

**Economic and Social Commission for Asia and the Pacific**
Fourth Ministerial Conference on Space Applications for Sustainable
Development in Asia and the Pacific

Jakarta and online, 26 October 2022

Item 3 of the provisional agenda*

**Report on the implementation of the Asia-Pacific Plan of
Action on Space Applications for Sustainable Development
(2018–2030), phase I (2018–2022)****Implementation of the Asia-Pacific Plan of Action
on Space Applications for Sustainable Development
(2018–2030), phase I (2018–2022)****Note by the secretariat***Summary*

The Asia-Pacific Plan of Action on Space Applications for Sustainable Development (2018–2030) was adopted at the Third Ministerial Conference on Space Applications for Sustainable Development in Asia and the Pacific, held in Bangkok on 10 October 2018. The Plan of Action is inclusive and based on countries' needs with the aim of harnessing innovations in space, geospatial and digital applications to support countries, in particular those with special needs, in implementing the 2030 Agenda for Sustainable Development.

The Plan of Action is fully aligned with the regional road map for implementing the 2030 Agenda in Asia and the Pacific (E/ESCAP/73/31, annex II). It comprises 188 actions in the following thematic areas: (a) disaster risk reduction and resilience; (b) management of natural resources; (c) connectivity; (d) social development; (e) energy; and (f) climate change. All 188 actions are designed to contribute significantly to 37 targets of 14 of the Sustainable Development Goals.

The Plan of Action is divided into three implementation phases, each lasting four years, with a ministerial conference to be convened at the end of each phase. The present document contains an overview of the activities implemented under the Plan of Action during phase I (2018–2022), the conclusions and recommendations of an independent evaluation of the implementation of phase I and the management response of the secretariat.

A comprehensive presentation of regional and national activities implemented during phase I of the Plan of Action will be available online through the geospatial information applications dashboard (www.unescap.org/our-work/ict-and-disaster-risk-reduction/space-and-gis-disaster-management). The report of the independent evaluation will be available from the same website.

The ministers and high-level representatives participating in the Fourth Ministerial Conference on Space Applications for Sustainable Development in Asia and the Pacific may wish to review the present document and provide feedback on the overall implementation of the Plan of Action during phase I and on the findings and conclusions of the evaluation. The Ministerial Conference may also wish to provide guidance to the secretariat on the implementation of the recommendations.

* ESCAP/MCSASD/2022/L.1.

I. Introduction

1. The Asia-Pacific Plan of Action on Space Applications for Sustainable Development (2018–2030) was adopted at the Third Ministerial Conference on Space Applications for Sustainable Development in Asia and the Pacific, held in Bangkok on 10 October 2018. The Plan of Action is inclusive and based on countries' needs with the aim of harnessing innovations in space, geospatial and digital applications to support countries, in particular those with special needs, in implementing the 2030 Agenda for Sustainable Development. It maps sectoral needs and resources at national and regional levels. It also promotes multisectoral coordination on a voluntary basis, in line with each country's national circumstances and development priorities.

2. The Plan of Action is fully aligned with the regional road map for implementing the 2030 Agenda in Asia and the Pacific (E/ESCAP/73/31, annex II). It comprises 188 actions in the following thematic areas: (a) disaster risk reduction and resilience; (b) management of natural resources; (c) connectivity; (d) social development; (e) energy; and (f) climate change. All 188 actions are designed to contribute significantly to 37 targets of 14 of the Sustainable Development Goals.

3. The Plan of Action is divided into three implementation phases, each lasting four years with a ministerial conference to be convened at the end of each phase. In response to resolution 75/6 of the Economic and Social Commission for Asia and the Pacific (ESCAP), the present document contains the findings of an evaluation of the implementation by members and associate members of the Commission of phase I of the Plan of Action with recommendations for the consideration of the Fourth Ministerial Conference on Space Applications for Sustainable Development in Asia and the Pacific. Section II of the present document contains updates on the progress made in implementing phase I and is organized according to the six priority thematic areas identified in the Plan of Action. The conclusions and recommendations of an independent evaluation of the implementation of phase I are contained in section III.

4. The present document may be read in conjunction with the online geospatial information applications dashboard, which gives a comprehensive presentation of regional and national activities implemented during phase I of the Plan of Action. The dashboard will be available at www.unescap.org/our-work/ict-and-disaster-risk-reduction/space-and-gis-disaster-management. The report of the independent evaluator will be available from the same website.

5. The present document is based on the findings of the survey conducted by the secretariat among 34 members of the Regional Space Applications Programme for Sustainable Development from June to August 2022 and on the country reports delivered at the annual meetings of the Intergovernmental Consultative Committee on the Regional Space Applications Programme for Sustainable Development from 2019 to 2021. In selecting examples for the present document, the secretariat balanced geographic representation and included examples from both spacefaring and space-emerging countries.

II. Overview of the implementation of phase I (2018–2022) of the Plan of Action

A. Means of implementation

6. In its resolution 75/6, the Commission invited all members and associate members to work together closely and develop appropriate joint programmes and projects that are aligned with the priority themes, goals, targets and actions of the Asia-Pacific Plan of Action on Space Applications for Sustainable Development (2018–2030). In late 2019, the secretariat conducted a detailed survey and analysis of the needs and contributions of various countries in the context of the implementation of the Plan of Action. Approximately 17 members and associate members of the Commission responded, detailing their needs with regard to the 188 actions included in the Plan of Action and their proposed contributions to support other countries. The survey elicited more than 1,000 requests for assistance to meet specific priority needs.

7. The Plan of Action enhanced the alignment between the demand for and supply of financial and technical contributions among members and associate members of the Commission. Put together, member States provided approximately \$4 million in extrabudgetary funds to the secretariat to increase capacities on innovative digital applications and integrated spatio-temporal data for monitoring progress in achieving the Sustainable Development Goals; building resilient agricultural practices by integrating geospatial information; improving land accounting and monitoring by integrating geospatial and statistical data; monitoring air pollution; and building drought information systems.

8. In addition to the financial contributions of member States, from 2018 to 2022, member States provided satellite images free of charge on request for an estimated value of \$1 million to \$1.2 million. Some member States also contributed technical expertise, services, data and analysis, and capacity-development opportunities. Some member States have made standing offers to set up high-precision monitoring networks and remote sensing applications for cadastral mapping, land and forest monitoring, fire and flood monitoring and subnational development.

9. The secretariat has responded to specific capacity development requests from certain members and associate members within the broader framework of the Plan of Action, supported by United Nations internal capacity-building funds of approximately \$50,000 a year or \$200,000 in all since the Plan of Action was adopted.

B. Highlights under the six priority thematic areas and cross-cutting issues

1. Disaster risk reduction and resilience

10. ESCAP member States continue the long-standing practice of providing space-based data, products and services free of charge to disaster-affected countries. The secretariat has facilitated the provision of approximately 100 gigabytes of satellite imagery and products to member States for early warning, response and damage assessment related to a variety of climate hazards through the network of the Regional Space Applications Programme for Sustainable Development and in collaboration with the United Nations Satellite Centre, United Nations Platform for Space-based Information

for Disaster Management and Emergency Response and Asia-Pacific Regional Space Agency Forum. During phase I of the Plan of Action, the Government of India has supported the response to 84 disasters in 20 countries with more than 200 multi-resolution remote sensing satellite data sets, analyses and expertise, including during the flooding in Sri Lanka and the earthquake and tsunami in Indonesia in 2018.

11. Responding to requests from the ESCAP secretariat and other countries, the China secretariat of the Group on Earth Observations activated its disaster data response mechanism to provide high-resolution satellite imagery to support the disaster response to the snow avalanche in Nepal (2021); the chemical factory explosion in Thailand (2021); and the Hunga Tonga–Hunga Ha’apai eruption and tsunami (2022). From 2020 to 2022, more than 230 gigabytes of satellite data captured before and after disasters were provided through ESCAP, the Pacific Community, the United Nations Institute for Training and Research, the Group on Earth Observations, the Committee on Data for Science and Technology and the Institute of Physical and Chemical Research.

12. Under the Plan of Action, the Regional Cooperative Mechanism for Drought Monitoring and Early Warning – established in 2013 as a flagship programme under the Regional Space Applications Programme for Sustainable Development – has expanded (in terms of the number of countries participating) and deepened (in terms of drought monitoring coverage and derivative applications) through the regional service nodes in China, India and Thailand. It has also expanded to Central Asia with support from the Government of the Russian Federation.

13. The secretariat developed the Asia-Pacific Risk and Resilience Portal,¹ serving as a one-stop digital platform to assist policymakers in understanding the regional, subregional and national landscapes of hazards and climate risks and adaptation measures. Using a variety of methodologies, it converts a vast array of publicly available geospatial, statistical and remote sensing information on hazards and climate change, and socioeconomic data into usable and interoperable data analytics for risk-informed decision-making. It provides targeted adaptation solutions for countries based on the risk profile. These analytics can facilitate the monitoring of climate and disaster-related Sustainable Development Goals, especially Goal 1 (No poverty), Goal 2 (Zero hunger), Goal 3 (Good health and well-being), Goal 9 (Industry, innovation and infrastructure), Goal 11 (Sustainable cities and communities), Goal 13 (Climate action) and Goal 15 (Life on land).

14. Statistical applications on global spatial data sets on natural and biological hazards, health-related indicators and socioeconomic vulnerability indices in the Quantum Geographic Information System are used to identify pockets of complex and cascading risk hotspots at the regional, subregional and national levels. Economic impact is estimated based on probabilistic methods designed to calculate average annual loss under two climate scenarios: moderate and worst-case. Finally, targeted adaptation solutions are derived based on indexed indicators used to estimate the cost and priorities of five key adaptation measures. Overall, the Asia-Pacific Risk and Resilience Portal contains evidence on global risks that helps policymakers to develop resilience in their communities, countries and region.

¹ <https://rrp.unescap.org/>.

15. The Government of the Russian Federation provided support to Kyrgyzstan and Uzbekistan to integrate satellite and ground data to develop drought maps and indicators. The system is beneficial mainly for rural populations that are heavily dependent on agriculture and water resources. During the next phase of the Plan of Action, a comprehensive Central Asia drought information system will be built to enable effective drought monitoring and an early warning system.

16. Disaster risk reduction is incorporated in 25 targets in 10 of the 17 Sustainable Development Goals. Progress under this thematic area directly contributes to the achievement of Goal 2 (Zero hunger) and Goal 13 (Climate action), and it is in line with the Sendai Framework for Disaster Risk Reduction 2015–2030.

2. Management of natural resources

17. In North and Central Asia, institutional capacity to carry out land monitoring and accounting is being enhanced by a project that assists with the integration of satellite imagery into official socioeconomic statistics. Supported by the Russian Federation, participating countries have improved their capacity to use open-source mapping and programming tools to compile land statistics in the format prescribed by the System of Environmental-Economic Accounting. The project strengthens institutional capacity on the use of combined statistical data and geospatial data of member States in North and Central Asia, with a focus on land accounts and land information. The project has successfully demonstrated how geospatial information could be used to bring together multiple sectors, such as urban planning and management, water management and forestry, in establishing land accounts.

18. In South-East, North and North-East Asia, the pan-Asia partnership for geospatial air pollution information is boosting the capacity of more than 10 countries to monitor and manage air pollution using integrated surface-based data from Pandora Spectrometer Systems instruments and satellite data from the Geostationary Environment Monitoring Spectrometer developed by the Republic of Korea. The project is building capacities to use integrated satellite and ground data, and instruments to improve operational monitoring, and this has the potential to inform future efforts to increase regional cooperation to address air pollution.

19. In South-East Asia, an initiative to address urban plastic waste pollution of the marine environment supported the implementation of Sustainable Development Goal 11 (Sustainable cities and communities), Goal 12 (Responsible production and consumption) and Goal 14 (Life below water). With support from the Government of Japan, the initiative combined satellite and ground sensor data and meta data with digital innovations, such as spectrometers, artificial intelligence and the Internet of things. Experts from Japan and the region provided technical assistance to four pilot cities in Indonesia, Malaysia, Thailand and Viet Nam to monitor and measure their plastic waste. Using powerful algorithms trained by artificial intelligence, the tool scanned images from a range of data sources and detected ocean-bound plastic pollution. Once pollution hotspots were identified, the four pilot cities were supported to develop strategic action plans and prioritize investments accordingly.

20. Using machine learning and high-resolution optical imagery, the Government of Uzbekistan has started to digitize and analyse forest data to automatically count trees over a vast area. A space monitoring system and

geographic information system (GIS) monitoring platform will be introduced to determine the species composition of forests to detect illegal logging and monitor and control the processes of forest restoration.

21. Progress made under this thematic area directly contributes to the achievement of Sustainable Development Goal 6 (Clean water and sanitation), Goal 9 (Industry, innovation and infrastructure), Goal 11 (Sustainable cities and communities), Goal 12 (Responsible consumption and production), Goal 14 (Life below water) and Goal 15 (Life on land), among others.

3. Connectivity for the 2030 Agenda for Sustainable Development

22. Member States have demonstrated operationally the applications of geospatial information for connectivity that supports the achievement of the Sustainable Development Goals. Remote sensing data along with geo-spatial technology enabled the Government of India to build a GIS database on rural roads. The database informs the efforts of the Government to build all-weather roads in remote areas as part of a broader rural poverty reduction strategy. All-weather road connectivity in remote, rural areas will enhance access to markets and health services and facilitate the transportation of essential goods and services, which will in turn catalyse development.

23. The Government of the Russian Federation developed a complex data navigation system with a wide spectrum of system functions. Among other functions, the system informs the development of optimal transportation routes and traffic schedules, and at present it can even monitor fuel consumption for up to 100,000 vehicles. The system has enhanced integration capabilities due to its open application programming interface and the implementation of all server functions as web services.

24. The Government of Sri Lanka is mapping road traffic accident hotspots by using in situ data from road emergency stations and satellite-derived data. This initiative involves developing capacity to integrate satellite and ground data from multiple sources to identify accident hotspots, observe traffic conditions and analyse driving behaviour to manage traffic. The same initiative is under way in Thailand.

25. Progress made under this thematic area directly contributes to the achievement of Sustainable Development Goal 3 (Good health and well-being), Goal 4 (Quality education), Goal 9 (Industry, innovation and infrastructure), Goal 10 (Reduced inequalities) and Goal 11 (Sustainable cities and communities).

4. Social development

26. The Governments of Indonesia and Thailand are using integrated spatio-temporal data to monitor progress in achieving the Sustainable Development Goals, with the technical assistance of experts from China, who are bringing in tools and lessons from their own experience in Deqing, China, and the Committee of Experts on Global Geospatial Information Management. The pilot project supports the Goal monitoring and reporting centres in Makassar and Bandung, Indonesia, and the city government of Songkhla, Thailand. The primary stakeholders in these centres are local city governments, who own non-georeferenced sectoral data and statistics, and the objective of the project is to integrate sectoral data into satellite-derived data for timely situational analyses and decision-making.

27. In Thailand, geospatial data are used to map out poverty density in all provinces to guide poverty reduction efforts. The Geo-Informatics and Space Technology Development Agency is working with the National Housing Authority to create a database of low-income communities from aerial or satellite images using geo-informatics technology and tools.

28. The secretariat investigated the use of alternative data sources for tourism statistics during the coronavirus disease (COVID-19) pandemic for South-East Asian countries, in particular Indonesia and Thailand. The study demonstrated the potential of data extracted through web scraping, and satellite and geospatial data for producing tourism statistics. The data from web scraping and satellites show similar trends to official tourism statistics calculated using traditional data sources, such as surveys and customs forms.

29. This thematic area directly contributes to the achievement of Sustainable Development Goal 1 (No poverty) and Goal 3 (Good health and well-being).

5. Energy

30. The Expert Working Group on Universal Access to Modern Energy Services, Renewable Energy, Energy Efficiency and Cleaner Use of Fossil Fuels convened a meeting to share best practices and experiences in developing, managing and working with energy spatial data, and opportunities for its use in energy policy and planning with support from the secretariat. It is a step towards enabling members and associate members of the Commission to be in a better position to utilize geospatial data and analysis for energy policy and planning. Insights gathered from the meeting support the efforts of the secretariat to develop geo-visual analyses of new forms of energy potential and illustrate energy transition paths for individual member States and regional partners through the Asia Pacific Energy Portal.² The meeting also highlighted opportunities for enhanced partnership and cooperation for energy spatial data.

31. Initiatives in some member States, notably Sri Lanka and Thailand, have demonstrated operationally how geospatial information could be used to map out renewable energy potential to inform national energy investment strategies.

32. Progress made under this thematic area directly contributes to the achievement of Sustainable Development Goal 7 (Affordable and clean energy).

6. Climate change

33. With funding and technical support from the Government of China, the secretariat is enhancing the capacity of government officials to develop tailored geospatial information and tools to promote climate-resilient agricultural development in the lower Mekong River Basin. The project enables countries to access digital monitoring and early warning information for climatic shocks, water availability and geo-referenced production forecasts. Geospatial information and in situ water, weather and crop data can be integrated to identify suitable climate-resilient agricultural practices.

² The portal is available at <http://asiapacificenergy.org>.

34. The Government of Australia has used Open Data Cube technology to develop a range of derived products and services to support businesses and governments across South-East Asia to respond to the challenges of a changing climate.

35. Progress made under this thematic area directly contributes to the achievement of Sustainable Development Goal 2, in particular target 2.a, on increasing investment, including through enhanced international cooperation, in rural infrastructure to enhance agricultural productive capacity in developing countries, particularly least developed countries.

7. Cross-cutting issues

36. In 2020, the secretariat published the *Geospatial Practices for Sustainable Development in Asia and the Pacific 2020: A Compendium*,³ the first in a series of ESCAP publications to assess progress in implementing the Plan of Action. The secretariat is developing an online dashboard of geospatial practices to facilitate tracking and reporting progress in implementing the Plan of Action, and collecting and storing identified good practices for knowledge-sharing and future publications on space applications.

37. The secretariat has developed guides that show how to process satellite data to produce maps and statistical tables using programs, such as Quantum Geographic Information System and RStudio. The guides highlight features of geospatially enabled programs and provide details of different types of open-source data to meet user needs. They help users to develop statistics in topics where geodata are useful. To date, the guides have shown how to map land cover change, assess the expansion of artificial surfaces and visualize the exposure of populations to hazards.

38. Since 2018, ESCAP has sponsored 24 young professionals from 12 developing countries⁴ to study postgraduate courses on remote sensing and GIS for disaster management and sustainable development in the Centre for Space Science and Technology Education in Asia and the Pacific and the Association of Southeast Asian Nations Research and Training Centre for Space Technology and Applications. Scholarships were provided by the Governments of India and Thailand. Even during the COVID-19 pandemic, ESCAP supported 34 professionals from relevant ministries and research organizations of Cambodia, Sri Lanka and Thailand to build their capacity on using geospatial information platforms for mapping of COVID-19 hotspots and decision-making.

39. The PhD fellowship and technical support on data processing, index selection, model development, calibration and validation, and system operation extended to the technical staff of the National Remote Sensing Centre of Mongolia proved instrumental in the operationalization and complete handover of the drought watch system under the Regional Cooperative Mechanism for Drought Monitoring and Early Warning.

³ United Nations publication, 2020.

⁴ Bangladesh, Cambodia, Indonesia, Kazakhstan, the Lao People's Democratic Republic, Mongolia, Myanmar, the Philippines, Sri Lanka, Tajikistan, Thailand and Uzbekistan.

III. Independent evaluation on the implementation by member States of phase I (2018–2022) of the Plan of Action

A. Background

40. In its resolution 75/6, the Commission requested the Executive Secretary to carry out in 2022 an evaluation of the implementation by the member States of phase I (2018–2022) of the Plan of Action and to submit a report with recommendations to the Fourth Ministerial Conference.

41. The ESCAP secretariat commissioned the evaluation to inform the deliberations of the Fourth Ministerial Conference on the implementation of phase I (2018–2022) of the Plan of Action and provide recommendations for improving the implementation of phase II (2022–2026).

42. Overall, the evaluation had the following objectives:

(a) To assess the implementation of phase I of the Plan of Action in terms of the achievement of the objectives set out under each of the six priority thematic areas;

(b) To assess the performance of the activities and services provided by the secretariat to the member States in support of the implementation of phase I of the Plan of Action using the standard evaluation criteria of relevance, effectiveness, efficiency and gender mainstreaming;

(c) To provide recommendations for improving the implementation of phase II of the Plan of Action and priority activities considering the needs and requirements of the member States in line with the 2030 Agenda and in the context of the COVID-19 pandemic.

43. The evaluation provided an opportunity to ESCAP member States and development partners to share information and ideas on improving the relevance of the work of ESCAP under the Plan of Action. Member States and development partners were invited to provide feedback on the achievements of phase I of the Plan of Action and any associated challenges.

44. During the evaluation, the evaluator interviewed more than 40 stakeholders and subject-matter experts, as well as ESCAP staff. The secretariat provided the evaluator with the results of a survey of member States, international organizations and subject-matter experts on the implementation of and achievements under the Plan of Action.

B. Findings

45. The design and implementation of phase I of the Plan of Action were deemed to be highly relevant to the strategic development needs and priorities of the member States. The findings indicate that, while phase I of the Plan of Action integrated a broad range of thematic areas, not all of them were entirely relevant or among the top priorities of all member States. This reflects the wide geopolitical, social and economic diversity of the members and associate members of the Commission.

46. The implementation of the Plan of Action and its interventions were found to have achieved tangible results. Preliminary responses to the survey conducted by the secretariat show more than 550 actions from six countries alone in the six priority thematic areas of the Plan of Action. The examples

highlighted in session document ESCAP/MCSASD/2022/1 constituted the most successful approaches with definite potential for scaling up.

47. With regard to effectiveness, the Plan of Action served as a platform for accumulating and sharing knowledge on issues and building the capacity of member States.

48. In particular, during phase I of the Plan of Action there were concrete achievements in each thematic area. However, the representatives of the member States, as the experts in their respective fields of specialization, demonstrated knowledge of particular thematic areas of the Plan of Action rather than of the Plan of Action in its entirety.

49. The provision of technical support and capacity-building activities within each priority thematic area of the Plan of Action proved to be a successful model that could be replicated for existing and new areas (including resilience and recovery from the impacts of the COVID-19 pandemic). However, contributions to the Sustainable Development Goals need to be more explicitly recognized and measured. A more structured pathway is needed to assess and monitor contributions of the implementation of the Plan of Action to the achievement of the Goals and the Sendai Framework for Disaster Risk Reduction.

50. In terms of efficiency, the secretariat successfully engaged diverse stakeholders and established a number of activity-based partnerships with United Nations agencies, development partners and organizations at the global, regional and subregional levels for the delivery of concrete initiatives. In the next phase of the Plan of Action, it is expected that such partnerships will be deepened and additional bilateral and multilateral cooperation in the form of South-South cooperation and triangular cooperation and interaction between the members of the Regional Space Applications Programme for Sustainable Development and the secretariat will be promoted.

51. The secretariat successfully facilitated knowledge-sharing from countries that have implemented and achieved results from the Plan of Action through user-oriented group meetings to disseminate knowledge to other countries for them to follow the practices. The secretariat should continue to prioritize capacity-building and knowledge-sharing as part of the next phase of the Plan of Action with a clearer linkage between implementation and contributions to the Sustainable Development Goals, targets and related indicators.

52. Evidence from the evaluation suggests a limited degree of gender mainstreaming in the implementation of the Plan of Action. While the gender mainstreaming agenda remains ambiguous for stakeholders, the increasing interest in it provides an opportunity to reinforce discussions in the next phase of the Plan of Action on aspects of gender equality and social inclusiveness.

C. Recommendations

53. The findings and conclusions of the evaluation resulted in a number of strategic recommendations for the member States and the secretariat on improving the design and implementation of the next phase of the Plan of Action.

54. Recommendations addressed to member States are as follows:

(a) **Recommendation 1.** Accelerate the implementation of the Plan of Action by leveraging innovative digital applications, engaging end users and youth, effectively managing geospatial information and strengthening partnerships based on national and local needs;

(b) **Recommendation 2.** Prioritize the actions for implementation in the next phase of the Plan of Action based on national and local needs; and strengthen the linkages between the outcomes of the actions taken during the next phase of the Plan of Action and the relevant Sustainable Development Goal indicators, taking into account new development trends and emerging issues (e.g., recovery from the COVID-19 pandemic);

(c) **Recommendation 3.** Enhance the sharing of knowledge, geospatial information, operational tools and experiences with other countries through regional cooperation mechanisms, such as the Regional Space Applications Programme for Sustainable Development;

(d) **Recommendation 4.** Strengthen the role of the national focal points of the Regional Space Applications Programme for Sustainable Development in implementing the Plan of Action and coordinating among related sectors at the country level and communicating the achievements and results of the Plan of Action.

55. The secretariat would like to encourage member States to take these recommendations into account and stands ready to support countries in implementing the recommendations in line with its mandate.

56. Recommendations addressed to the secretariat are as follows:

(a) **Recommendation 5.** Support member States in sharing knowledge, geospatial information, operational tools and experiences with other countries in support of recommendation 4;

(b) **Recommendation 6.** Support the efforts of member States to accelerate the implementation of the Plan of Action in phase II by leveraging innovative digital applications, engaging end users (such as the national disaster management organizations) and youth, effectively managing geospatial information and strengthening partnerships at the regional level, and support countries, in particular those with special needs, to implement the Plan of Action with a focus on gender mainstreaming;

(c) **Recommendation 7.** Develop and implement a communication and outreach strategy to increase the awareness and visibility of the achievements and results of the Plan of Action, including by using online platforms and publications;

(d) **Recommendation 8.** Support member States in applying the guiding theme “Space+ for our Earth and future” for phase II of the Plan of Action through regional and subregional initiatives with capacity-building and integrated approaches, applying the Space+ theme based on national and local needs and using existing platforms and mechanisms;⁵

(e) **Recommendation 9.** Raise awareness among member States, including planning ministries and other stakeholders involved in Sustainable Development Goal monitoring, of the link between the Plan of Action and the Sustainable Development Goal indicators.

⁵ See ESCAP/MCSASD/2022/1 for more information on Space+.

57. The secretariat has taken the recommendations into consideration in the process of finalizing the background documents for the Fourth Ministerial Conference and in formulating recommendations towards accelerating the implementation of phase II of the Plan of Action. Specific actions include the following:

(a) To support the implementation of phase II of the Plan of Action, the secretariat will ensure mainstreaming of gender considerations;

(b) The secretariat will develop a much stronger outreach strategy between space agencies, planning ministries and sectoral users, including in the national follow-up and review processes for the 2030 Agenda for Sustainable Development; for example, the secretariat will support member States in linking the implementation of phase II of the Plan of Action with the development of voluntary national reviews, where appropriate;

(c) The secretariat will continue to publish biennial compendiums of geospatial practices for sustainable development in Asia and the Pacific, provide regular updates to the online dashboard and use relevant venues and platforms to disseminate information about the Plan of Action, including its benefits and achievements and the ongoing initiatives by the secretariat and members and associate members of the Commission.

IV. Issues for consideration

58. The ministers and high-level representatives participating in the Fourth Ministerial Conference may wish to review the present document and provide feedback on the overall implementation of the Plan of Action during phase I, as well as the findings, conclusions and recommendations of the evaluation.

59. In addition, they may wish to review the recommendations of the evaluation for phase II of the Plan of Action and provide guidance to the secretariat on the implementation of the recommendations.