



# **SUMMARY REPORT**

## **Training Course on the Current Technologies and Trends in Various Levels of Spatial Data Infrastructure (SDI)**

**23-24 September 2024**

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### **of the Training Course on the Current Technologies and Trends in Various Levels of Spatial Data Infrastructure**

1. The Training Course on the Current Technologies and Trends in Various Levels of Spatial Data Infrastructure (SDI) took place virtually on 23-24 September 2024.
2. The capacity-building event was jointly organized by the ECO Secretariat and the National Cartographic Centre (NCC) of the Islamic Republic of Iran. The course was attended by the representatives of the Republic of Azerbaijan, Islamic Republic of Iran (host), Kyrgyz Republic, Islamic Republic of Pakistan, Republic of Tajikistan, Republic of Türkiye and the ECO Secretariat. The list of participants is enclosed as **Annex-I**.
3. The Training Course was moderated by Mrs. Maryam Sadeghi, Head of the International Relations Office of the NCC of the Islamic Republic of Iran.

#### **Inauguration of the Training Course**

4. The Training Course was inaugurated by the welcoming address from Dr. Ali Javidaneh, Director General of the NCC of the Islamic Republic of Iran. He expressed gratitude to the ECO Secretariat for its support and highlighted the significance of collaboration in enhancing SDI practices. In this vein, Mr. Javidaneh emphasized the need in leveraging knowledge gained in the subject training course for tackling the real-world challenges. He added that over the next two days participants will learn from the experts about emerging trends and techniques in geo-science technologies, aiming to foster collaboration, build networks, and inspire meaningful contributions to the field of SDI. The Director General of NCC outlined the objectives of the course focusing on efficient management of geospatial data for sustainable development and regional cooperation. His speech is enclosed as **Annex-II**.
5. In his opening speech in the Training Course, Dr. Fuad Farzalibeyov, ECO Director for Energy, Minerals and Environment expressed gratitude to the NCC of the Islamic Republic of Iran for organizing the event. He emphasized the importance of capacity-building and networking among ECO Member States while recalling the previous successful training courses in geomatics and cartography. Dr. Farzalibeyov briefed about the recent developments in

geomatics, most notably the proposal on establishment of an ECO Spatial Data Infrastructure, and underscored the role of academia and stakeholder engagement in fostering innovation. The ECO Director encouraged active participation in addressing common challenges and called on the Member States to take ownership of capacity-building initiatives. He concluded by reaffirming the commitment of the ECO Secretariat to enhance regional cooperation in geomatics and related fields. His speech is attached as **Annex-III**.

6. Dr. Ali Madad, Director General of the National Geospatial Information Systems and Infrastructures of the NCC, welcomed participants to the ECO Training Course on SDI, underscoring its importance for enhancing economic collaboration among ECO Member States. He outlined the role of SDI in managing and sharing spatial data, addressing challenges such as data sharing resistance and the need for cultural shifts, appropriate standards, and binding regulations. He noted that the event aimed to explore fundamental concepts, applications, and future perspectives of SDI, including advancements in technology and the integration of spatial and statistical data. The key future goals include developing Digital Twins, transitioning to 3D GIS, and implementing innovative technologies to foster informed decision-making and sustainable development across sectors. His speech is enclosed as **Annex-IV**.
7. During the two-day training course, a number of instructors delivered the in-depth presentations on different topics as follows:

#### **The first day proceedings**

8. On the first day of the event, Dr. Rezaee, Dr. Ghasemloo, and Eng. Rafiee from NCC presented on the fundamentals and concepts of Spatial Data Infrastructure (SDI), the architecture of Iran's SDI, and the practical applications of SDI. They provided detailed insights into the introduction of Web Services and the setup of WPS on GeoServer. They also apprised of how this knowledge could benefit the ECO Member States in areas such as spatial data infrastructure, environmental management, mineral resources, and infrastructural planning.
9. At the end of the first day, one of the speakers from the Republic of Tajikistan solicited the insights on the most appropriate national standards for geospatial systems and spatial data infrastructure. In response, the instructors recommended leveraging international standards like ISO 19115. They

outlined that the NCC provided technical guidance, TJS service implementation programs, expert supports via e-mail or video, and that such a discussion was beyond the Training Course, since the standardization was vital for all Member States. Additionally, the delegate of Tajikistan informed that his country would explore possibility of organizing an in-person meeting on the aforementioned issue in Dushanbe for the ECO Member States.

### **The second day proceedings**

10. On the second day, NCC instructors, notably Eng. Rabiee, Eng. Fathi, Eng. Amiri, and Dr. Ahmadlou, delivered comprehensive presentations on integrating geospatial and statistical information, the Geospatial Standards and Governance Framework (GSGF), and the implementation of Table Joining Services in various contexts. They informed the audience of the significance of the subject topics. The detailed presentations from all instructors are included as **Annex-V**.
11. Throughout the training program, participants engaged in a variety of theoretical and practical sessions covering numerous topics. A question-and-answer segment allowed for active participation and input from representatives of the Member States. The participants also gained a solid understanding of the major activities, functions, and capabilities of the NCC of the Islamic Republic of Iran. The importance of cooperation among ECO Member States, particularly in sectors that involve effective natural resource and land management systems and policies was emphasized.

### **Conclusion**

12. The two-day workshop aimed at enhancing skills and understanding related to the SDI and advance geospatial technologies within the ECO region. The first day focused on fundamental concepts of the SDI, including its architecture and practical applications, while the second day explored innovative technologies such as Digital Twin, Building Information Modeling (BIM), and the integration of geospatial data with artificial intelligence. The participants actively engaged in interactive sessions.
13. In conclusion of the training course, the participants expressed their appreciation for the event deeming it highly beneficial. They recommended the continuation of similar capacity-building initiatives in the future, emphasizing the importance of ongoing collaboration to enhance SDI practices across the ECO region.

14. In his closing remarks, Dr. Fuad Farzalibeyov extended the heartfelt gratitude to the NCC of the Islamic Republic of Iran for organizing the training course and its unwavering support to the capacity building activities within ECO.

*All Annexes:*

*Annex -I: List of Participants*

*Annex -II: Speech by Mr. Ali Javidaneh*

*Annex-III: Speech by Mr. Fuad Farzalibeyov*

*Annex-IV Speech by Mr. Dr Madad*

*Annex-V: Detailed Presentations from Instructors*

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