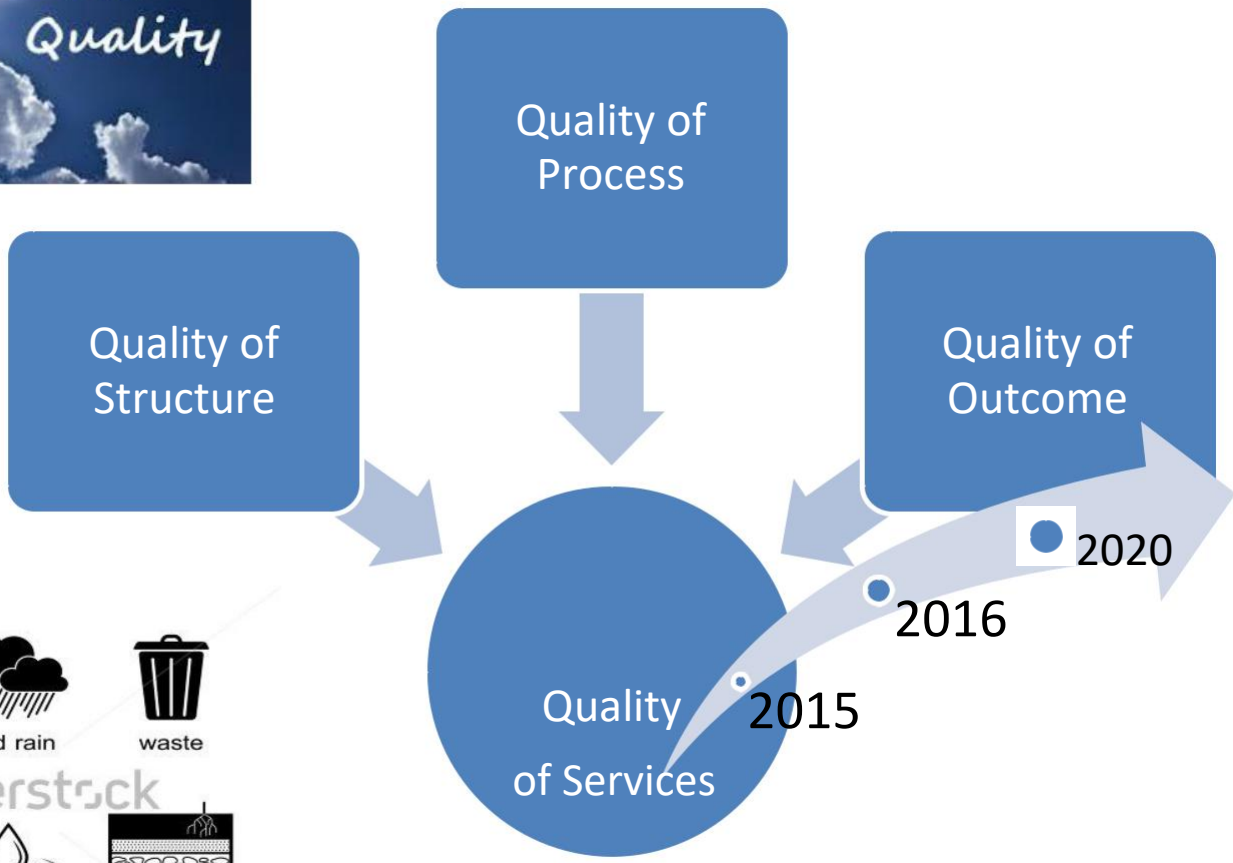
Point Slope Interception System for Quality of Air & Water

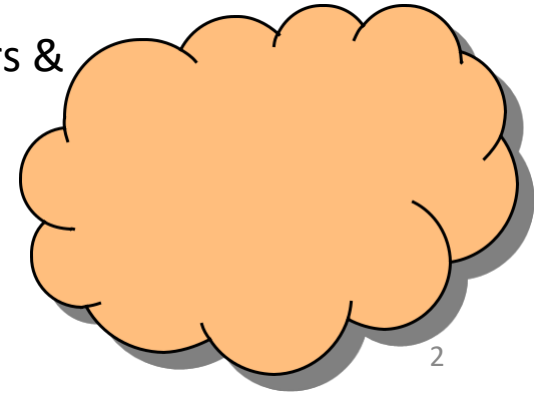


Point Slope Interception System for Quality of Air & Water

- Any city or location has 3 well-defined aspects such as
- (1) The in-city sources, inter-city sources and inter-state sources of pollution that may pollute or contaminate the air and water bodies
- (2) Zoning (as originally developed or due to man's intervention, more details will be available in the next version of this document)
- (3) Quality of Air indices and Quality of Water indices based on this zoning

- This said, it is apparent that man in governance has not designed sustainable systems of conservation or utilization to address an issue looming large – Rising air pollution levels, Polluted water bodies and degradation of the surrounding environment.

- It is important that architects, designers, developers, builders &
- construction companies understand the above 3 aspects of
- habitat specific landscapes while planning
- construction or development in nearby areas.



Point Slope Interception System for Quality of Air & Water

Whether a discretion of Pollution Control Boards?

- Architects, designers, builders and developers must act to mitigate the issue looming large - man's dependency on air quality and water availability and the current issues in building habitats near them or in expecting to use them.

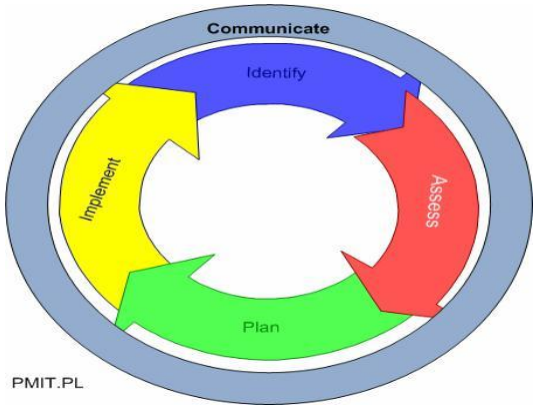
- The Pollution control boards, social benefit organizations and the construction industry must ensure there is (a use of air or water specific) "Sampling schedules and Point Slope Interceptions" implemented for all locations and water bodies within the vicinity of their sites and building elements.

- Today the issues we see are more due to inadequate planning and sustainable involvement rather than nature turning against man.

- It is important to design and implement Time, Motion and Scale studies for all locations or areas within a prescribed radius of habitats and industries. These studies could become mandatory for those planning construction projects or development of landscapes, industries, habitats and COMBOs of them.

Point Slope Interception System for Quality of Air & Water

- These Time, Motion and Scale studies must involve
- (1) Risk Mitigation
- (2) Condition monitoring
- (3) Traceability systems
- (4) Preventive systems
- (5) Corrective systems



- The Point Slope Interception System is one such effort to interrelate issues faced today with the expectation to develop and grow in a diverging radius of habitats and industries.

- The Point Slope Interception System identifies different facets of a location or area and then implements “Quality of air & water assessments and interceptions” to deal with the various issues like afflicted self-purification, pollution, climate change, microbial increase and the need to mitigate risks associated with rising levels of carbon monoxide, oxides of nitrogen, sulfur and other toxic elements.

- This version of the document attempts to combine evaluation and management for both air quality and water quality in a single framework.

Point Slope Interception System (Source of concern)

Form Serial No: **Date:**

Location ID or Water Body ID (unique serial number):

Source of pollution for the location or water body (Tick as applicable):

[ ] Industry specific emission or discharge of effluents

[ ] Transportation related emissions or fossil fuel utilization related emissions

[ ] Unregulated Agricultural practices or sewage and pollutants

[ ] Burning of Agricultural produce and/or litter, Garbage or Waste

[ ] Unregulated Human polluting influences / Human sewage

[ ] Domestic Waste / Domestic Waste Water

[ ] Water Runoffs (agricultural, storm water, other water bodies)

[ ] Diffusion of pollutants into the ground water table

Elements that use the location or resources available (Tick as applicable):

[ ] Industries	[ ] Food processing industries
[ ] Diary and poultry farms	[ ] Agriculture communities
[ ] Irrigation	[ ] Public Water Supply
[ ] Rearing of aquatic life	[ ] Road or Fossil Fuel dependent Transportation
[ ] Artificial Landscaping	[ ] Habitat / Development projects

[ ] Climate Change Mitigation Adaptation projects

Point Slope Interception System

Illustrations of what are poor quality air levels for a location

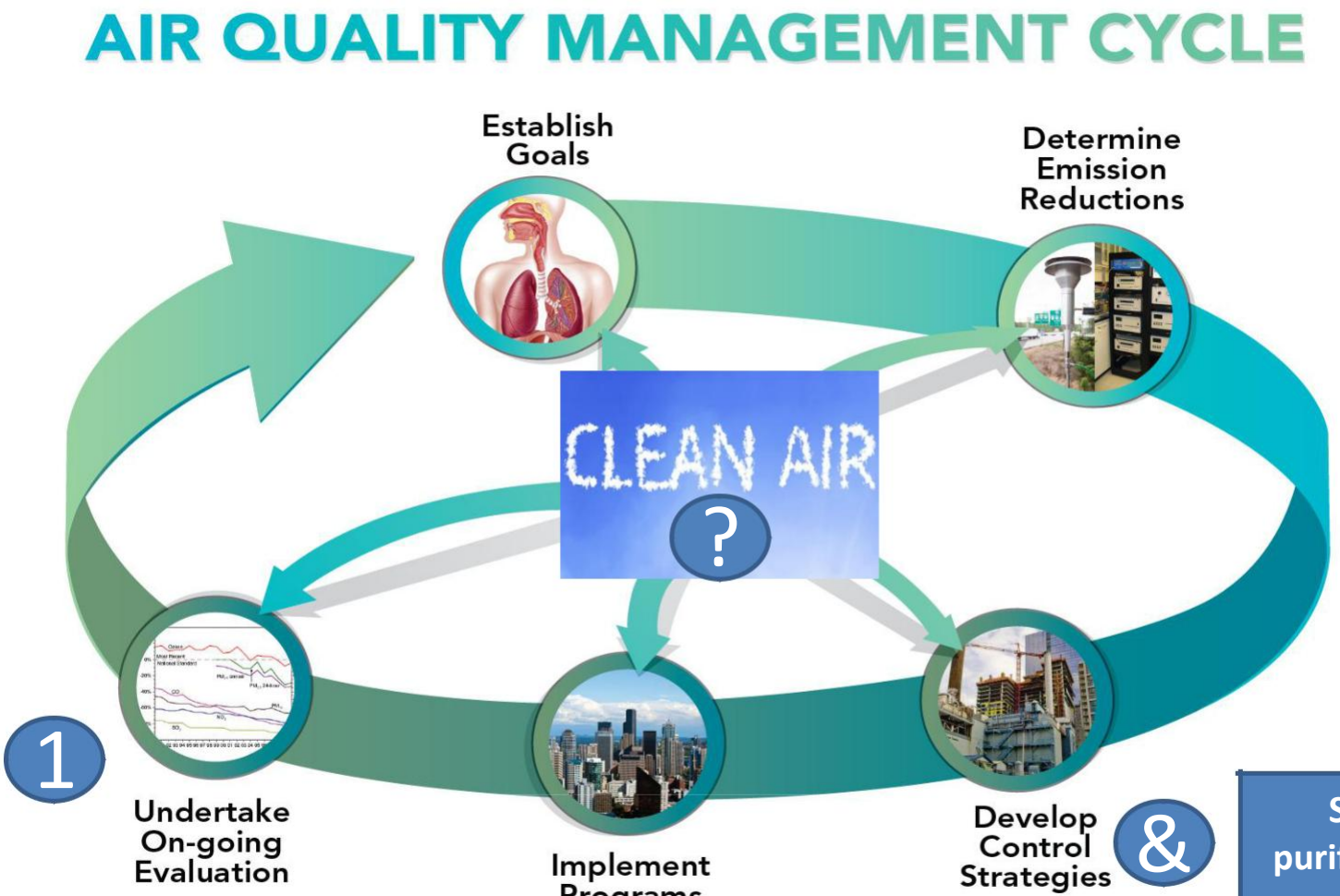
Air Quality Index – Projections	
301 – 500	Hazardous
201 – 300	Very Unhealthy
151 – 200	Unhealthy
101 – 150	Unhealthy for Sensitive Groups
Spare The Air – [illegible] is forecast to meet or exceed 126.	Implement Quality Mgmt Systems
51 – 100	Moderate
0 – 50	Good

AQI Key

Air Quality Index (AQI) Values	Levels of Health Concern
0-50	Good
51-100	Moderate
101-150	Unhealthy for Sensitive Groups
151-200	Unhealthy
201-300	Very Unhealthy
301-500	Hazardous

Point Slope Interception System

Illustrations of what can be done for poor quality air levels



Point Slope Interception

Point Slope Interception System

Form Serial No: **Date:**

Name of location or zone:

Location ID (unique serial number):

Name of company that knows zoning and AQI indices:

Name of company maintaining wards/zones:

Annual Maintenance Contract No (if relevant):

Nature of work:

[ ] Risk Mitigation	Priority Complaint No:
[ ] Incidence based call	Complaint No:
[ ] Emergency call or disaster	Priority Complaint No:
[ ] Preventive maintenance	

Nature of inspection or assessment (Tick as applicable):

[ ] Safety from hazards and accidents

[ ] Quality of air (see in-depth section)

[ ] Signs of bio-accumulation and bio-magnification

[ ] Signs of foul smelling gases (methane, ammonia etc)

[ ] Signs of smoke, fog, mist or other pollutants

Point Slope Interception System (Reducers)

Assessment of a Self-purification system for Air quality (Tick as applicable):

[ ] Planned afforestation and/or replacement of trees (++)

[ ] Clamping down and/or intelligent regulation of discharge timings for air polluters (++)

[ ] Regulation of transportation emission by providing of CCMA savings-based calculators to commuters to help them decide on how they can green travel (++)

[ ] Mandate Corporate Social Responsibility initiatives based choice of travel for employees (++)

[ ] Time schedules and Incentives to organizations and people for phasing out of older vehicles, fuel guzzlers and pollution accelerators

[ ] Install air purifiers in public transport or critical for travel vehicles

Point Slope Interception System (Reducers)

Assessment of a Self-purification system for Air quality (Tick as applicable):

[ ] Regulation of rise in temperature in congested locations (++)

[ ] Regulation of detrimental effects of wind related turbulence to air quality (++)

[ ] Identify the kind of vehicle fittings, furnishings or seat covers that can become sources of criteria pollutants and pose health hazards

[ ] Setup a Quality of air / Quality of air + water network that can provide emergency services or issue advisories or precautionary recommendations

[ ] Recommend the use of masks in vehicles and for commuters, where this can reduce or filter emissions to mitigate air pollution and other criteria pollutant related health hazards

For factors or interests with (++), please refer to the APPENDIX for more details

Point Slope Interception System

Time taken:

Record of sampling:

Date	Nature of sampling	Details of sampling	Next scheduled date	Done by

Point Slope Interception System

Record of symptomatic issues:

Date	Symptoms	Details of symptoms	Last Point Slope Intercepts (Pollutant %)	Done by

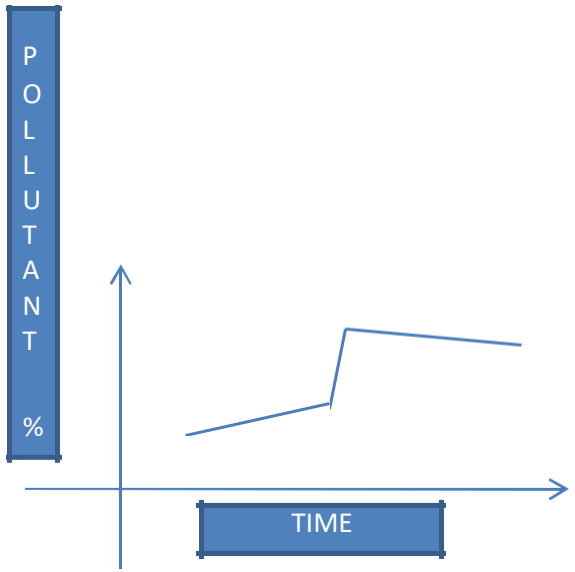
Point Slope Interception System

Record of quality:

Date	Quality	Details of quality	Analysis of quality/ pollutants	Plan of action	Done by

Point Slope Interception System

Point Slope Intercepts for Pollutant levels:



In the field of mathematics, ones uses a concept called Point Slope form to find the slope of a line passing through two distinct points drawn with reference to a X and Y axis.

In this insight to control pollution levels, the Point Slope form concept is used to plot the graph of pollutant levels (in % as per a specific category) collected from a location on a periodic basis (where this could be diurnal, daily, weekly, fortnightly etc).

The graph is plotted with time (as dates in the dd-mm-yyyy format) on the X-axis and the pollutant level (in %) on the Y-axis.

Point Slope Interception System

- The trend and slope of the graph will thereon be helpful in scenarios where a secure contact organization functions to review the pollution levels of a location in order to assess, report or orchestrate (in close coordination) responsiveness.

- **For issues with air quality:** Responsiveness could mean controlling air quality or improving the self-purification systems of the location. More details will follow in the next version of the document.

- Acceptable graphs of the adequate responsiveness of a site will show minimal or controlled changes in the slope of the line joining 2 points in the Point Slope Interception graph.

Point Slope Interception System

- **Record of performance (Tick as applicable):**
- [ ] No complaints
- [ ] Occasional complaints
- [ ] Recent complaints
- [ ] Complaints since a long time
- [ ] Rising number of complaints
- [ ] Quality and effectiveness of AQI Interception systems
- [ ] Quality and effectiveness of Regulatory systems between locations or zones
- [ ] Quality and effectiveness of Self-purification system
- [ ] Quality and effectiveness of Pollutant reduction systems
- [ ] Quality and effectiveness of Alternate systems (like Planning and sustainable
- involvement, Pulmonary healthcare assistance desks for pre-provider
- services as the number of people cannot be controlled or projected to ensure
  - less risk to life)

- **Current problem or complaint or observation?**

- **Whether subsequent actions will be taken?**

Point Slope Interception System

Record of interceptions or remedial actions:

Date	Nature of interceptions or actions	Details of interceptions or remedial actions	Cost of interceptions or remedial actions	Preventive and Corrective actions	Done by

Point Slope Interception System

Whether Corrective Action is outlined? (Yes/No)

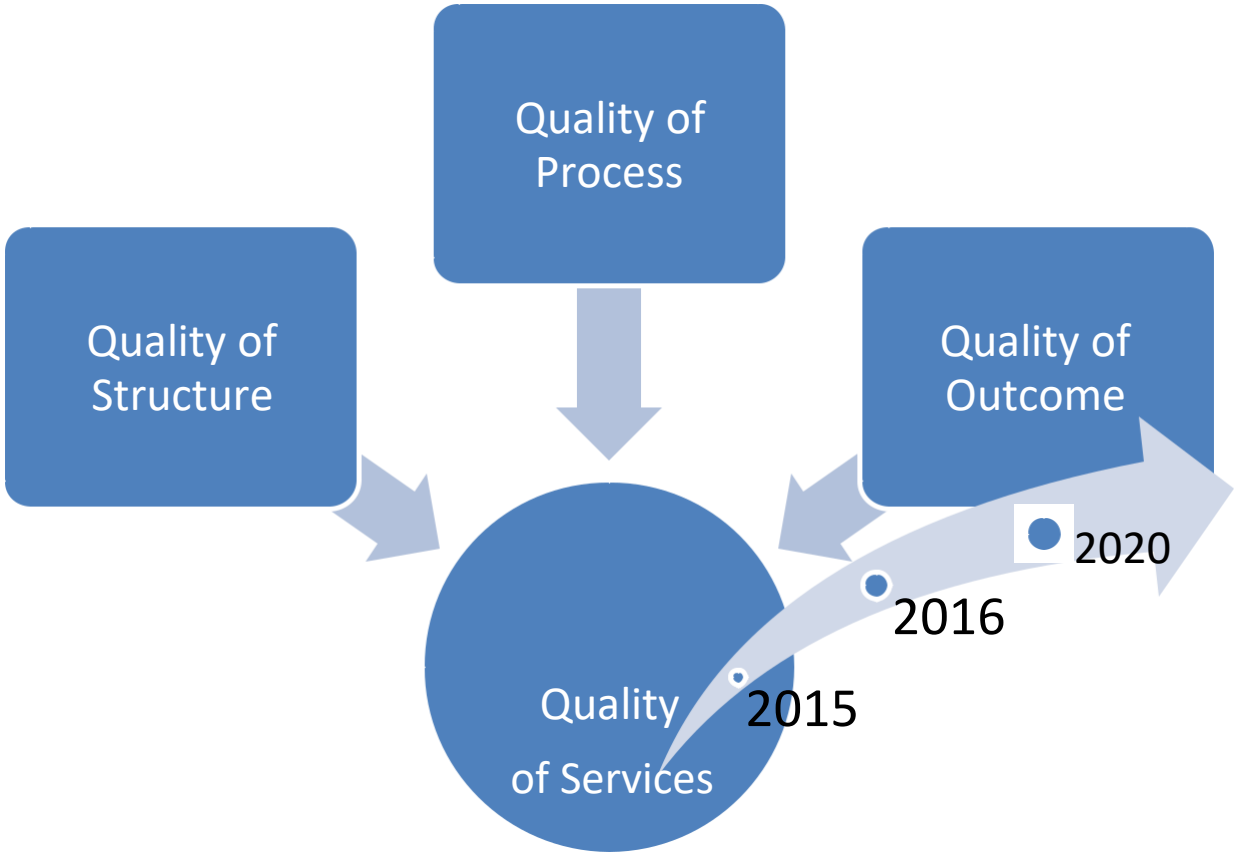
- **Details:**

- **Whether Preventive Action is planned? (Yes/No)**
- **Details:**

- **Whether Grievance Redressal was necessary? (Yes/No)**
- **Details:**

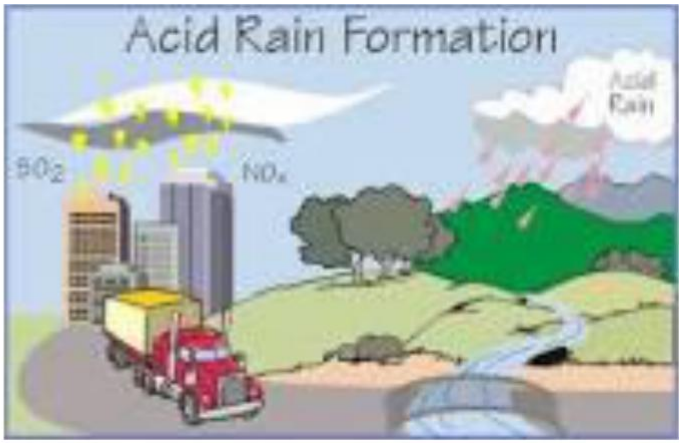
- **What will be done to prevent re-occurrence of problem or issue?**

Acid Rain Hazards Regulation Sheet



Acid Rain Hazards Regulation Sheet

Acid Rain Hazards Regulation Sheet



Acid Rain Hazards Regulation Sheet

What Is Acid Rain?

Acid Rain is rain, hail, snow, mist or fog that is polluted by acid in the atmosphere and damages the environment even affects the health of people living in that region.

Type of acid deposition

(a) Dry in the form of gases, solids and particulate matter

(b) Wet in the form of acid rain, where the rain contains dilute solutions of sulfuric acid (H_2SO_4), nitric acid (HNO_3) and nitrous acid (HNO_2)

Nature of occurrence

(a) Natural due to swamps, various bacteria and phytoplankton

(b) Anthropogenic due to oxides of sulfur, nitrogen

Risk mitigation and control

(In-situ or ex-situ) Rain Water Analysis, Soil Analysis, Building Materials Analysis and Corroded Metal Analysis for acid level indications

Acid Rain Hazards Regulation Sheet

Form Serial No: **Date:**

Name of location or building or facility:

Location or Facility or Block ID:

Name of inspecting company:

Annual Maintenance Contract No (if relevant):

Nature of work:

[ ] Risk Mitigation and Adaptation

[ ] Incidence based call Complaint No:

[ ] Emergency call or disaster Priority Complaint No:

[ ] Preventive maintenance

Nature of ex-situ or in-situ inspection or assessment:

[ ] Rain Water Analysis (acid rain has pH less than 5.6)

[ ] **Visual or Symptoms Inspection** (for any signs of yellowing of marble, incidences of corrosion, poor health of trees & plants, unexplained respiratory problems in people)

[ ] **Building Materials and Metal Sampling** (collecting samples of metal pieces, corroded scrapings and sending it to the lab for analysis of the type of corrosion)

[ ] **Environmental Quality Sampling** (use of specialized equipment to sample trees, plants, plant roots, soil, air for laboratory analysis to check for the presence of particulate aerosols, traces of H_2SO_4 , HNO_3 , HNO_2)

Acid Rain Hazards Regulation Sheet

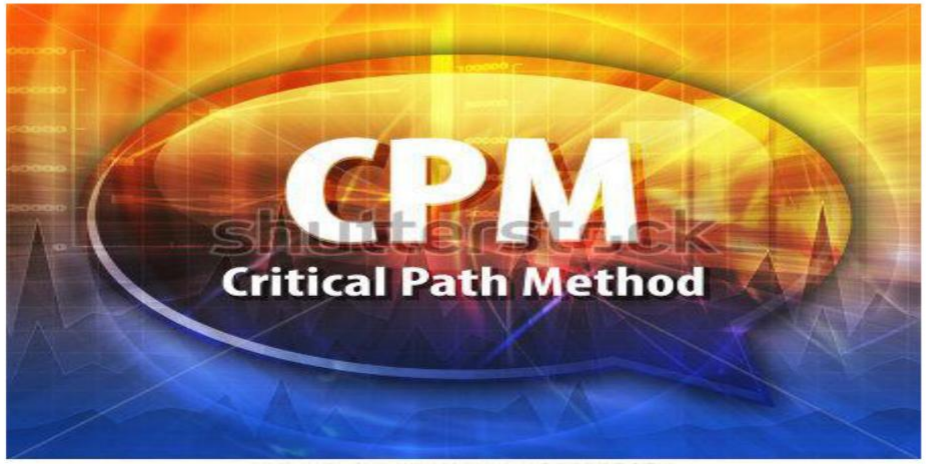
Critical path management (norms or recommendations in region)

Acid Rain hazards or incidences can be mitigated via different norms or recommendations for urban landscape development in associated regions.

The need is to step further by requiring architects, designers, developers, builders and construction companies to act for critical path management to mitigate acid rain occurrences or risks. The critical path management could be put in place by CCMA Regulatory guidelines being issued to occupants, residents or people living or working in ex-situ or in-situ regions.

CCMA stands for Climate Change Mitigation and Adaptation. Critical path management is a management methodology that defines a specific set of activities or intentional actions to meet a particular Work or CCMA regulatory requirement.

Acid Rain Hazards Regulation Sheet



Acid Rain Hazards Regulation Sheet

Critical path management (norms or recommendations for location, site and people)

[ ] Mandating that all vehicle owners, occupants, visitors of the location, site and neighborhood maintain diesel analysis reports for permitted sulfur content

[ ] Mandating that all vehicles of occupants, visitors of the location, site and neighborhood have satisfactory emission clearances

[ ] Mandating that public transport or community service vehicles (available in that region) adopt CNG and bio-fuel alternatives

[ ] Mandating that industries or businesses (in that region) control emission of SO_2 and No_x

[ ] Implementing of Point Slope Interception to identify and regulate the use of products and appliances (by vehicle owners, occupants, visitors of the location or site) that emit aerosols

Acid Rain Hazards Regulation Sheet

Time taken:

Record of inspection:

Date	Nature of inspection	Details of inspection	Next scheduled date	Done by

Acid Rain Hazards Regulation Sheet

Record of condition:

Date	Condition	Details of condition	Analysis of condition	Plan of action	Done by

Record of removal or replacement:

Date	Nature of removal or replacement	Details of removal or replacement	Cost of removal or replacement	Reordering Of material	Done by

Acid Rain Hazards Regulation Sheet

Record of performance (Tick as applicable):

- [ ] Rain Water Analysis for acid level indications
- [ ] Soil Analysis for acid level indications
- [ ] Building Materials Analysis for acid level indications
- [ ] Corroded Metal Analysis for acid level indications
- [ ] Critical Path Management Analysis for acid level indications
- [ ] No complaints
- [ ] Occasional complaints
- [ ] Recent complaints
- [ ] Complaints since a long time
- [ ] Rising number of complaints

- **Current problem or complaint or observation?**

- **Whether subsequent actions were taken?**

Acid Rain Hazards Regulation Sheet

Whether Corrective Action was outlined? (Yes/No)

- **Details:**

- **Whether Preventive Action is planned? (Yes/No)**
- **Details:**

- **Whether Grievance Redressal was necessary? (Yes/No)**
- **Details:**

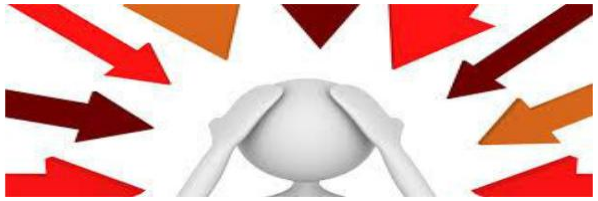
- **What will be done to prevent re-occurrence of problem or issue?**

Point Slope Interception System

Illustrations of what can be done for poor water quality levels

Point Slope Interception System

- **Pain points affecting Quality of Life**
- **(**related to water as a resource)



- 1. More common water shortages and waste water reuse/disposal issues
- 2. Increasing costs for water management that is it's distribution, supply, storage, fit for consumption "operations and maintenance"
- 3. A growing need to be eco-friendly and conservative in approaches
- 4. High electric power costs for providing and utilizing water
- 5. Worsening power grid problems such as power quality and availability
- 6. Causative effect of harmful chemicals, and criteria pollutants
- 7. Accelerated crisis due to global warming and unprecedented climate change
- 8. Patterned impact on health and productivity of people or consumers
- 9. Need for risk mitigation, emergency response and disaster management
- 10. Isolated attempts of controlling water consumption, waste water treatment, rainwater harvesting and even groundwater table recharging

Point Slope Interception System

Form Serial No: **Date:**

Name of building or facility:

Facility associated ID or Water Body ID (unique serial number):

Name of company that knows zoning and indices:

Name of company maintaining water body:

Annual Maintenance Contract No (if relevant):

Nature of work:

[ ] Risk Mitigation Priority Complaint No:

[ ] Incidence based call Complaint No:

[ ] Emergency call or disaster Priority Complaint No:

[ ] Preventive maintenance

Nature of inspection or assessment (Tick as applicable):

[ ] Safety from hazards and accidents

[ ] Quality of water (see in-depth section)

[ ] Signs of bio-accumulation and bio-magnification

[ ] Signs of foul smelling gases (methane, ammonia etc)

[ ] Signs of eutrophication

[ ] Scum [ ] Sludge [ ] Oil and grease pollution

Point Slope Interception Sheet

Nature of inspection or assessment (Tick as applicable):

[ ] Signs of toxic contaminants (metals, metal compounds, trace elements, complexes of metals, organometallic compounds)

[ ] Signs of aquatic life dying

[ ] Signs of birds dying

[ ] Incidences of water borne diseases in people living nearby or using water

[ ] Incidences of nitrate poisoning in people living nearby or using water

[ ] Signs of corrosion of pipelines connected to the water body

[ ] Signs of accelerated corrosion of metals coming in contact with this water

Point Slope Interception Sheet

Nature of routine inspection or assessment (Tick as applicable):

[ ] Traceable incidences of any silt, sediment buildup

[ ] Condition of any gutters and downspouts (to be kept free from debris, leaves etc)

[ ] Condition of any storage tanks, lids and associated sediment buildup

[ ] Condition of any overflow pipes, overflow filter path and/or secondary runoff reduction practices

[ ] Structural integrity of associated tanks, pump, pipes and electrical systems

In-situ systems

[ ] Self-purification system

[ ] Treatment system between zones [ ] Pollutant removal system

[ ] Water treatment system (prior to in-flow and/or prior to out-flow) [ ] (Utilization specific) Purifier and disinfection system

Point Slope Interception System

Quality of water inspection or assessment (Tick as applicable):

[ ] % of Organic wastes
[ ] % of Pathogens
[ ] % of Detergents and soaps
[ ] % of Oil
[ ] % of Solid particles or particulate matter
[ ] % of Increased heat or rise in temperature
[ ] % of Phosphates and nitrates from fertilizer runoffs
[ ] % of Broad spectrum pesticides
[ ] % of Non-bio degradable pesticides
[ ] % of Traces of toxic chemicals (mercury, asbestos, lead cyanide)
[ ] % of Fluorides
[ ] % of Organic Sulfur
[ ] % of chlorine, hydrogen sulfide, ammonia
[ ] % of iron, manganese
[ ] % of hydrocarbons and phenols
[ ] % of dyes (iron and chromium compounds)
[ ] % of corrosive matter
[ ] % of radioactive wastes

Point Slope Interception System (Reducers)

Assessment of Self-purification system for a Water body (Tick as applicable):

[ ] Dilution and dispersion due to large volume of receiving bed

[ ] Discharge timings when there is more exposure to sunlight

[ ] Sedimentation at the point of outfall of effluents

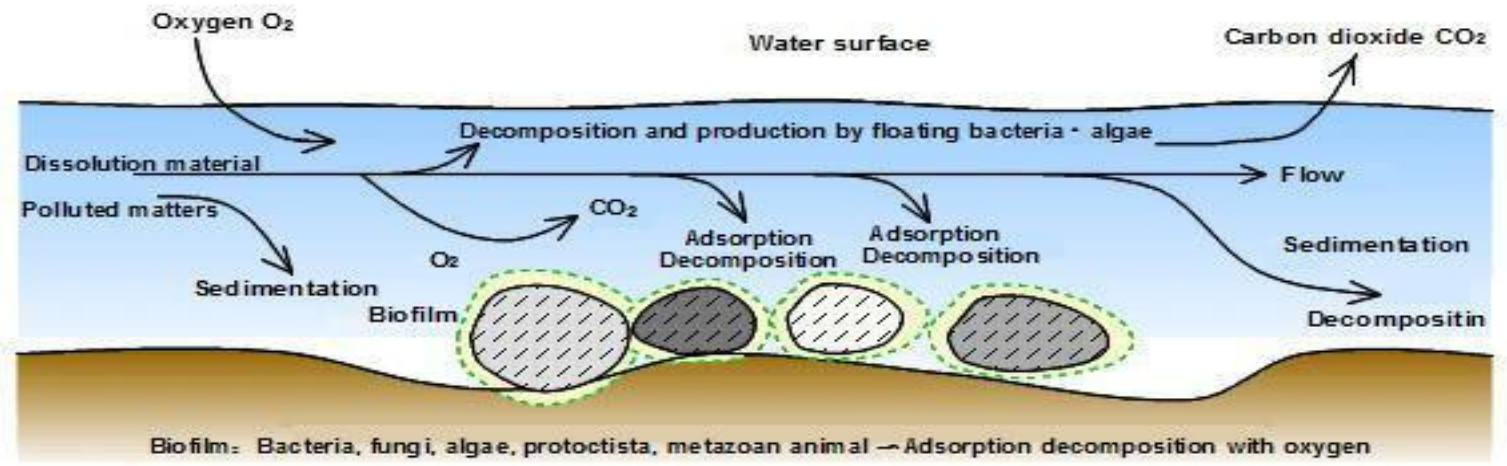
[ ] Improvised oxidation

[ ] Higher reduction reactions due to hydrolysis of organic matter in water at the point of outfall

[ ] Regulation of temperature

[ ] Regulation of turbulence

[ ] Regulation of currents, rapids, falls



Point Slope Interception System (Reducers)

Associated Scientific systems for pollutant removal (Tick as applicable):

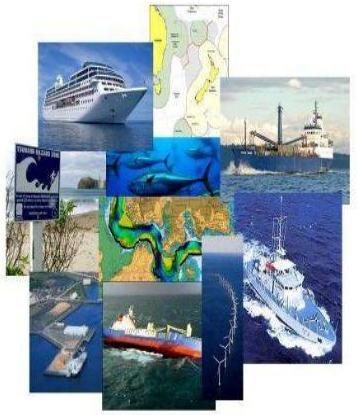
[ ] Controlling of hydrography

[ ] Standards for discharge of effluents into water body [ ] Regulation of dissolved oxygen levels [ ] Improved rate of re-aeration

[ ] Controlling of amount and type of organic matter

[ ] Controlling of % levels and type of biological growth (algae etc)

[ ] pH regulation and modification



Associated technology driven systems for pollutant removal (Tick as applicable):

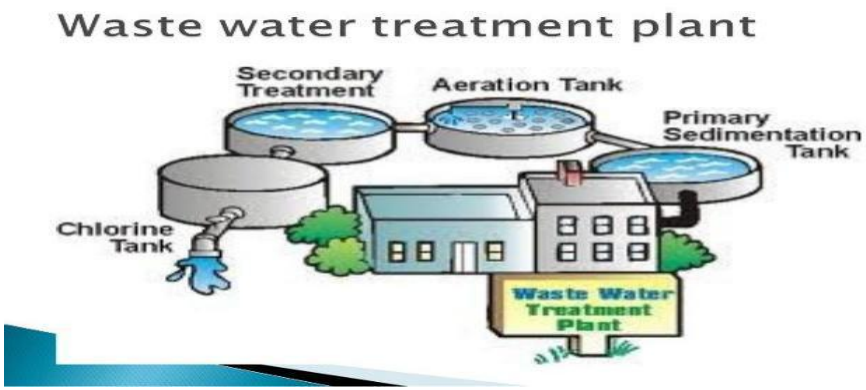
[ ] Chlorination

[ ] Coagulation with alum [ ] Ordinary filtration

[ ] Active carbon filtration [ ]

Ultra advanced filtration [ ]

Waste water treatment



Point Slope Interception System

Time taken:

Record of sampling:

Date	Nature of sampling	Details of sampling	Next scheduled date	Done by

Point Slope Interception System

Record of symptomatic issues:

Date	Symptoms	Details of symptoms	Last Point Slope Intercepts (Pollutant %)	Done by

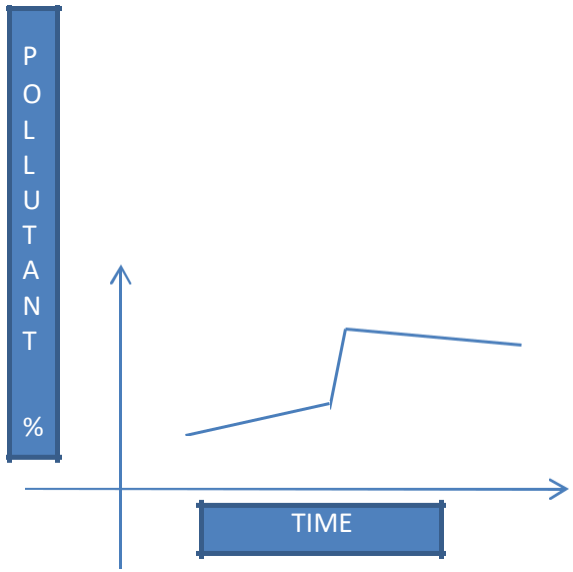
Point Slope Interception System

Record of quality:

Date	Quality	Details of quality	Analysis of quality/ pollutants	Plan of action	Done by

Point Slope Interception System

Point Slope Intercepts for Pollutant levels:



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In this insight to control pollution levels, the Point Slope form concept is used to plot the graph of pollutant levels (in % as per a specific category) collected from a location or water body on a periodic basis (where this could be diurnal, daily, weekly, fortnightly etc).

The graph is plotted with time (as dates in the dd-mm-yyyy format) on the X-axis and the pollutant level (in %) on the Y-axis.

Point Slope Interception System

- The trend and slope of the graph will thereon be helpful in scenarios where a secure contact organization functions to review the pollution levels of a location or water body in order to assess, report or orchestrate (in close coordination) responsiveness.

- **For issues with water quality:** Responsiveness could mean controlling the amount of untreated sewage, effluents, non-biodegradable waste that flows into the water body by either going in for the 5Rs with green lifecycles (that is Risk Mitigation, Reduce, Recycle, Reuse and Renew) in habitats and industries close to the water body or by specially treating the waste water from these sites or by improving the self-purification system of the water body. More details will follow in the next version of the document.

- Acceptable graphs of the adequate responsiveness of a site will show minimal or controlled changes in the slope of the line joining 2 points in the Point Slope Interception graph.

Point Slope Interception System

- **Record of performance (Tick as applicable):**
- [ ] No complaints
- [ ] Occasional complaints
- [ ] Recent complaints
- [ ] Complaints since a long time
- [ ] Rising number of complaints
- [ ] Quality and effectiveness of Self-purification system
- [ ] Quality and effectiveness of Treatment systems between zones
- [ ] Quality and effectiveness of Pollutant removal system
- [ ] Quality and effectiveness of Water treatment systems
- [ ] Quality and effectiveness of Purifier and disinfection system

- **Current problem or complaint or observation?**

- **Whether subsequent actions will be taken?**

Point Slope Interception System

Record of interceptions or remedial actions:

Date	Nature of interceptions or actions	Details of interceptions or remedial actions	Cost of interceptions or remedial actions	Preventive and Corrective actions	Done by

Point Slope Interception System

Whether Corrective Action is outlined? (Yes/No)

- **Details:**

- **Whether Preventive Action is planned? (Yes/No)**
- **Details:**

- **Whether Grievance Redressal was necessary? (Yes/No)**
- **Details:**

- **What will be done to prevent re-occurrence of problem or issue?**

Point Slope Interception System

- **APPENDIX**
- You could start by reading more about the following via the references mentioned

[ ] Planned afforestation and/or replacement of trees

Reference**:** **https://venkataoec.wixsite.com/treeconservator** (enabling tree conservation and landscaping)

[ ] Regulation of transportation emission by providing of CCMA savings-based calculators to commuters to help them decide on how they can green travel (++)

AND

[ ] Mandate Corporate Social Responsibility initiatives based choice of travel for employees (++)

Reference: **https://venkataoec.wixsite.com/safercommuting** (enabling Votary savings for commuters)

Point Slope Interception System

- **APPENDIX continued**

  [ ] Clamping down and/or intelligent regulation of discharge timings for air polluters (++)

  [ ] Regulation of rise in temperature in congested locations (++)

  [ ] Regulation of detrimental effects of wind related turbulence to air quality (++)

  The above factors or interests need to be designed via a Quality Management Roadmap, where at first level there needs to be a Risk Mitigation Panel (1) in all cities or states, at the next level there needs to more enabling of wellness and respect for life of people exposed to these risks (2) and at the millennium resource development level, there must be a SMART method (called the heritage dashboard) to identify the risks caused by different industries, organizations and businesses in each location, city or state (3). When it comes to understanding and reducing the impact of Climate Change, enabling trade advocacy and a learning centre model to sense & respond to a need for Climate Change Mitigation (4).

- URL for 1: https://venkataoec.wixsite.com/safercommuting (developing a Risk
- Management Panel for safer commuting and public infrastructure experiences)

Point Slope Interception System

- **APPENDIX continued**

  URL(s) for (2):

  https://venkataoec.wixsite.com/sankeytankwellness (enabling wellness and respect
  for life via a Secure Your Life mainline vision and a Companion Card)

  https://venkataoec.wixsite.com/eduessential (enabling more proactive health and development of children via a Mission Health Card)

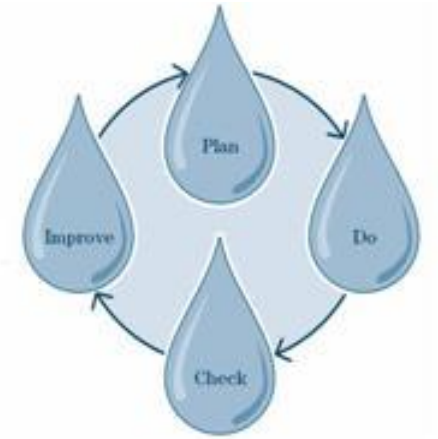
  URL for (3):

  https://venkataoec.wixsite.com/futuregenart (though still a concept, important for our future quality of life, where this is called the “TIMELINE AND PULL INFLEXION SYSTEMS FOR DEVELOPING HERITAGE QUOTIENTS IN BUSINESS PLANS”**)**

URL for (4): https://venkataoec.wixsite.com/resourcecentre (enabling trade advocacy and a learning centre model to sense & respond to a need for Climate Change Mitigation)

Point Slope Interception System

- **Further references**
- You could start by visiting the following websites:



- 1. https://venkataoec.wixsite.com/consciousacts
- (for details on Autonomic Expectancy)

- 2. https://venkataoec.wixsite.com/verisafenhealth
- (for details on AOEC' VeriSafe model that can be adopted by hospitals, diagnostic centres and pharma care, to converge on the use of antibiotics and large demand medicines to control infections and subsequent disease emergence)