



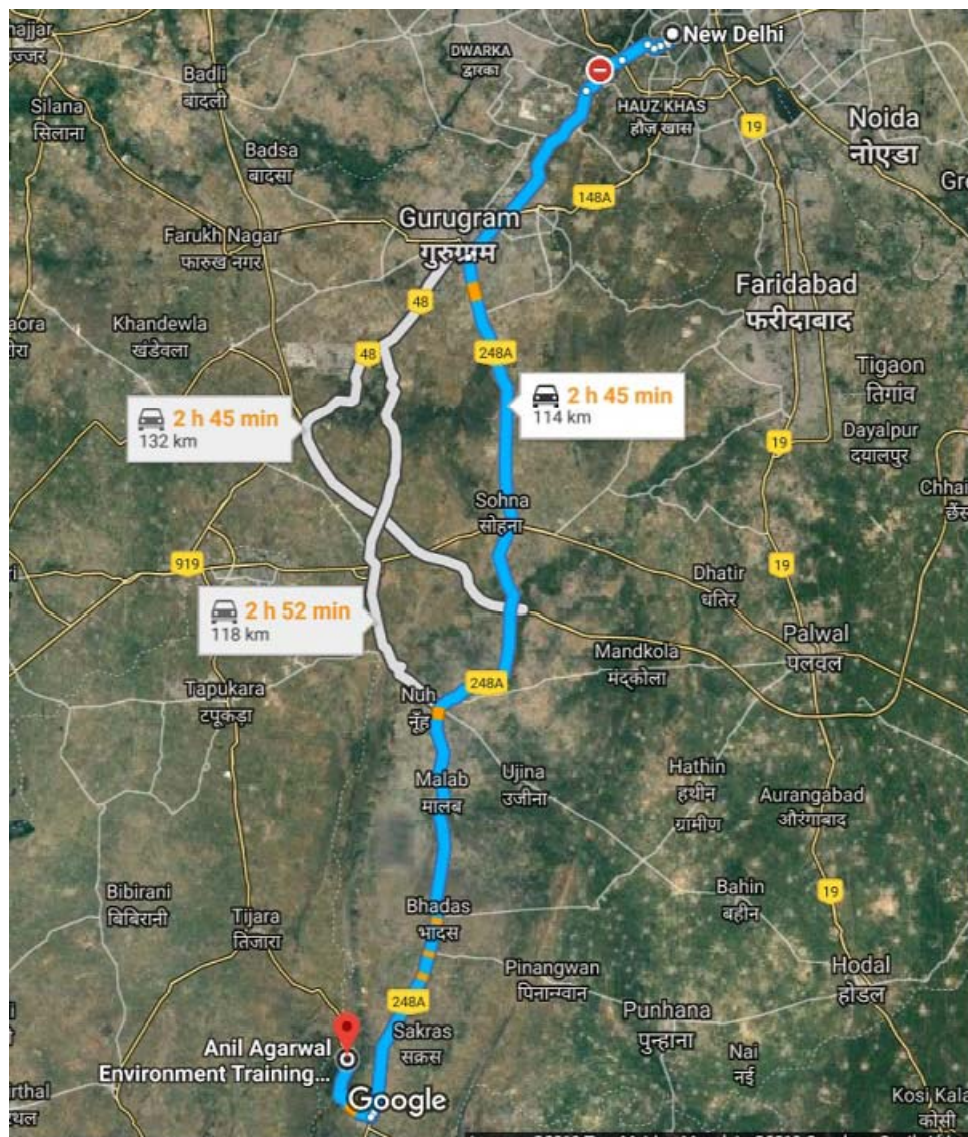
Environment Monitoring Lab

Anil Agarwal Environment Training Institute

THE RESEARCH,
KNOWLEDGE,
INNOVATION AND
TRAINING CENTRE
FOR THE
GLOBAL SOUTH

AAETI

Where we are – Our Coordinates



**From
Pollution
Monitoring
Laboratory
@ IHC, New
Delhi**

**To
Environment
Monitoring
Laboratory@
AAETI, Nimli**



Major thrust areas for the EML

FSSM

- Characterization of FS in urban and rural setting
- Analysis and Validation of FSTP technologies
- Analysis and validation of WW technologies
- Research into resource recovery from FS

Food Safety

- Detection of antibiotic and pesticide residues in edible products
- Tracking the use of GM foods and their compliance with legal standards
- Checking for sanctity of items mentioned on labels for packaged food

Fresh Water

- Ground water analysis
- Chemical analysis of fresh water samples drawn from municipal taps
- Check for surface water pollution in rivers, lakes

Air Pollution

- Monitoring the particulate matter and other pollutants in Air
- Performing elemental analysis of air samples
- Testing fossil fuels such as coal from thermal power plants

Data Analysis

- Analysis of environmental data of any kind, in collaboration with other CSE teams
- Analysis of data for policy formulation

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Years of impactful work at EML

Pesticide residues in blood of Punjab farmers

Trans fat in oils

Toxic toys

Capping the Caffeine

SEPTEMBER 09, 2016

Pesticides in bottled water

Lead in paints

Antibiotic misuse in poultry farms leading to multi-drug resistant bacteria, says CSE's new study

Pesticides in

Antibiotics in fishes

How s

JANUARY 16, 2016

DownToEarth

EXCLUSIVE
WE ALL EAT
GENETICALLY
MODIFIED
FOOD UNINFORMED
AND ILLEGALLY

CSE lab tests: 65 samples; 32% contained GM ingredients

From baby food, cooking oils, cereals to packaged foods

Companies use loopholes in laws to import products; and, they don't disclose GM content in their labels



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Lab Work and Field Sampling



Some of the findings

	Accra Septage	Accra Public Toilet Sludge	Bangkok Septage	Manila Septage	USA EPA Septage	EML Study
COD	7,800	49,000	14,000	37,000	43,000	26,900
BOD	600-1500	7,600		3,800	5,000	3,260
TS	11,900	52,500	16,000	72,000	38,800	28,812
pH	7.6	7.9	7.7	7.3	6.9	7.4
COD/TS	0.7	0.9	0.9	0.5	1.1	1.0
Figures for comparison taken from Heinss et al. (1999)						

- FS samples have a Moisture content median value of 95%
- A lot of the water content also contributed by the desludging practices
- De-sludging frequencies not fixed, lots of variations observed

Resource Recovery – Calorific Value



- EML operates a state of the art Advanced Bomb Calorimeter
- The sludge samples are analyzed for calorific value (MJ per kg of TS)
- The median value for the samples tested so far is 13.6 MJ/kg of TS
- The sample standard deviation is 4.5 MJ/kg
- The value indicates well digested sludge, unlike the high values such as 23 – 29 MJ/Kg observed in fresh faecal sludge , Source: Fytli et al. (2008)

CSE's Lab data from field including FSTPs

- Lab intends to use data gathered from its field visits into modeling a probabilistic system that predicts quality parameters
- Correlations within parameters being looked at
- Use of data in making models for contaminant flow – advection, dispersion in surface water bodies
- Use of GIS in better representation of field data

The logo for AAETI, featuring the letters "AAETI" in white, bold, sans-serif font on a red rectangular background. A dark blue triangle is positioned at the bottom-left corner of the red rectangle.

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THANKS

Any questions or comments!

