

# Conceptualizing guidelines to monitor environmental data involving locals

**SESSION: THE CONTRIBUTION OF CITIZEN SCIENCE TO PARTICIPATORY IMPACT ASSESSMENT  
PUBLIC PARTICIPATION ID#95**



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## 0 Environment Impact Assessment Notification 2006 (India)

1 Projects or activities requiring EC divided into Category-A and Category B

## 0 Two key activities in EC process

1 Project appraisal by EAC of anticipated environmental impact & mitigation measures given in EIA report cornerstone on ToR given for the purpose including baseline environmental scenario in core and buffer zone (10 KM around project site) of air, noise, soil and water quality.

1 Public Consultation

## 0 EIA report preparation

1 The EIA reports are to be prepared by consultants who must be accredited by NABET. The monitoring is to be done by laboratories recognized by CPCB under Environment (Protection) Act, 1986 and accredited by NABL.



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## Collection of baseline data



Baseline data is monitored as laid in EIA Manuals drawn from a publication by MoEF&CC 2001 and as suggested in ToR



MoEF&CC in 2022 - Baseline data used for preparation of EIA/EMP reports may be collected at any stage of the EC process or even before the grant of ToR.

The baseline data and Public Hearing shall not be more than three years old at the time of submission of application for consideration of EC.

Public consultation shall be conducted after the grant of ToR and completed before its expiry



**EIA Process is painfully regulated or monitored**

# Review of minutes of environment clearances by EAC 2017-2023

Covid and post covid, the EC process continued as meetings were done through video conferencing or hybrid mode, there is silence on, how baseline monitoring or public hearings were done during this period



**AAQ monitoring under NAMP by CPCB a network of 1257 stations covering 378 cities/towns, however, shows that PM10 and PM2.5 levels are regularly exceeded.**

- 01** Question marks on quality of air, noise, soil and water data by accredited consultants. In a case consultant is asked to do monitoring again as stations are not set up correctly.
- 02** Pre-covid, covid and post-covid period - Results of baseline monitoring particularly in case of AAQ for PM10 and PM2.5, **are always below NAAQS 2009**
- 03** SAMPLE –"AAQ monitoring, 8 locations March, 2017- May, 2017: PM10 (72.5-81.2  $\mu\text{g}/\text{m}^3$ ), PM2.5 (40.65-45.99  $\mu\text{g}/\text{m}^3$ ). AAQ modelling study indicates maximum incremental GLCs after the proposed project would be 0.33  $\mu\text{g}/\text{m}^3$  with respect to PM10. **The resultant concentrations are within the NAAQS."**

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# Future of environmental monitoring for EIA purpose

➔ **Water Testing Kit** developed by CPCB and many other agencies, distributed a lot with fanfare to NGOs, Schools and later on forgotten.



CPCB – Kit provides low-cost Water Testing facility

Can be used with little or no knowledge of analytical techniques by following instructions in manual

**Kit will definitely provide the information whether pollutants are above or below the permissible limit based on quantitative as well as qualitative analysis**



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## ➔ Sensor based equipment's for air quality monitoring

Being low cost can be used for supplemental air quality monitoring in dense networks, which in turn give better spatial and temporal data

People from non-scientific community can use these instruments in their daily lives to monitor the air quality in their surroundings.

The results from these equipment's may not be comparable to regulatory grade instruments in terms of accuracy and precision but they provide enough information to become a vital complementary technology to the regulatory monitoring.



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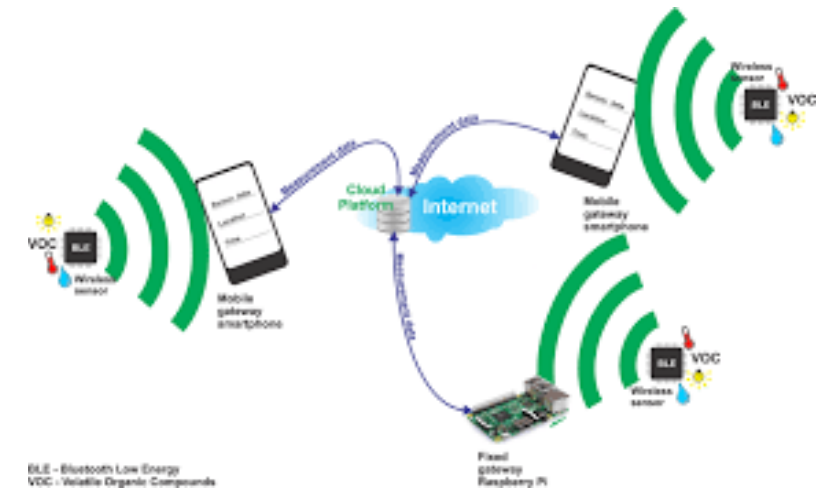


## ➤ Environmental IoT and Environmental AI solutions

CPCB has also recently in Jan 2023 notified new specifications for manual PM2.5 samplers. It provides for current/last logged data should be displayed. **Logged data should have cloud connectivity and data of last sampling ten days must be available for cross checking.** Thus the concept of remote monitoring the data generated is introduced.



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Source: ResearchGate

# Concluding

**There is need for IAIA to push in these directions by actively engaging governments in different countries**

The actions for public involvement and remote monitoring are happening. Over the years there have been great strides in pollutant monitoring systems to support this.

There are significant data gaps and capacity challenges due to lack of relevant changes in regulations.

There is opportunity to address these challenges by supplementing current baseline data monitoring approaches by involving local communities as well as by use of rapidly evolving technologies including remote monitoring of data generated

The development of guidelines to monitor baseline data on these lines can strengthen the entire EIA process in a meaningful manner.



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# Let's continue the conversation!

Post questions and comments in the IAIA23 app.



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