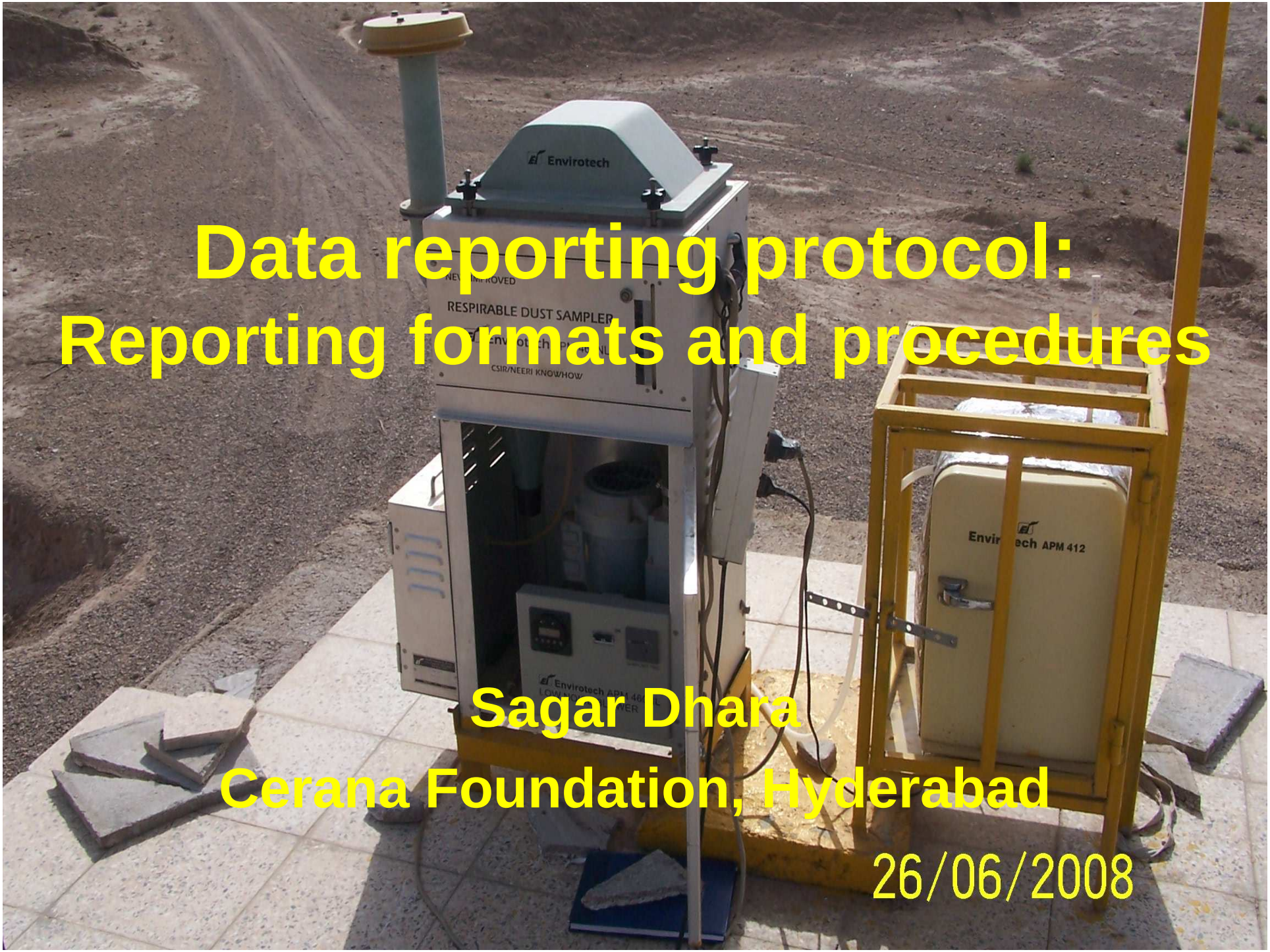


Data reporting protocol: Reporting formats and procedures

Sagar Dhara
Cerana Foundation, Hyderabad

26/06/2008

- Data reporting formats provided (see Technical manual) to standardize data reporting from NIAs

Site data: Reporting formats

1) Outline of monitoring site (prepare for each site)

Site name			Code	
Address				
Site classification	1.urban, 2.rural, 3.remote			
Latitude	(north, south) ° '	Longitude	(east) ° '	
Altitude	(h.a.s.l. in m)			
Date when site became operational Comments*				

* mention any other issues, eg, lack of appropriate human resources or financial resources, and any other issues with the instrument, not covered in the other columns

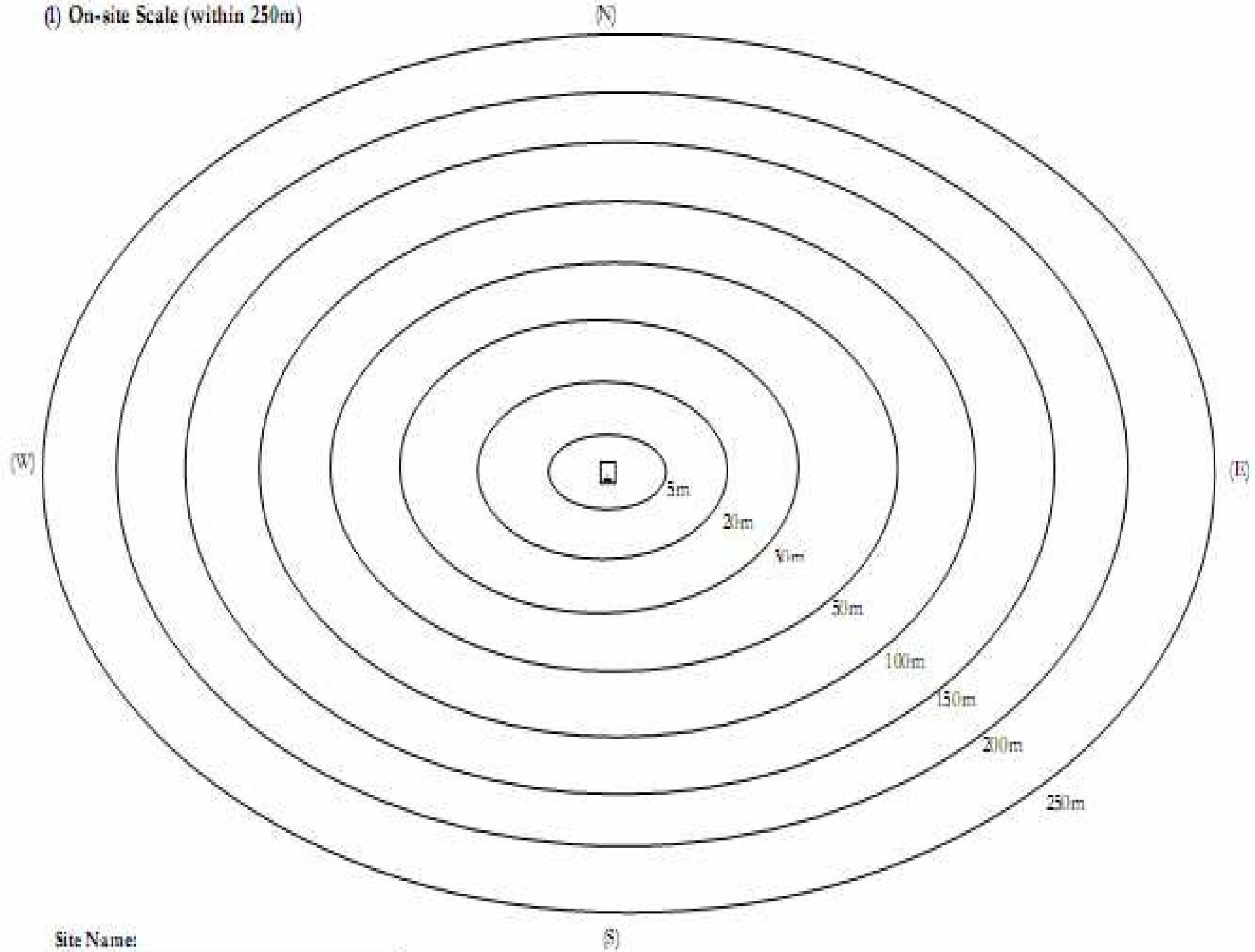
Outline of monitoring site A Site classification: Remote/ Rural/Urban

On site scale(within 250m:a sketch map should be attached)

Items	north direction(NW-NE)	east direction(NE-SE)	south direction(SE-SW)	west direction(SW-NW)
Existence of trees, poles and buildings, and the heights of those.				
Existence of emission sources, cooking energy Domestic heating, waste and agricultural products, dairy farm, and many livestock's. Roadways, parking lots, fuel storages, etc/ high				
Ground Slope degree of the site. (+ for upwards)	- ° °	- ° °	- ° °	- ° °
Surface condition of the site. % surface covered by rock, concrete trees, home sheds building, etc.	(%)	(%)	(%)	(%)
Existence of a forest, river, lake, marsh, farm or fields.				
Existence of roads, and their traffic densities*				

*Describe roads with more than 100 vehicles/day.

(1) On-site Scale (within 250m)



Site Name: _____

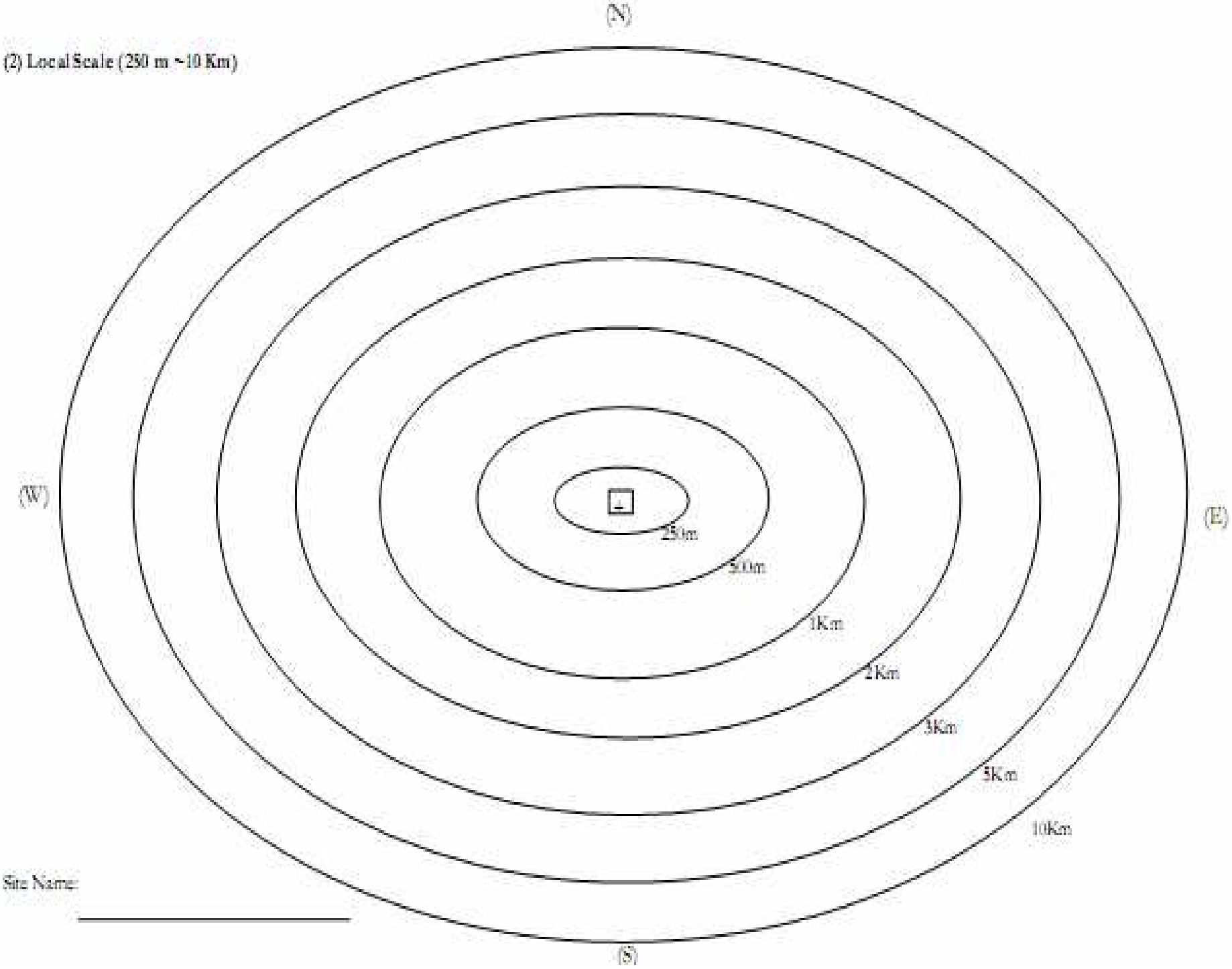
Outline of monitoring site B **Site classification: Remote/Rural/Urban**

Local scale(250 m – 10 km: a sketch map should be attached)

For an urban site, at least information of area within 150m - 1km from the site is expected)

Items	north direction(NW-NE)	east direction(NE-SE)	south direction(SE-SW)	west direction(SW-NW)
Information on trunk roads, expressways, and Their traffic densities (with more than >1,000 vehicles /day)				
Lakes, rivers, streams Marshes, forests, aeports, railways, etc.				
Information on major emission sources such as industries, and power plants and their fuel consumptions and so on.				
Information on houses/ settlements with more than 100 persons, and Their population				
Descriptive information around the site such as Topography, Soils, land use, meteorological condition				

(2) Local Scale (250 m ~10 Km)



Site Name: _____

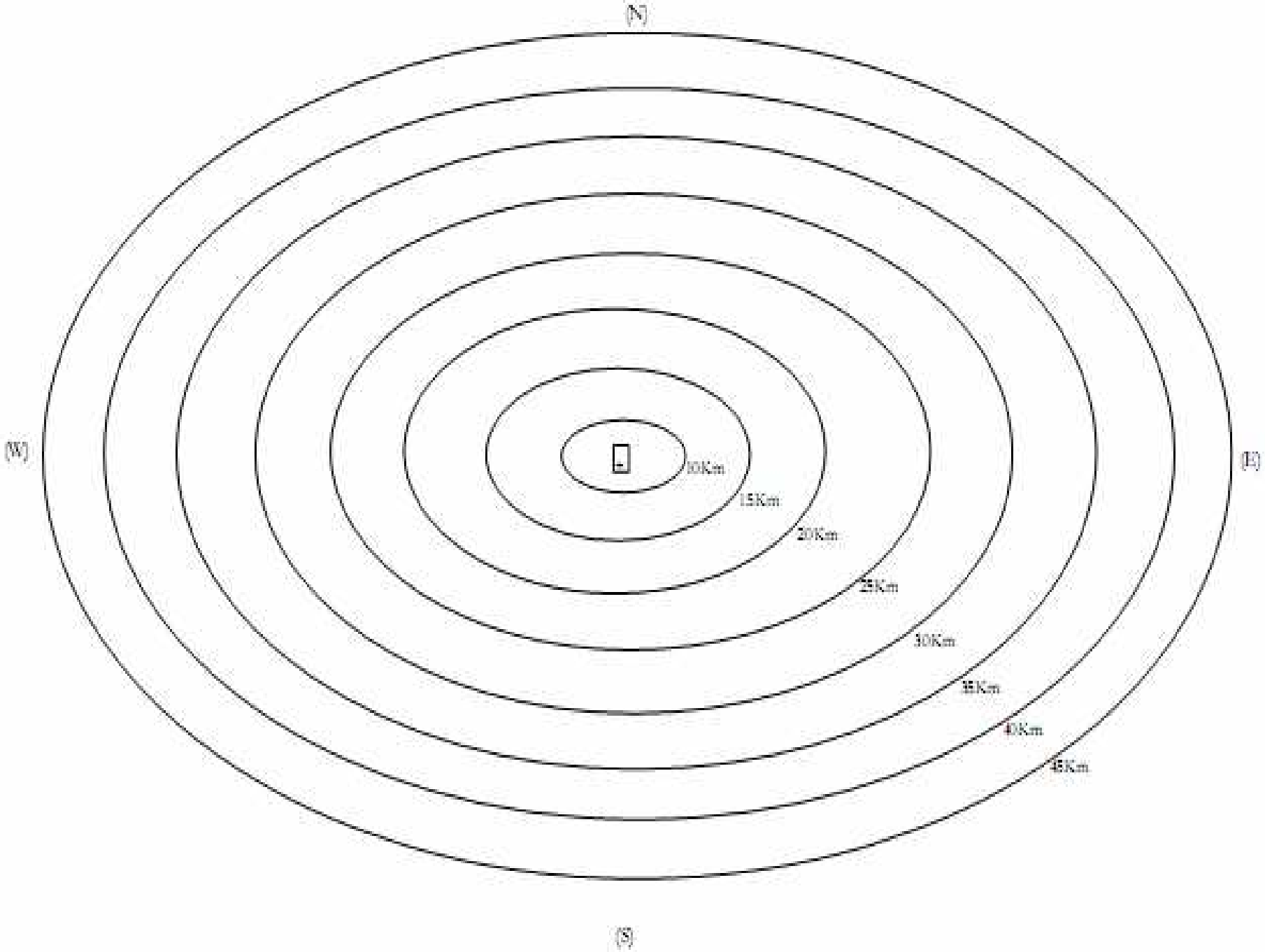
Outline of monitoring site C for remote sites* **Site classification: Remote/Rural/Urban**

Regional scale(up to ~ 50km:a sketch map should be attached)

Items	north direction(NW-NE)	east direction(NE-SE)	south direction(SE-SW)	west direction(SW-NW)
Existence of major air pollution sources* - Industries (dist from Monitoring site and Sources strength in kg/day of - SO2, NO2, SPM)				
Existence of roads with more than 5000 vehicles/day and their traffic densities				
Existence of settlements with a population of more than 1500 persons				

3) Regional Scale (10Km ~ 50Km)

Site classification: Remote/Rural/Urban



Site data: Equipment & samplers

2.2) Gases

Name of sampler	Manufacturer	Problems with working of sampler	Problems with obtaining and dispatch samplers	Notes*
Diffusive samplers				

* Mention any other issues, eg, lack of appropriate human resources or financial resources, and any other issues with the instrument, not covered in the other columns

2.3) Particulate matter

Name of instrument	Manufacturer	Dt of acquisition	Dt of installation	Dt of decommissioning	Working/Not working on dt	Problems with working of instrument	Problems with spares and consumables
HVS							
Balance							

* Mention any other issues, eg, lack of appropriate human resources or financial resources, and any other issues with the instrument, not covered in the other columns

Description of how the equipment is installed, pictures etc.

2.1) Precipitation

Name of instrument	Manufacturer	Dt of acquisition	Dt of installation	Dt of decommissioning	Working/Not working on dt	Problems with working of instrument	Problems with spares and consumables
Wet only collector							
Bulk collector							
pH meter							
EC meter							
Spectrophoto-meter							
AAS							
Ion chromatograph							

* Mention any other issues, eg, lack of appropriate human resources or financial resources, and any other issues with the instrument, not covered in the other columns

- Provide details only for available instruments

Site data: Reporting procedures

- **Data collector:** National Manager, Malé Network (MN) Monitoring Programme
- **Data flow:** National Manager → National Advisory Committee → MN Technical Committee → MN Secretariat
- **Data storage:** Monitoring site, National database, MN Secretariat
- **Data reporting frequency:**
  - When new site selected
  - Every 2 years subsequently (starting Jan 2011)
  - Or if any significant changes have occurred in emission sources (roads, factories, etc), sinks (forests, agriculture), receptors (water bodies, monuments, etc)
  - Or if any changes occur in equipment

Laboratory data: Equipment

Description of how the equipment is installed, pictures etc.

2.1) Precipitation

Name of instrument	Manufacturer	Dt of acquisition	Dt of installation	Dt of decommissioning	Working/Not working on dt	Problems with working of instrument	Problems with spares and consumables
Wet only collector							
Bulk collector							
pH meter							
EC meter							
Spectrophoto-meter							
AAS							
Ion chromatograph							

* Mention any other issues, eg, lack of appropriate human resources or financial resources, and any other issues with the instrument, not covered in the other columns

Name of instrument	Manufacturer	Dt of acquisition	Dt of installation	Dt of decommissioning	Working/Not working on dt	Problems with working of instrument	Problems with spares and consumables
HVS							
Balance							

- Provide details only for available instruments

Laboratory data: Reporting procedures

- **Data collector:** National Manager, MN Monitoring Programme
- **Data flow:** National Manager ⟶ National Advisory Committee ⟶ MN Technical Committee ⟶ MN Secretariat
- **Data storage:** Laboratory, National database, MN Secretariat
- **Data reporting frequency:**
  - When new laboratory setup
  - Every 2 years subsequently (starting Jan 2011)
  - If any changes occur in equipment

Organizational data: National organization

Date (for data reporting)	
Country name	
Organization name	
Department	
Name of contact person	
Name of national QA/QC manager (NAM)	
Postal address	
Contact address	Tel: Fax: E-mail:

Organizational data: Site

Country name	
Organization name (Responsible agency)	
Department	
Name of the person in charge	
Postal address	
Contact address	Tel: Fax: E-mail:

Organizational data: Laboratory

Wet deposition / Dry deposition (1)

Organization name		Code	
Department/Section			
Name of a person in charge in the laboratory(PCL)			
Postal address			
Contact address	Tel: E-mail:	Fax:	
Note			

Wet deposition / Dry deposition (2)

Organization name		Code	
Department/Section			
Name of a person in charge in the laboratory(PCL)			
Postal address			
Contact address	Tel: E-mail:	Fax:	
Note			

Organizational data: Reporting procedures

- **Data collector:** National Manager, MN Monitoring Programme
- **Data flow:** National Manager ⟶ National Advisory Committee ⟶ MN Secretariat
- **Data storage:** Monitoring sites, Laboratories, National database, MN Secretariat
- **Data reporting frequency:** When new site or laboratory become operational, or if changes occur in personnel or contact coordinates.

Precipitation data: Formats

Monitoring Frequency : Weekly Composite

FORM WET (Wet only) Data reporting format for Wet (wet only) monitoring

Monitoring Location :	Name of Laboratory :
Name of Country :	Name of the Reporter :
Month :	Data Verified By:
Year :	Average Funnel Diameter (mm) :

Sample No.	Sampling Period				Physical		Anions (µmol/l)			Cations (µmol/l)					Precipitation (mm)	Remarks		
	Start		End															
	Date (dd/mm/yy)	Time*	Date (dd/mm/yy)	Time*	pH	Ec mS/m	SO_4^{2-}	NO_3^-	Cl^-	NH^{4+}	Na^+	K+	Ca^{2+}	Mg^{2+}		Field Observation	Lab. Observation	General

Time should preferably be from 9 am to 9 am (one week)

FORM Wet (Bulk)

Data Reporting Format for Wet (Wet) Monitoring

Monitoring Frequency : Weekly Composite

Monitoring Location :	**Name of Laboratory :**
Name of Country :	**Name of the Reporter :**
Month :	**Data Verified By:**
Year :	**Average Funnel Diameter (mm) :**

Sample No.	Sampling Period				Physical		Anions (µmol/l)			Cations (µmol/l)					Precipitation (mm)	Remarks		
	Start		End															
	Date (dd/mm/yy)	Time*	Date (dd/mm/yy)	Time*	pH	Ec mS/m	SO_4^{2-}	NO_3^-	Cl^-	NH^{4+}	Na^+	K+	Ca^{2+}	Mg^{2+}		Field Observation	Lab. Observation	General

Precipitation data: Reporting procedures

- **Data collector:** Laboratory i/c
- **Data flow:** Laboratory i/c ⟶ National Manager ⟶ National Advisory Committee ⟶ Technical Committee ⟶ MN Secretariat ⟶ Steering Committee
- **Data storage:** Laboratory, National database, MN Secretariat
- **Data reporting frequency:** Bi-monthly

HVS data: Format

FORM Air Concentration
Data Reporting Format for Air Concentration Sampling
Monitoring Frequency : 24 hourly (Separate sheet for each month)

Monitoring Location :	Name of Laboratory :
Name of Country :	Name of the Reporter :
Month:	Data Verified By:
Year:	

S No	Date	PM10 µg/m³ STP	TSPM µg/m³ STP	SO_2 µg/m³ STP				NO_2 µg/m³ STP				Remarks		
	(dd/mm/yy)	0900 - 0900 hrs	0900 - 0900 hrs	0600- 1400 hrs	1400-2200 hrs	2200-0600 hrs	24 hr average	0600- 1400 hrs	1400-2200 hrs	2200-0600 hrs	24 hr average	Field Observations	Lab. Observations	General

HVS data: Reporting procedures

- **Data collector:** Site i/c
- **Data flow:** Site i/c ⟶ National Manager ⟶ National Advisory Committee ⟶ Technical Committee ⟶ MN Secretariat ⟶ Steering Committee
- **Data storage:** Site, National database, MN Secretariat
- **Data reporting frequency:** Bi-monthly

FORM Air Passive

Data Reporting Format for Air Passive Analysis

Monitoring Frequency : Monthly composite (Separate Sheet for each Year)

Monitoring Location :	**Name of Laboratory :**
Name of Country :	**Name of the Reporter :**
Year:	**Data Verified By:**

S No	Month	Start date	Stop date	SO_2	NO_2	O_3	Remarks		
		(dd/mm/yy)	(dd/mm/yy)	µg/m3 STP			Field Observations	Lab. Observations	General
1	January								
2	February								
3	March								
4	April								
5	May								
6	June								
7	July								
8	August								
9	September								
10	October								
11	November								
12	December								
Field Blanks									
1	January								
2	April								
3	July								
4	October								

Diffusive sampler data: Reporting procedures

- **Data collector:** Site i/c
- **Data flow:** IVL → National Manager → National Advisory Committee → Technical Committee → MN Secretariat → Steering Committee
- **Data storage:** IVL, National database, MN Secretariat
- **Data reporting frequency:** Bi-monthly

Meteorological data: Format

Monitoring Frequency : Daily or as per the frequency of nearest Meteorological Station

Monitoring Location :	**Name of Met station :**
Name of Country :	**Name of the Reporter :**
Month:	
Year:	

S No	Date	Temperature °C		Humidity%		Solar Radiation	Rain (mm)	Wind								Remarks
								6:00 AM		6:00 PM		Maximum		Minimum		
	(dd/mm/yy)	max	min	max	min			Speed m/s	Direction*	Speed m/s	Direction*	Speed m/s	Direction*	Speed m/s	Direction*	

*Code for Wind Direction

Code	02,03	04,05	06,07	08,09,10	11,12	13,14	15,16	17,18,19	20,21
Direction	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW

Code	22,23	24,25	26,27,28	29,30	31,32	33,34	35,36	00
Direction	SW	WSW	W	WNN	NW	NNW	N	CALM

FORM MET

Data reporting format for Meteorological data

Meteorological data: Reporting procedures

- **Data collector:** Site i/c
- **Data flow:** Site i/c ⟶ National Manager ⟶ National Advisory Committee ⟶ Technical Committee ⟶ MN Secretariat ⟶ Steering Committee
- **Data storage:** Site, National database, MN Secretariat
- **Data reporting frequency:** Bi-monthly

Flags

- Flags should be used to indicate information useful for interpreting reported data. Flag classification is given below (see Technical Manual for details):
  - Group 9: Missing measurement (890-No precipitation)
  - Group 8: Undefined measurement (890-Conc undefined)
  - Group 7: Value unknown (780-Value <detection limit)
  - Group 6: Mechanical problem (678-Cyclone)
  - Group 5: Chemical problem (556-Bird droppings)
  - Group 4: Extreme/inconsistent values (460-Contamination)
  - Group 2: Exception flags assigned by data coordinator (250-Considerable sea salt)
  - Group 1: Exception flags for accepted/irregular data (120-Sample reanalyzed with similar results, Valid measurement)
  - Groups 3 &): Not assigned

sagdhara@gmail.com