenders and activists arbitrarily, purports to bending the law to one's advantage, further abetted by a biased media.
- Other topics of discussions were misuse/abuse of power by central and state government, issuing arrest warrants on false charges by law enforcement agencies, etc. Such malpractices continue to prevail primarily due to lack of accountability of government servants, opacity in official functioning, absence of monitoring systems, political pressures from vested interests, etc.

- Gross violations of fundamental rights (like Protection of Civil and Political Rights, Freedom of Speech and Expression, Freedom to Practice Religion, Freedom of Association and Peaceful Assembly) by state and central government are rampant in the country. Many participants and victims shared their experiences in his regard.
- In present times, a phenomena of mob lynching is intentionally being promoted in the name of religion, belief, political inclinations, hard-core thinking and ideology, lacking any cognitive reasoning. The vested interests involved are self-evident.

In this context, it will be relevant to glance over the 'fundamental rights' enshrined in Constitution of India, and every citizen (and alien too in some cases) is entitled.

1. The Right To Life – The Article 21 states "*No person shall be deprived of his life or personal liberty except according to a procedure established by law.*" Under it, state is duty-bound to make provisions for safety, wellbeing and liveable environment for its citizens. This right shelters an array of other rights which support life, such as minimum wage, availability of basic minimum needs. Other aspects in the orbit of this right, as interpreted by Honourable Supreme Court from time to time, are - Right to Live with Human Dignity, Right of Family Life, Right of Privacy, etc.
2. The Right of Education - The 86<sup>th</sup> Amendment of 2002, almost took eight years to come in effect in 2010, showing government's apathy, callousness and neglect. Free education to every child born and to the children between the ages of 6-14 are entitled for an elementary education. Every person has a right to be educated not just in words and action, but in thoughts and behaviour as well.
3. Freedom To Practice Religion - Every Indian citizen has freedom to choose, pray, preach, practise and promote, one's religion. However promotion of violence, forced charity, pro-secular beliefs and practises which hinder governmental and secular are not covered under this right. No government can promote pro-religious texts and behaviour in its state, as every religion is equal under the law.
4. Right To Equality – The Articles 14, 15, 16, 17 and 18 of the Constitution of India guarantee '*Equality Before Law*' i.e. each citizen is equal in the eyes of law irrespective of status, religion, sex, etc. Abolition of untouchability is also covered in this right.

Nelson Mandela once said – "*For to be free is not merely to cast off one's chains, but to live in a way that respects and enhances the freedom of others.*" Let all of us work together to create an egalitarian society in this direction.

## **Plight of Zari-Zardosi workers in Bareilly**

Shefali

*'I am a double M. A. without any job and help my mother in Zari-Zardosi work'* - that's what Khustarbi a 23 years old had to say while talking about the condition of the Zari-Zardosi workers and their families. However, on the other hand her mother Farzana had a different story to tell – *"It is the government which is not providing benefits to the educated members of the family."* She further added that now she sees no point in educating her children. With five daughters, two sons and husband residing outside the country, it becomes difficult for her to manage even the basic needs. This is the story of almost every household in the village Chandpur Jogiyan.

Bareilly, which is considered as a hub for Zari-Zardosi work is into shackles. Workers

hardly have any work now. Workers used to earn Rs 400-500/day earlier, now it has been reduced to Rs 250-200/day. When asked about the reason for such sharp decline in wages, GST unanimously emerged as a sole culprit. 18% of GST on the raw



material and subsequently another 18% on the finished product is only a reflection of ill-conceived GST policy. It has led to drastic decrease in the number of orders of Zari-Zardosi products and consequently also eroded livelihood base of hundreds of artisan families.

There existed a huge demand for Zari-Zardosi products in three prominent areas Bareilly, Delhi, and Jaipur and bulk of orders came from these cities. These orders kept Zari-Zardosi workers engaged almost throughout the year but in post-GST era their livelihood activity has shrunk to mere 4-5 months. The export of Zari-

Zardosi products has been banned and the orders and prices, both, have fallen substantially on the one hand, whereas delivery charges have risen very high.

Currently, 70% of the workers are dependent on labour work for day-to-day survival. They hardly have any savings. Earlier, when work was in plenty, women's participation was also higher, but nowadays involvement of women in the work too has reduced due to less orders.

The government issued Zari card to workers engaged in this economic activity in 2009, under the 'Zari Card Health Benefit Scheme' having an upper limit up to Rs. 30,000. This was primarily a smart card linked with the card-holder's bank account number, however after some time the smart cards failed to work.



Mrs Shalu Saxsena, Bareilly, is a ray of hope for women involved in Zari-Zardosi work. She imparts training to women and also help them in getting orders for finished products. One of the workers, Ms Nikhat, said that work is fine and they get payment on per unit basis and they receive profit through Shalu Madam. Mrs Shalu Saxsena has also helped them in getting the Zari card. About 40 women are involved in this group. Their work is also being displayed at the exhibitions and members are free to sell the products and take orders independently.

With such contrasting scenarios it would not be difficult to say that the condition of Zari-Zardosi workers and even this handicraft art itself is slowly dying as there is hardly any support on a sustainable basis to protect it.

## **Climate Change and Transportation**

Nishant Alag

Climate change has mostly been viewed in terms of quantifying emissions of Green House Gases (GHGs) and consequent impacts on environment, ecology, and man-made systems, encompassing practically everything - natural and anthropogenic systems – on the Earth, above the Earth and beneath the Earth. Or in simpler words, climate change primarily involves estimations of nature, extent, and magnitude of impacts and in that context 'climate change' is rather more of an impact than the word 'change' is normally referred to in common usage. 'Change for Climate' connotes positive sense.

Quite recently, news has come that the largest shipping giant Maersk (the name, many rail passengers would have seen on large containers while traveling on the Indian Railways Network) completed its journey to the Gulf of Finland through the Russian Arctic. It is being assessed that the northern route through Russia will cut distance by 9500 kms (currently 22,000 kms) between East Asia & Western Europe and the journey time by 10-15 days. Shipping industry is looking forward to this 'opportunity' and Russia too has plans to explore Serbian oilfields. While equations may be drawn between reduced travels and hence fuel saved (less on-sea presence of a vessel due to reduced distances & time) to making available newer fleet into business might probably keep the same carbon footprint afloat. The International Maritime Organisation (IMO), under pressure, has hinted upon decarbonising shipping industry by 2050 but pressures from island countries is for 100% reduction in two decades.

More resources will be at the disposal of mankind. But worries do not end here. Developing countries like India having a coastline of 7,500 kms is pushing for inland waterways and network of ports. It is estimated that almost 90% of the items used globally is transported by sea route. With growing trade, trade volume and trips will increase - increasing the risks associated to environment, capital and insurance. The shipping industry which was by far not in the clutches of climate change, is now being looked critically as it boasts growth. As a synchronised effort, the IMO is for National Maritime Transportation Policy (NMTP) which it can help each country and region to prepare and within this policy address issue of environment, trade and safety.

Another concern for India would be on the ship breaking industry and associated occupational risks it poses to the workers. Many of the upcoming generation thermal power plants are using super critical technologies or better efficiency boilers, many along the coast or in the inland for which foreign coal is to be sourced, if the desired efficiency is to be achieved and cost of landed coal is considered. Regional demand supply also triggers price correction of coal. This will certainly increase the sea traffic as well as indirect emissions that are generally not added to the impacts. Port infrastructure is another interface between coastal and inland traffic, the Sagarmala project (port led prosperity) has so far 537 projects in pipeline and many of them under implementation. It shows a huge growth of ports in the coming 2020-30 decade. As per 2010 report of EXIM Bank

of India, ports contributed 1050 tonnes CO2 in 2007 and used 333 MT of coal. Almost 11 years later, it is time to do a reality check.

But such massive shifts of melting ice (an Indian Express report says that the average arctic ice volume was 3302 cubic miles between 1985-2000 which is expected to reduce to 1480 cubic miles between 2015-30 under a moderate emission scenario) will put many island nations in the list of endangered and many have to be moved inland thereby requiring strategic planning to deal with issues of demographic shifts, socio-cultural acceptance, economic avenues and much more. Hence, change for climate is becoming a necessity.

### **World's No. 4 railway network carries No.1 Coal Mining Company on its back!**

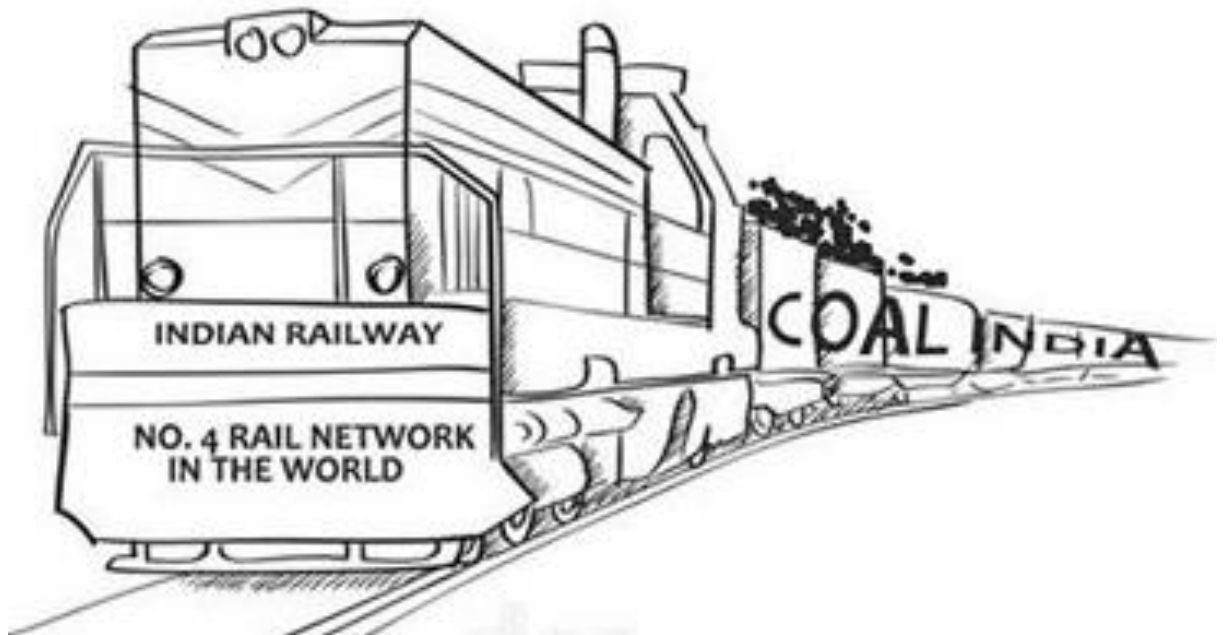
Time to change | 2030!

- ✚ Average coal loading by Coal India Limited (2017-18) = 278 rakes/day
- ✚ One rake coal loading per day translates to 1.4 MT of freight for a year

In turn it burnt 11.42 million tonnes of coal equivalent for coal transport and railway sidings. In terms of equivalents; which means 1.03 million tonnes of diesel (or 1.23 million kiloliters of diesel)? If we look it from the electricity consumption perspective, it is 4387 million Kwh.

In absolute terms, 532.83 million tonnes coal moved over the Indian Railway (IR) network which formed 48.17% of overall bulk goods movement covering 2,49,615 net tonne kilometres and giving the IRs a revenue of 4,52,286 million INR (a 44.33% of revenue)

#### **Change Fuel, Reclaim Mines - Reclaim Power!**



Posted on October 10 - 'Reclaim Power' Day

## The Untold Story of Secondary Victims of Asbestos Exposure in Kymore, Madhya Pradesh

Pooja Gupta

### SAWRA BEE



Age- 72 years

Diagnosed- 2016

Disability- 20%

Status- Secondary Victim

While living with her husband, Sawra Bee, as house-wife used to do daily house-hold chores while her husband worked in the loading department of Asbestos Cement Ltd, now renamed as Everest Industries Ltd.

The manufacturing unit located hardly 500m from her house, she and her family were exposed to asbestos fibre on a 24X7 basis.

Washing her husband's clothes and cleaning the house made her sick. Her son had to bring her thrice to the ongoing medical camp before she was diagnosed **as a positive case**. With severe chest and abdominal pain, she went breathless while talking. A sad state, as she still has to wait for getting compensation in order to get some medical treatment, which her son can't afford. She says - *"I don't want to live this painful life, it would have been better if I would have died."*

Such pathetic state reflects ground truth of a developing country like India which claims to be *smart* and *digital*. Is it so, really?

A small community living in Kymore, Madhya Pradesh - the heart of India - fights every day for fresh and asbestos free air. **Their source of income is in fact a slow poison that they are doomed to breathe every day.** The operations of Everest Industries Ltd. are sole reason for it. Everest Industries produce asbestos cement (AC) sheet under the brand name of Everest, having a wide spread business across the country.

The country with 1.35 billion population, out of which 48.4% is female population, is still unwilling to address the gender neutrality. The women are the second most exposed victim of asbestos fibre, remain largely unnoticed. Women are not mentioned as a major stakeholder with regard to Asbestos Related Disease in the OSH laws except as dependent of the worker.

During the field work conducted, several social and environmental impacts were observed 'in and around' Kymore. In order to understand the nature, extent and magnitude of asbestos toxicity, medical camp was organized at Kymore in 2018. Victims from as far as Gujrat, Bihar and Chattisgarh came for diagnosis in this medical camp.

The severe impacts disclosed during diagnosis are result of absence of a health regulatory mechanism by the government. AC industry is by far the largest user of asbestos fibre worldwide, accounting for about 95% of all uses. Frequency of air quality monitoring of stack emission, static background dust sampling at project boundary should be done along with the standard method specified in ISO 10397:1993 (E)<sup>1</sup>, using a fibre count technique, for the assessment of fibre concentrations in flowing gas streams in ducts, chimneys or flues from industrial processes using asbestos should be

<sup>1</sup> [http://envfor.nic.in/sites/default/files/asbestos%20based%20industries\\_10-may\\_1.pdf](http://envfor.nic.in/sites/default/files/asbestos%20based%20industries_10-may_1.pdf)

followed. But it seems nothing of that sort is being followed in the plant.

The white dust seen all along the place is clear proof that norms and regulations are not abided by. The male workers are primary victims as they work directly in the factory, handling raw or processed fibre. But the women who have never worked in the factories, too, have not remained untouched with the disease.

A report published in November 2016 by **National Center for Biotechnology Information** (NCBI), states that "*Non-occupational exposure to asbestos may explain about 20% of the mesotheliomas in industrialized countries, but it does not seem possible to estimate the number of lung cancers caused by these circumstances of exposure.*"<sup>2</sup> **The disability percentage seen in the identified secondary victims in Kymore was as high as 40%, making the secondary victims more vulnerable to mesothelioma in the long run.**

Most of the women, now diagnosed as *positive Asbestos Related Diseases (ARD)*, don't even understand how they got exposed to the fibre. It took some time for them to realize that doing laundry for the spouse or someone working in the manufacturing unit can expose them to the fibre and cause the disease. The clothing of workers handling asbestos products provided a significant risk for second hand exposure. Owing to jagged structure of Asbestos fibres, the microscopic particles easily attach to clothes. Thus a person, handling or washing these work-clothes, is likely to experience indirect exposure. There is also a high probability of environmental exposure as the asbestos waste was dumped by the company in residential areas and people continue to reside in the vicinity of landfill till today.

Many of these women used to remain within their homes and wondered how they can be ill because of something they never touched. Hence it is important to legally recognize these victims of environmental exposure to bring them in the orbit of redressal system.

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<sup>2</sup> <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3499908/>

## **River Rejuvenation Initiative**

Arun Kumar Singh

A new initiative on river rejuvenation has been recently launched and in this connection a meeting was organized at IARI on 21 October 2018. Mr Sanjay Gupta has been on the forefront of this initiative and he has visited our office to seek ET's cooperation in this common cause. In the beginning, Sanjay Gupta read out the names of individuals/organizations working on the different facets of water/river, work they are doing and are associated with this network. He also gave a brief on the necessity of river rejuvenation. The participant in today's meeting are engaged on diverse issues related with water and a gist of their talks are given below.

- A professional forester spoke at length about his experiences regarding waterbodies of Delhi. He informed that he conducted detailed work on waterbodies of Delhi and their current status – dry, wet, encroached, converted into parks, etc. Overall, there are 961/971 waterbodies in Delhi.
- For the first time, in the Draft Housing Policy of the Master Plan Development of Urban Planning, Blue Area Policy has been introduced in order to protect the waterbodies within the urban area.
- The increasing use of water and air purifiers in the homes as a consequence of increased water and air pollution came under discussion and it was mentioned that democratization in water and air rights is required urgently, as it is dividing society in 'haves' and 'have-nots' with reference to purifiers. The extensive waste from purifiers has become a major concern as it needs safe disposal. Further, the purifiers extract all the salts from water, including those beneficial for our bodies, literally converting water into a mere liquid just enough to quench thirst only.
- Waterlogging and salinization is increasing in Haryana at an alarming rate – every year more and more land is coming under waterlogging and as per conservative estimates in next decade 12% of Haryana's agricultural land will go out of production due to waterlogging alone. Coupled with it is increasing salinization due to increasing temperature. The higher temperature lead to vaporization of soil moisture, rendering it drier and gradually concentration of salts increases. The exact extent of area under salinization in the coming decade is yet to be estimated but it will be substantial.
- Mewat and Jhalawad areas of Rajasthan have become like the cancer-belt of Punjab. Owing to extensive use of chemicals in agricultural fields, the chemicals have leached into groundwater and transformed it in carcinogenic water. The extensive use of groundwater by the rural communities in these areas has increased the number of cancer-patients manifold.
- Similarly Chromium concentration in the soil is increasing in Ghaziabad and its source is, once again cryptically embedded in the groundwater contamination.
- Blind groundwater recharge everywhere is drastically affecting the quality of groundwater, especially after making recharge mandatory for the

industries. There is an acute need to bring required adequate changes in the existing legislation that only treated water shall be used for recharge.

- Similarly, water – including the groundwater - in area around Hindon is found to be heavily polluted by the industrial wastewater. The irony is that setting up industrial units in the area is prohibited under law yet there exists many industries. When authorities were contacted by the concerned citizens, officials declined to take cognizance of the issue, as according to them, there are no industries in the area. They pathetically request citizens that please do not raise this issue during my tenure and wait for the next incumbent. So the main question is – how come the area is mushrooming with large number of industries in a prohibited area? Who has given permission? Or more precisely, during which official/s posting, the necessary clearance were granted? As is the norm with the government, there is no system of accountability and the officials responsible never get punished, emboldening them to do more such cases.
- One participant expressed concern on the use of contaminated water in colonies of Dwarka area in Delhi. Further, the increased saline content in groundwater may damage/corrode the foundations of many colonies.
- A participant (from National Physical Laboratory, Delhi) talked about the air pollution in Delhi. He informed that the monitoring of air quality (2.5 and 10 particles) is being done on daily basis, round the clock. It was mentioned that burning '*parali*' (crop butts left in agricultural field, after harvesting) is blamed for air pollution in Delhi but the role of vehicular pollution is overlooked. Delhi has more than 1 Crore vehicles, a substantial part of these is 15/20 years old and additionally another big chunk belong to diesel vehicles and hence source of massive pollution. It is a case of blaming a weaker section, which can't assert itself, rather than finding workable solutions, so after blaming they continue doing business as usual.
- An interesting fact, scientifically tested, was brought to the knowledge of people. The ordinary dust particle outside Delhi are not at all harmful but once they enter Delhi, they get a multiple coating of different pollutants and in the process changing their structure and heaviness. This heaviness does not allow them to ascend and they swim in and around our homes, markets and other spaces, eventually making Delhi's air deadly. The slicing of these particles and their detailed microscopic studies has proved this sequel.
- Another aspect related to it is that wind velocity in North India is gradually getting weaker and consequently its capacity to uplift heavy particles too has decreased. The weakening of wind velocity is due to slowly changing meteorological conditions, directly or obliquely related to climatic changes.
- An important issue in the instrumentation of pollution monitoring is non-calibration. No two instruments for measuring the concentration of 2.5 and 10 size particles show the broadly same reading and sometimes this variation is diametrically opposed! Thus there is an urgent need for standardization of instruments aimed at measuring pollution levels.
- The issue of getting young minds' attention toward environmental and ecological issues is very important as they have to deal with it in future not so distant. The setting up of 2000 'Eco Clubs' in 2000 government schools has yielded good results. Each school is granted Rs. 20,000/- per year for various activities children undertake. Actually, setting up of 'Eco Clubs' shall be made mandatory in all the schools – be it government or private. Similar possibility should be explored with the 'Resident Welfare Societies' of

different colonies so that the level of awareness among children and their parents should be increased.

- Plantation should be the main focus, especially in schools and river banks. Each student shall be made responsible to take care of the sapling s/he has planted to ensure its survival, by taking timely care and watering from time to time.
- A participant engaged in preparing pollution management plans narrated his experience in Cyber City Gurgaon. The proposal for creating a Cyber City in Gurgaon was lying with the government in cold because the proponents were able to provide a water source for the colony they were planning. Then they contacted him. Since no nearby water source is available, it was decided to purchase polluted sewage water, flowing nearby, treat it thoroughly and reuse this water within the colony. Only after submitting this '*plan for water*' to the authorities, permission was granted to construct Cyber City Gurgaon. The colony collectively purchase sewage water flowing within the stretch of their colony's vicinity from the municipality and treat it in a plant established by themselves. This water is used by the residents and water coming out of the homes of the colony is also sent to treatment plant. Thus Cyber City Gurgaon has achieved self-sustainability in terms of water.
- In Delhi, on an average 45,000 families reside in Delhi, out of which about 25,000 live in the planned houses and rest live in *jhuggi-jhopdi* clusters, spread all over the city. Our approach should be '*reach to unreached*' by working with these 20,000 families and inculcate the value of cleanliness, hygiene and their inter-linkages with environment and ecology.
- A successful case of river rejuvenation in Aurangabad was mentioned by a participant. Community participation was critical factor to inculcate the sense of belongingness and ownership in this process. Though government has offered help but keeping in mind the sense of belongingness, it was politely declined. After doing various different task aimed at restoring water, we waited for the monsoon. For the first time in last 70 years, river started flowing in a 40 km long stretch. This year we are working on the downstream part of river, so that by next monsoon the river throughout its entire length will be a flowing river.
- Similar kind of work is being done in Osmanabad and it is expected that before the monsoon 2019, the work will be completed so that the results will be visible next year.
- A major discussion was on the pollution from plastic and its unsafe disposal. Prime Minister Narendra Modi, like many other pronouncements, has also made a declaration to get rid of single use plastic by 2022. India has also brought an enactment – "*Extended Producer Responsibility Act (EPR) 2016*" – to deal with the negative impacts of material load. The EPR provides a transitory period of five years to end use of plastic in a phased manner – first year 20%, second year 40%, third year 60%, fourth year 80%, and fifth year 100%.
- EPR 2016 puts the onus of safe disposal of plastic, used/made by the companies (in the form of pouch, bags, sachets, and other material-holding articles) on themselves. For instance, if a company uses 500 tons of plastic in a year then it must collect 500 tons of used plastic in a year and safely dispose it. Thus the company has to put some incentives, like purchasing it back from families at a nominal payment, say Rs. 10 per bag or container. Under the existing plan, it is perceived to send these collected plastics to

cement factories where these can be burned at very high temperature so that the fumes polluting atmosphere are taken care of.

- In response to it, industrial and commercial units have constituted '*Plastic Waste Management Consortium*' in which some of the major companies using highest amount of plastics are members – Coca Cola, Pepsi, ITC, etc. But strong 'vigilance and monitoring systems' will need for this exercise to be successful with community participation. These will bear fruits within a decade and one has to wait till then.
- It was informed that Maharashtra has completely banned the production and use of plastic in the state. Some other states have also followed it but it has been found that so far considerable success is achieved only in Maharashtra only.
- It was also mentioned that Vidya Bharati in all its schools spread all over India, has banned use of plastic.
- Rampant use of plastic bags has been seen in the residential complexes. One successful example to replace plastic was given by a participant. He collected all the used waste clothes from the homes of his residential multi-storey colony. He found a nearby tailor and got bags stitched from all these collected clothes. All these cloth bags were put in a big bucket at the entrance of the house. Any person going to purchase something from the nearby shop/market can pick up bag for fetching articles and after using it put this cloth bag, back in the bucket.
- In Khelghat (Khandwa), plantation along the banks of Narmada River has produced wonderful results. Plantation was started 15 years back, first along the banks and then gradually going towards interior. As a result a very good food forest/agro-forest has come in existence in a 70 acre area. Because they are grown as forest so no chemicals/fertilizers/ pesticides are used for their growth. It has revived soil moisture, forests, wild life, water table, availability of herbs, Vetiver (खस) grass (and its role in arresting soil erosion), river water purification, soil aridity, carbon sink, and many more.

[Vetiver is a large tufted bunchgrass and can reach up to 1.5 metres (5 feet) in height. The thin leaves and stems are erect and rigid, and the plant bears small brown-purple flowers in long spikes. The fragrant roots grow downward in the soil and can attain depths of more than 3 metres (10 feet)].

- A 1.5 year old plant of Vetiver grass absorbs carbon equivalent to the carbon capture by a 30 year old tree. But what is little known about Vetiver is that its root cures cancer. More than 70% of human body is composed of water and it has been found that cancer patient have high acidic pH values. Roots of Vetiver grass bring down the higher pH values to normal, inside the human body and thereby curing cancer.

In a nutshell, individuals and people' collectives are working throughout the length and width of the country for improving the pathetic state of rivers, including their rejuvenation. It is the need of the hour to bring all such efforts to a common platform in order to integrate such efforts as well as learn from each other. Hopefully, this initiative will fill existing gap in this direction.