

## **Concept Note of Joint Training Program by EANET and SATREPS**

### **Main Topic: PM2.5 source apportionment using PM2.5 components data – Joint Capacity Building through EANET and SATREPS**

Date: December 1st (Monday)~5th(Friday), 2025

Venue: Asia Center for Air Pollution Research (ACAP) and Online

#### **1. Background**

EANET is an intergovernmental initiative that aims to promote cooperation among countries in East Asia to monitor and assess acid deposition and related air pollution. EANET has expanded its scope to include particulate matter (PM2.5), recognizing its significant health and environmental impacts. In 2025, the EANET Project 2025-01 was launched to develop comprehensive methodologies for PM2.5 measurement, source apportionment, and capacity building across EANET member countries. This project seeks to establish standardized techniques and strengthen local capabilities for sustainable air quality management.

The research project on air pollution in Cambodia commenced in fiscal year 2021 as part of the Scientific and Technological Research for Global Issues (SATREPS) program funded by Japan International Cooperation Agency (JICA) and Japan Science and Technology Agency (JST). The leading institute in Japan is Kanazawa University and the counterpart in Cambodia is the Royal University of Technology in Cambodia. This project aims to address the air pollution issues in Cambodia by providing necessary instruments for monitoring and chemical analysis especially for particulate matter, and by capacity building for local practitioners.

Under the SATREPS program, installation of required instruments has been completed, and training sessions on instrument operation and analysis have been conducted in Cambodia. Air quality monitoring and data collection are ongoing under the SATREPS framework, and local researchers are now seeking to conduct source apportionment of PM2.5 using the obtained data.

To support this effort, the training program offers lectures and practical sessions on methodologies for identifying PM2.5 sources from observed data. In particular, it will focus on Positive Matrix Factorization (PMF) techniques and interpretation of source indicators.

Importantly, this training is designed to strengthen collaboration between the SATREPS project and the EANET Project 2025-01, which shares common goals in developing PM2.5 measurement techniques, source apportionment methodologies, and capacity building across East Asia. By inviting online participation from EANET member countries, the program promotes regional knowledge exchange and technical enhancement, leveraging insights and experiences from both

initiatives. This synergy is expected to contribute to the development of standardized methodologies and sustainable air quality management practices in the region.

## **2. Purpose**

This program provides the opportunity to deepen the knowledge and understanding of source indicators which are required for the source apportionment analysis using PM2.5 observation data. In particular, participants will aim to understand the theory of source apportionment analysis using Positive Matrix Factorization (PMF) and be able to apply it in practice. On-site participants will also acquire knowledge of source analysis methods through training and practical exercises.

In addition to supporting the SATREPS project in Cambodia, this training is designed to contribute to the objectives of the EANET Project 2025-01, which focuses on developing PM2.5 measurement techniques, source apportionment methodologies, and capacity building across East Asia. By integrating the experiences and knowledge from SATREPS into the broader EANET framework, the program aims to foster regional collaboration and technical harmonization. Online participation from EANET member countries is encouraged to promote mutual learning, enhance regional capacity, and support the development of standardized approaches for PM2.5 source analysis.

## **3. Facilitators**

Asia Center for Air Pollution Research (Implementing Agency in EANET) and Kanazawa University, Nagasaki University (Implementing Agency in SATREPS)

## **4. Date**

December 1st (Monday)~5th(Friday), 2025

## **5. Participants**

On-site:

ACAP staffs, Members of SATREPS (Institute of Technology of Cambodia, Kanazawa University, Nagasaki University)

Online:

Zoom webinar (required the registration)

## **7. Contact persons**

Akie YUBA (ACAP), email: [yuba@acap.asia](mailto:yuba@acap.asia)

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### 8. Draft Agenda

| Date             | Time<br>(UTC+7) | Agenda                                                                                           | Panelist                                 | participation |
|------------------|-----------------|--------------------------------------------------------------------------------------------------|------------------------------------------|---------------|
| Day1<br>(Dec. 1) | 8:00-<br>8:15   | Opening remarks                                                                                  | Dr. Hata,<br>Cambodia (TBD)<br>Dr. Ohara | In-person     |
|                  | 8:15–<br>10:00  | Discussion on research in Cambodia                                                               | On-site participants                     | In-person     |
|                  | 12:00-<br>14:00 | Outline of SATREP Project in Cambodia<br>Introduction of EANET and relation to Mekong sub-region | Dr. Hata<br>Dr. Meng                     | Hybrid        |
| Day2<br>(Dec. 2) | 7:00-<br>14:00  | Ion analysis using PM2.5 roll tape                                                               | Drs. Ikemori, Yuba                       | In-person     |
| Day3<br>(Dec. 3) | 8:00–<br>10:00  | Ion chromatography data check                                                                    | Dr. Yuba                                 | In-person     |
|                  | 12:00-<br>13:30 | Lecture of overview of source indicators for PMF analysis                                        | Drs. Sato, Ikemori                       | Hybrid        |
| Day4<br>(Dec. 4) | 8:00–<br>14:00  | Lecture of Methodology of PMF analysis<br>/Practice of PMF analysis using demo data              | Drs. Sato, Ikemori                       | Hybrid        |
| Day5<br>(Dec. 5) | 7:00-<br>10:00  | Wrap up                                                                                          | On-site participants                     | In-person     |
|                  | 12:00-<br>14:00 | Lecture of model simulation under JICA project<br>Lecture of VOC project under EANET             | Dr. Kiriya<br>Dr. Huo                    | Hybrid        |