

UNITED NATIONS ECONOMIC AND SOCIAL COMMISSION FOR ASIA AND THE
PACIFIC

1st Meeting of the Drafting Committee for the
Asia-Pacific Plan of Action on Space Applications for Sustainable Development (2018-2030)

31 May to 1 June 2018
UNCC, Bangkok, Thailand

Summary Meeting Report

(Draft)

Prepared by the Secretariat

I. CONCLUSIONS AND RECOMMENDATIONS

1. The Drafting Committee for the Asia-Pacific Plan of Action on Space Applications for Sustainable Development (2018-2030) (hereinafter the Drafting Committee) reaffirmed its support for the overall vision and mission of the Asia-Pacific Plan of Action on Space Applications for Sustainable Development (2018-2030) (hereinafter the Plan of Action), as adopted by members of the Intergovernmental Consultative Committee (ICC) on the Regional Space Applications Programme for Sustainable Development (RESAP), at its 21st Session held in Bangkok, Thailand in October 2017.
2. The Drafting Committee re-emphasized the critical role of space applications and geospatial information as key in supporting implementation of 2030 Agenda for Sustainable Development, the Sendai Framework for Disaster Risk Reduction, commitment under the Paris Climate Agreement and other relevant global frameworks. Members of the Drafting Committee provided examples and presentations from their respective countries to reiterate these points and showcase good practices from the region.
3. The Drafting Committee were presented with a list of 78 relevant SDG targets for consideration and inclusion within the scope of the Plan of Action. The Drafting Committee evaluated each target and prioritized 43 targets as 'high', based on whether space applications can contribute significantly in achieving the corresponding targets from the 2030 Agenda for Sustainable Development. The Drafting Committee was of the view that these targets selected should contribute to the priority themes outlined in the Regional Road Map for Implementing the 2030 Agenda for Sustainable Development in Asia and the Pacific, in the following order: (a) disaster risk reduction and resilience, (b) climate change, (c) management of natural resources, (d) seamless connectivity (e) energy and (f) social development.
4. Members of the Drafting Committee also formulated concrete actions that can be associated with those targets, in centred around a) research and knowledge sharing; b) capacity building and technical support, and c) regional norm and standard-setting intergovernmental processes, as attached in Annex 1.
5. Regarding the appropriateness of indicators for measuring implementation progress, the Drafting Committee suggested that core indicators would be very general and be refined in parallel with implementation of the Plan of Action.
6. The Drafting Committee requested the secretariat to take the suggested inputs, which members provided as potential actions, and elaborate further on each suggestion, make editorial changes and place action items under an appropriate action area for future review by the Drafting Committee.
7. Drafting Committee requested the members report back and consult with relevant stakeholders to gather further inputs for the Plan of Action and report back, by end of July 2018. The updated second draft of the Plan of Action will be circulated by early August 2018 for preparation of the 2nd Drafting Committing meeting, scheduled on 28-29 August 2018 in Bangkok, Thailand.

8. The Drafting Committee expressed its appreciation to the secretariat for assisting the members to formulate the Plan of Action, and requested the secretariat to report on the evolving Plan of Action at the UNISPACE+50 High-level Segment, which will take place on 20 June 2018, in Vienna, Austria, to reflect the regional voice and contribution to the future course of global space cooperation for the benefit of humankind.
9. The Drafting Committee requested the secretariat to keep consulting with members as well as global/regional organizations on actions to make the detailed action plan in each of the thematic area.

II. PROCEEDINGS

A. Organization of the Meeting

10. The 1st Meeting of the Drafting Committee for the Asia-Pacific Plan of Action on Space Applications for Sustainable Development (2018-2030) was held from 31 May to 1 June 2018, in Bangkok, Thailand. The meeting was organized by the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP) and the Geo-Informatics and Space Technology Development Agency (GISTDA) of Thailand.

B. Attendance

11. The meeting was attended by the following ESCAP member States: Armenia, Bangladesh, Bhutan, Cambodia, China, Georgia, India, Indonesia, Japan, Lao People's Democratic Republic, Mongolia, Myanmar, New Caledonia, Republic of Korea, the Russian Federation, Sri Lanka, Thailand, Turkey, Turkmenistan and Uzbekistan. Representatives from the following UN organizations also attended: the Operational Satellite Applications (UNOSAT) of the United Nations Institute for Training and Research (UNITAR). Representatives from the following regional and specialized agencies also attended: GISTDA. The complete list of the participants is included in Annex 3 of this report.

C. Agenda item 1: Opening of the meeting

12. The opening session commenced with a speech from the secretariat highlighted the opportunities and challenges presented by the new integrated global development agenda as well as the potential role of space applications and geospatial information in meeting many of these challenges. The secretariat emphasized the Regional Roadmap for implementing the 2030 Agenda for Sustainable Development and its six priority areas which include a) Social Development; b) Disaster Risk Reduction and Resilience; c) Climate Change; d) Management of Natural Resources; e) Connectivity for the 2030 Agenda; and, f) Energy. The secretariat also emphasized the task set in front of the Drafting Committee on providing concrete inputs, which can be shaped into a coherent Plan of Action on space applications for sustainable development in Asia and the Pacific, for many years to come. The secretariat called on all members to take an active role in the deliberations ahead and the interactive sessions, assisted by the secretariat, to formulate the Plan of Action, in time for the second meeting of the Drafting Committee in August 2018.

D. Agenda item 2: Election of the officers

13. The secretariat conducted the election of officers of the Bureau. The nominated and elected Bureau of the Drafting Committee for the Asia-Pacific Plan of Action on Space Applications for Sustainable Development (2018-2030) consisted of:

- Dr. Anond Snidvongs, Executive Director of the Geo-Informatics and Space Technology Development Agency (GISTDA) of Thailand, as Chair of the Committee;
- Mr. Sanath Panawennage, Director General and CEO, Arthur C. Clarke Institute of Modern Technologies in Sri Lanka as Vice-Chair; and
- Ms. Thiri Maung, Deputy Director, Department of Disaster Management of Myanmar, as Rapporteur.

E. Agenda item 3: Adoption of the agenda

14. The meeting adopted its agenda as contained in document E/ESCAP/DC(1)/01, without any changes, as included in annex 2.

15. The secretariat made a brief presentation on behalf of the secretariat on the objectives of the first meeting and the outline of the agenda as agreed by the Committee.

F. Agenda Item 4: Introduction of the Asia-Pacific Plan of Action on Space Applications for Sustainable Development (2018-2030)

16. The secretariat made presentations on the draft Plan of Action. The secretariat provided the background and history of work undertaken in the lead up to this meeting, and the logic and rationale for the structure of the draft Plan of Action and proposed procedures to take this forward for endorsement at higher levels.

G. Agenda Item 5: Understanding the strengths and needs of countries on space applications in support of sustainable development goals

17. Presentation were delivered by members of the Drafting Committee, of their country perspectives, with a focus on the strengths and needs in space applications for supporting the implementation of 2030 Agenda for sustainable development. Countries that presented, in voluntary order included: Indonesia, the Russian Federation, India, Georgia, Japan, Bangladesh, China, New Caledonia, Republic of Korea, Myanmar, Uzbekistan, Bhutan and Turkey. A template was provided by the secretariat beforehand in order to keep country interventions focused and uniform in their information.

H. Agenda Item 6: Identifying goals and targets under priority applications of the Regional Road Map for Implementing the 2030 Agenda for Sustainable Development in Asia and the Pacific

18. Committee members were presented with a list of SDG related targets, previously identified by the secretariat. These targets were also grouped under each thematic priority area of the Regional Road Map for Implementing the 2030 Agenda for Sustainable Development in Asia and the Pacific. Members were then asked to deliberate each target and rank its priority in terms of 'high', 'medium' and 'low', in relation to the question 'How significantly can space applications contribute to implementation of the target'. Where members adopted the grading system based on a direct, significant or indirect relationship.

19. Of a total of 78 targets across all 17 SDG goals, as well as the targets of the Sendai Framework for Disaster Risk Reduction, 25 targets were considered as low, 10 as medium and 43 as high, as ranked by how significant a role space applications can play in their implementation. An overview of the targets and their initial rankings, as grouped ranking and thematic priority area of the Regional Road Map for Implementing the 2030 Agenda for Sustainable Development in Asia and the Pacific has been provided in Table 1.

Table 1: Ranking of targets by thematic priority

Thematic Priorities	<i>Can space applications contribute significantly in achieving the target in Asia-Pacific?</i>			Total number of targets
	Low	Medium	High	
Social Development	6	2	1	9
DRR and Resilience	0	1	9	10
Climate Change	1	2	9	12
Natural Resource Management	10	0	11	21
Connectivity	7	5	12	24
Energy	1	0	1	2
	25	10	43	78

20. A decision was made to elaborate further on those targets identified as ‘high’, in the exercise, and place those as ‘medium’ in the annex for future note. It was also noted that subsequent exercises, during the course of the meeting, would provide confirmation on prioritization, or the need to reassess prioritization. For example, where there are many examples for a given target, members should reconsider its ranking, if not placed as high already, or where there are limited or no examples readily available for a target, members should reconsider its ranking, if placed as high. Therefore, members agreed to remain open and flexible on prioritization and ranking based on further in-depth follow-up discussions in the coming days.

I. Agenda Item 7: Overview of goals and targets prioritization

21. As part of the closing session of the first day of the meeting, the Chair provided a summary of deliberations so far and reiterated the rankings, as agreed by Committee members.

J. Agenda Item 8: Recap of Day 1

22. The secretariat presented the priority goals and targets, as discussed and agreed in the previous day and provided an overview of the schedule for the day ahead.

K. Agenda Item 9: Suggested actions for each priority goal and target under action areas of the Plan of Action

23. The Committee members were presented with the three action areas of research and knowledge sharing; capacity building and technical support; and intergovernmental platform, regional commonalities, norms and standards. They were asked to provide inputs

for each priority target, as ranked in the previous day's session, under each of these areas of action. Taking stock of the task at hand, and the limited time and scope for all Committee members to go into too much technical detail, the Committee decided to provide general suggestions for each target, and requested the secretariat to attempt to place these suggestions into action areas, for consideration by the Committee at a later date.

24. The Committee decided to take a similar approach to the previous exercise, and go through each target by thematic area. Inputs were provided for targets, identified as both 'high' and 'medium' in the previous ranking exercise. A handful of targets were also flagged as potentially being re-ranked as high, namely a target related to SDG goal 7 on affordable and clean energy and a target related to migration, given the numerous example provided by Committee members, on how space applications can significantly contribute to achieving those targets.

L. Agenda Item 10: Overview of actions planned under each action area of the Plan of Action

25. The Chair provided an overview of the suggestions and inputs and further requested the secretariat to 'clean' the text, convert them into actionable items and place them within the different action areas, based on the secretariat knowledge of progress in those areas of work, relevant to space applications. The Chair also reiterated the need for Committee members to actively review the secretariat's work and provide feedback from now until the next meeting of the Drafting Committee.

M. Technical presentation: "5D World Map System"

26. Representative from KEIO University of Japan presented on his project on a 5D world map system and his faculty's ongoing and planned collaboration with ESCAP.

N. Agenda Item 11: Consideration of indicators to support the implementation of suggested actions

27. A discussion took place on the consideration of indicators, to monitor and report on the implementation of the Asia-Pacific Plan of Action for Space Applications for Sustainable Development (2018-2030). Questions posed to the Committee included those on identifying the means of verification, frequency of reporting as well as who should report on implementation.
28. Some members were of the view that monitoring may incur additional costs to the secretariat, while others expressed the need to monitor progress in order to establish whether implementation has been a success and monitor challenges to progress that can be appropriately address. The majority of members believed that establishing a full-fledged system of indicators for monitoring and reporting would be difficult in time for the 3rd Ministerial Conference on Space Applications and that it would be more advisable to work on indicators in parallel. Suggestions included the possibility of establishing a handful of core indicators that would be very general at first, which may then be refined further over the years in parallel with implementation of the Plan of Action, as implementation, and its related challenges, became clearer over subsequent years.

O. Agenda Item 12: Way forward

29. The secretariat provided a presentation on the way forward, including drafting deadlines for the Plan of Action and relevant meetings, dates and procedures for the Third Ministerial Conference on Space Applications for Sustainable Development in Asia and the Pacific, the secretariat's engagement at the upcoming United Nations Conference on the Exploration and Peaceful Uses of Outer Space (1968-2018): UNISPACE+50. A summary of the meeting and deliberations was also provided by the Chair.

P. Agenda Item 13: Other matters

30. There were no other matters raised.

Q. Agenda Item 14: Closing

31. The Chair and the secretariat expressed the sincere thanks to all Committee members for their active participation and calling on them to continue engaging with the secretariat, to refine the draft Plan of Action further.

List of Annex Documents

Annex 1. Draft inputs for the Asia-Pacific Plan of Action on Space Applications for Sustainable Development (2018-2030)

Annex 2. Agenda of the 1st Meeting of the Drafting Committee for the Asia-Pacific Plan of Action on Space Applications for Sustainable Development (2018-2030)

Annex 3. List of Participants

Annex 1

Agenda Item 9

Suggested actions for selected targets under action areas of the Plan of Action

[please fill in actions under the 1 or 2 priority actions for your country as identified in agenda item 6, indicate if it is for phase I, II or III]

Priority Applications	SDGs	Selected targets	Actions under the Action Areas in Phase I :2018-2022, Phase II: 2023-2026, Phase III: 2027-2030		
			Action Area 1 <i>Research and knowledge sharing</i>	Action Area 2 <i>Capacity building and technical support</i>	Action Area 3 <i>Intergovernmental platform/ Regional commonalities norms and standards</i>
Social development	e.g. SDG 1 (Poverty eradication)	1.5 (high) By 2030, build the resilience of the poor and those in vulnerable situations and reduce their exposure and vulnerability to climate-related extreme events and other economic, social and environmental shocks and disasters	<ul style="list-style-type: none"> - Poverty mapping – night lights - GIS – climate mapping and economic mapping - satellite-derived data and AI capabilities for more information - mapping vulnerable groups to natural hazard exposure including DEM - early warning research - warning reaches people - consult with met satellite providers to provide data and information to disaster affected countries - emergency and crises management plans - promote more use of GNSS technology in disasters 		
	SDG 3 (Good health and well-being)	3.3 (medium) By 2030, end the epidemics of AIDS, tuberculosis, malaria and neglected tropical diseases and combat hepatitis, water-borne diseases and other communicable diseases	<ul style="list-style-type: none"> - weather conditions including rainfall, wind direction, speed, - land use and forest conditions mapping - GNSS technology can also be used to minimise the spread of epidemics - mapping climate conditions that may be conducive to the spread of such epidemics 		
	SDG 4 (Quality education)	4.4 (medium) By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship	<ul style="list-style-type: none"> - will skip as no ideas and limited time 		
Disaster Risk Reduction and	SFDRR Monitoring (High)	1 Reduce global disaster mortality by 2030 2 Reduce the number of people affected globally 2020-2030 from 2005-2015	<ul style="list-style-type: none"> - Use of mobile transmitter signals to calculate location and satellite communication technology to monitor survivors - identification of population density through mapping - identification of housing type - use of early warning systems to reduce mortality and people affected - apply vulnerability mapping 		

		3 Reduce direct disaster economic losses	<ul style="list-style-type: none"> - actions related to resilient societies - Risk maps - use of a combination of ground-based systems and satellite systems - identify interfaces with non-space-based technologies and develop research in those areas - data sharing for actionable information - capacity of people on the ground and tools to use the data and information - promote the use of space application for critical infrastructure maps - use of GNSS for infrastructure mapping, deformations, displacement of infrastructure (combine with above)
		4 Reduce damage to critical infrastructure	
		2.4 (high) By 2030, ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters and that progressively improve land and soil quality	<ul style="list-style-type: none"> - crop monitoring, yield estimates, crop modelling - agricultural risk mapping, - seasonal forecasting using satellite based mapping, - soil maps - sharing information with different agencies - capacity development - livestock, aquaculture, fisheries, (alternate livelihoods) - food processing and food distribution - fertiliser distribution - population density (for demand mapping) - food storage, warehousing unequal distribution of food - reduce risk to agriculture through trend analysis - monitor pest infestation and plant disease (data can be available form Kari as an example)
		3.d (high) Strengthen the capacity of all countries, in particular developing countries, for early warning, risk reduction and management of national and global health risks	<ul style="list-style-type: none"> - Similar concepts for early warning, risk mapping, risk reduction - Health risk related issues - Calorie consumption - Health risk mapping and research to monitor the spread of disease, i.e. temperature, moisture, wind direction etc - use of big data, platforms to support transboundary spread i.e. support WHO work - many technologies at the country level, should apply technologies at regional level for health sector i.e. regional norms and standards - monitor livestock disease including for aquaculture
		3.9 High By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination	<ul style="list-style-type: none"> - Monitoring and forecasting for movement of air mass and ocean currents - monitoring oil spills - monitoring air quality and forecast - support the clean-up of pollution and contamination
		11.1 (medium) By 2030, ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums	<ul style="list-style-type: none"> - urban growth modelling for peri urban areas - Facility mapping - monitoring slums over time to access expansion/shrinking

		11.5 (high) By 2030, significantly reduce the number of deaths and the number of people affected and substantially decrease the direct economic losses relative to global gross domestic product caused by disasters, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations	- Some concepts discussed in Sendai framework section
		13.1 (high) Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries	- capacity for modelling - capacity for using data and information from satellites - disseminating the results to managers and people at the policy levels -

Priority Applications	SDGs	Selected targets	Actions under the Action Areas in Phase I :2018-2022, Phase II: 2023-2026, Phase III: 2027-2030		
			Action Area 1 <i>Research and knowledge sharing</i>	Action Area 2 <i>Capacity building and technical support</i>	Action Area 3 <i>Regional norms and standards / intergovernmental platform</i>
<i>Climate Change</i>		9.4 (High) By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities	- Develop building plans - construction monitoring - on-going status monitoring of infrastructure and buildings including complex large-scale engineering projects - Communication and dissemination of relevant information on status and conditions		

	<p>11.4 (High)</p> <p>Strengthen efforts to protect and safeguard the world's cultural and natural heritage</p>	<ul style="list-style-type: none"> - Mapping of cultural and natural heritage; - 3D mapping and visualisation of CHS - Monitoring natural areas - Use of sat. to protect/safeguard - Terrestrial laser scanning of structures - Identify climate risk mapping / nathaz threats (e.g. floods) - Use of GNSS technology with maps/mobile apps - identification of protected zones for the protection of monuments
	<p>11.6 (high)</p> <p>By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management</p>	<ul style="list-style-type: none"> - Use of sat technology to monitor heat island effects, waste (solid and liquid), land fill, etc. for use in planning - GNSS technology to monitor garbage collection - Site selection for landfills and management - Air/water quality and pollution -
	<p>11.b (High)</p> <p>By 2020, substantially increase the number of cities and human settlements adopting and implementing integrated policies and plans towards inclusion, resource efficiency, mitigation and adaptation to climate change, resilience to disasters, and develop and implement, in line with the Sendai Framework for Disaster Risk Reduction 2015-2030, holistic disaster risk management at all levels</p>	<ul style="list-style-type: none"> - Provide information and awareness on alternate options for the policy community to adapt/adopt for their cities. Policy tools to be developed and applied to cities in our region - Mapping of smaller tier 2&3 cities and human settlements - Learning from cities at different scale which have been using sat. and space applications -
	<p>13.2 (High)</p> <p>Integrate climate change measures into national policies, strategies and planning</p>	<ul style="list-style-type: none"> - Use information to convince policy makers of the effects of CC. Use of indicators. - Improve education, awareness, institutional capacity - Mitigation in agriculture sector e.g. rice fields – monitoring methane and other GHG. Measuring GHG - Adaptation – use of remote sensing and GNSS - Early warning – developing risk maps using sat applications - Engage with the space community specifically on adaptation/mitigation -
	<p>13.b (medium)</p> <p>Promote mechanisms for raising capacity for effective climate change-related planning and management in least developed countries and small island developing States, including focusing on women, youth and local and marginalized communities</p>	<ul style="list-style-type: none"> - to provide access to satellite-based positioning and satellite-based information to those vulnerable groups

	<p>14.4 (High)</p> <p>By 2020, effectively regulate harvesting and end overfishing, illegal, unreported and unregulated fishing and destructive fishing practices and implement science-based management plans, in order to restore fish stocks in the shortest time feasible, at least to levels that can produce maximum sustainable yield as determined by their biological characteristics</p>	<ul style="list-style-type: none"> - Fishing – sat communication and GNSS for monitoring fishing vessels, sanctuaries, mangroves, coral reefs, - Use of GNSS to monitor unauthorised fishing in other territories. - Monitoring temperature, chlorophyll, fish distribution - Monitoring fresh water systems - Cooperation with commercial operators of communication sat -
	<p>14.5 (High)</p> <p>By 2020, conserve at least 10 per cent of coastal and marine areas, consistent with national and international law and based on the best available scientific information</p>	<ul style="list-style-type: none"> - Monitor and provide solutions to prevent coastal erosions - Consider global and local causes of coastal erosions - Standards to interpret coastlines and image classification. - Monitoring local subsidence using different techniques incl. GNSS - Zoning and area planning for coastal planning - Coastal zone regulations, coastal mapping
	<p>14.a (medium)</p> <p>Increase scientific knowledge, develop research capacity and transfer marine technology, taking into account the Intergovernmental Oceanographic Commission Criteria and Guidelines on the Transfer of Marine Technology, in order to improve ocean health and to enhance the contribution of marine biodiversity to the development of developing countries, in particular small island developing States and least developed countries</p>	<ul style="list-style-type: none"> - Look into the IOC guidelines for sustainable use of marine and fisheries...
	<p>15.3 (High)</p> <p>By 2030, combat desertification, restore degraded land and soil, including land affected by desertification, drought and floods, and strive to achieve a land degradation-neutral world</p>	<ul style="list-style-type: none"> - Time series of land use and land cover mapping - Identify reforestation/afforestation areas - Identify the potential use of bio-fertilisers - Identify potential use of irrigation infrastructure to promote water and soil management - Monitoring recovery, including 3D mapping and slope and terrain analysis -
	<p>15.5 (High)</p> <p>Take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity and, by 2020, protect and prevent the extinction of threatened species</p>	<ul style="list-style-type: none"> - High resolution sat images on a routine basis can be applied - Use of mobile technology or automated image recognition for monitoring - Monitoring forest fires, fire risk maps i.e. accumulation of dry leaves - Biodiversity characterisation conservation and identification of threats - GNSS tech for animal tracking and threatened species for better management - Monitoring land use and coverage for habitat management - Standards for image classification for types of trees etc. -

Management of Natural Resources	SDG 6 (Clean Water)	6.1 (high) By 2030, achieve universal and equitable access to safe and affordable drinking water for all	<ul style="list-style-type: none"> - Mapping water quality, water index - watershed monitoring - Monitoring rainfall through Met satellites can support - Ice cap and glacial monitoring can support water monitoring - ground water prospect mapping - surface temperature mapping and algae bloom - evaporation and loss of water bodies
		6.3 (high) By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally	<ul style="list-style-type: none"> - Modelling - recycling and water treatment - mapping oil spills and other pollutions i.e. sediment, lubricants
		6.5 (high) By 2030, implement integrated water resources management at all levels, including through transboundary cooperation as appropriate	<ul style="list-style-type: none"> - Related to watershed mapping - Distribution channels - Agricultural water demand - Water demand and supply at the local and watershed scale - Identifying sites for groundwater recharge sites - monitoring water shed for improved management - modelling to provide scenarios and options for different water management schemes - interlinking of transboundary rivers - promote standards for monitoring same river basins
		6.6 (High) By 2020, protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes	<ul style="list-style-type: none"> - use of archived satellite imagery from previous decades - development of maps using historical data - developing a mechanism for monitoring - system to monitor and analyse - monitoring suspended sediments and measuring suspended load - modelling to suggest restoration measures
		12.2 (High) By 2030, achieve the sustainable management and efficient use of natural resources	<ul style="list-style-type: none"> - Inventory or census of natural resources at periodic intervals - time series information to consumers on the use of natural resources - Providing information to processing industries using natural resources
		14.1 (high) By 2025, prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution	<ul style="list-style-type: none"> - can take from previous actions including purification, sediments etc
		14.2 (high) By 2020, sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts, including by strengthening their resilience, and take action for their restoration in order to achieve healthy and productive oceans	<ul style="list-style-type: none"> - Those already mentioned - Vessel monitoring systems, marine sanctuaries, mangrove and coral, seagrass

	<p>14.7 (high) By 2030, increase the economic benefits to small island developing States and least developed countries from the sustainable use of marine resources, including through sustainable management of fisheries, aquaculture and tourism</p>	-
	<p>15.1 (high) By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements</p>	- already discussed
	<p>15.2 (high) By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally</p>	<p>- already discussed - fire protection</p>
	<p>15.4 (high) By 2030, ensure the conservation of mountain ecosystems, including their biodiversity, in order to enhance their capacity to provide benefits that are essential for sustainable development</p>	-

Priority Applications	SDGs	Selected targets	Actions under the Action Areas in Phase I :2018-2022, Phase II: 2023-2026, Phase III: 2027-2030		
			Action Area 1 <i>Research and knowledge sharing</i>	Action Area 2 <i>Capacity building and technical support</i>	Action Area 3 <i>Regional norms and standards / intergovernmental platform</i>
Connectivity		3.6 (high) By 2020, halve the number of global deaths and injuries from road traffic accidents	<ul style="list-style-type: none"> - Use of GNSS - Monitoring driving behaviours - Analysis of dangerous areas, i.e. sharp curves, mountainous areas 		
		4.b (high) By 2020, substantially expand globally the number of scholarships available to developing countries, in particular least developed countries, small island developing States and African countries, for enrolment in higher education, including vocational training and information and communications technology, technical, engineering and scientific programmes, in developed countries and other developing countries	<ul style="list-style-type: none"> - use of scholarships to support the target 		
		5.b (medium) Enhance the use of enabling technology, in particular information and communications technology, to promote the empowerment of women	<ul style="list-style-type: none"> - No ideas yet 		
		7.1 (medium) By 2030, ensure universal access to affordable, reliable and modern energy services	<ul style="list-style-type: none"> - Refer to 7a on energy 		
		9.c (high) Significantly increase access to information and communications technology and strive to provide universal and affordable access to the Internet in least developed countries by 2020	<ul style="list-style-type: none"> - Innovations in satellite communications can support cheaper access, ensuring low-cost technologies on the ground for poorer communities 		
		10.7 (medium) Facilitate orderly, safe, regular and responsible migration and mobility of people, including through the implementation of planned and well-managed migration policies	<ul style="list-style-type: none"> - Historical trends in migration - In the context of climate change, improved management of migration will be required, satellite technologies and positioning can be used in this context to monitor movement - land use and land cover mapping is necessary - including water mapping and resource planning - including food, energy, infrastructure 		

	<p>11.2 (high) By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons</p>	<ul style="list-style-type: none"> - Promote monitoring of ground, air and marine transport - Develop smart and safe transport and logistic services and systems - Modelling transportation systems and use of best practices - Use of AI systems to support road network traffic analysis
	<p>11.3 (high) By 2030, enhance inclusive and sustainable urbanization and capacity for participatory, integrated and sustainable human settlement planning and management in all countries</p>	<ul style="list-style-type: none"> - Mapping and awareness as previously discussed - Land use and land cover - 3D and high resolution mapping should be made available for city planners - Development of sustainable building and infrastructure plans - Water resource planning - Risk reduction to earthquakes, floods and other urban risks - Engagement with youth and the public for crowd-sourcing and integrated satellite-data
	<p>17.6 (high) Enhance North-South, South-South and triangular regional and international cooperation on and access to science, technology and innovation and enhance knowledge-sharing on mutually agreed terms, including through improved coordination among existing mechanisms, in particular at the United Nations level, and through a global technology facilitation mechanism</p>	<ul style="list-style-type: none"> - Cooperation and access to science data and information - Development of common data platforms and geoportals that can be accessed by others - Sharing of common information and development of mechanisms to facilitate cooperation - Potential Asia-Pacific regional/virtual constellation of EO satellites owned and operated by countries in the region through existing mechanisms such as APRSF, APSCO etc - Collaboration with UN agencies -
	<p>17.8 (medium) Fully operationalize the technology bank and science, technology and innovation capacity-building mechanism for least developed countries by 2017 and enhance the use of enabling technology, in particular information and communications technology</p>	<ul style="list-style-type: none"> - To remove (to put in annex all medium targets as suggestions given they are indirect or more supportive in nature) - Adding space technologies as one subject are of the technology bank that has already been established in Turkey (to explore further by secretariat)
	<p>17.9 (high) Enhance international support for implementing effective and targeted capacity-building in developing countries to support national plans to implement all the Sustainable Development Goals, including through North-South, South-South and triangular cooperation</p>	<ul style="list-style-type: none"> - coordination among existing international and regional capacity development facilities for space applications - improved geographic coverage for central asia and pacific for capacity development facilities - promote exchange and learning through joint research

	<p>17.14 (high) Enhance policy coherence for sustainable development</p>	<ul style="list-style-type: none"> - Encourage national governments to give due emphasis to the use of space-based tools, products and applications in SDGs in their national policies representing space applications at the national levels, to support resource allocation - Role of ESCAP and RESAP to promote coherence - Raising awareness of the potential of space applications to support sustainable development, role of ESCAP intergovernmental structure and other structures - Create awareness at the policy and senior levels, including financial and other resources allocation, formulation of national development strategies etc - training for policy makers
	<p>17.16 (high) Enhance the Global Partnership for Sustainable Development, complemented by multi-stakeholder partnerships that mobilize and share knowledge, expertise, technology and financial resources, to support the achievement of the Sustainable Development Goals in all countries, in particular developing countries</p>	<ul style="list-style-type: none"> - work more closely with existing mechanism and partners including APRSF, APSCO to ensure the SDG agenda is included in their agenda - Promote the use of space applications and the Plan of Action at the HLPF on sustainable development and other higher level fora including at the agency levels, and other institutional levels
	<p>17.17 (high) Encourage and promote effective public, public-private and civil society partnerships, building on the experience and resourcing strategies of partnerships</p>	<ul style="list-style-type: none"> - Encourage and welcome private and commercial entities in positive engagement at relevant fora - Regularly share information and exchange views with public-private and civil society partners through appropriate mechanisms - promote joint projects and PPP - engage with other private sector players, including commercial and NGO, on how to mobilise resourcing in the area of space applications
	<p>17.18 (high) By 2020, enhance capacity-building support to developing countries, including for least developed countries and small island developing States, to increase significantly the availability of high-quality, timely and reliable data disaggregated by income, gender, age, race, ethnicity, migratory status, disability, geographic location and other characteristics relevant in national contexts</p>	<ul style="list-style-type: none"> - reiterate the use of portals - identify key barriers to uptake of previous efforts in this area, including historical analysis of experiences to inform future recommendations

Energy	SDG 7 (Affordable and clean energy)	7.a (low) By 2030, enhance international cooperation to facilitate access to clean energy research and technology, including renewable energy, energy efficiency and advanced and cleaner fossil-fuel technology, and promote investment in energy infrastructure and clean energy technology	<ul style="list-style-type: none"> - mapping the sources of biomass - keeping track of the export of biomass stocks - assessment of supply and stock of biomass - natural gas exploration to identify sources - used to define energy sources, geothermal, hydro power etc - to monitor dust, smog and aerosol from coals and other fossil fuels and their related pollution, particularly coal 		
		7.b (High) By 2030, expand infrastructure and upgrade technology for supplying modern and sustainable energy services for all in developing countries, in particular least developed countries, small island developing States and landlocked developing countries, in accordance with their respective programmes of support	<ul style="list-style-type: none"> - As above to distribute between either - To support the development and planning of power lines, gas lines and necessary infrastructure for delivery and transport of energy - Potential for solar power energy, wind and wave energy can be identified using space applications - Proposals for increased research on the use of space to identify energy sources as well as the use of space as an origin source for energy 		



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Economic and Social Commission for Asia and the Pacific

Drafting Committee of Asia-Pacific Plan of Action for Space Applications for Sustainable Development (2018-2030)

The First Meeting

Bangkok, 31 May-1 June 2018

MR H, UNCC, Bangkok, Thailand

Schedule of work

Thursday, 31 May 2018

9.00-9.15 hrs.	Item 1	Opening of the session
Meeting room H		<ul style="list-style-type: none"> - Opening speech by Mr. Kaveh Zahedi, Deputy Executive Secretary of ESCAP - Introductions
9.15-9.30 hrs.	Item 2	Election of officers
		<ul style="list-style-type: none"> - Election of the Chair, Vice-Chair and Rapporteur - Statement by the chair
9.30-9.40 hrs.	Item 3	Adoption of the agenda
		<ul style="list-style-type: none"> - Adoption of the agenda <p>Presentation by the ESCAP secretariat on the objectives of the first meeting and outline of the agenda</p>
9.40-10.00 hrs.		Break and Group Photo
10.00-11.00 hrs.	Item 4	Introduction of the Asia-Pacific Plan of Action for Space Applications for Sustainable Development (2018-2030)
		<ul style="list-style-type: none"> - Presentation by the ESCAP secretariat on the draft Asia-Pacific Plan of Action for Space Applications for Sustainable Development (2018-2030) - Discussions

11.00-12.00 hrs	Item 5	<p>Understanding the strengths and needs of countries on space applications in support of sustainable development goals</p> <p>Presentation by members of the Drafting Committee of their country perspectives with focus on the strengths and needs in space applications for supporting the implementation of 2030 Agenda for sustainable development (5-7 mins. for each country)</p> <p>Note: the secretariat has circulated a template to facilitate the preparation of country inputs into a common format.</p>
12.00-13.00 hrs.		Lunch break
13.00-14.00 hrs	Item 5 cont.	<p>Understanding the strengths and needs of countries on space applications in support of sustainable development goals</p> <p>Presentation by members of the Drafting Committee of their country perspectives with focus on the strengths and needs in space applications for supporting the implementation of 2030 Agenda for sustainable development (5-7 mins. for each country)</p> <p>Note: the secretariat has circulated a template to facilitate the preparation of country inputs into a common format.</p>
14.00-15.00 hrs	Item 6	<p>Identifying goals and targets under priority applications of the Regional Road Map for Implementing the 2030 Agenda for Sustainable Development in Asia and the Pacific</p> <ul style="list-style-type: none"> a) Social Development b) Disaster Risk Reduction and Resilience c) Climate Change <p>Note: the secretariat has circulated a table of targets and goals under each thematic area where space can play a role.</p>
15.00-15.15 hrs.		Break
15.15-16.15 hrs	Item 6 cont.	<p>Identifying goals and targets under priority applications of the Regional Road Map for Implementing the 2030 Agenda for Sustainable Development in Asia and the Pacific</p> <ul style="list-style-type: none"> d) Management of Natural Resources e) Connectivity for the 2030 Agenda

Energy		
16.15-17.00 hrs	Item 7	Overview of goals and targets prioritisation <ul style="list-style-type: none"> a) Review the identified goals and targets b) General discussion on goals, targets and priority applications

Friday, 1 June 2018

09.00-09.15 hrs.	Item 8	Recap of day 1 <ul style="list-style-type: none"> • Presentation by the secretariat on priority goals and targets
09.15-10.00 hrs.	Item 9	Suggested actions for each priority goal and target under action area of the Plan of Action <ul style="list-style-type: none"> a) Action Area 1 – Research and Knowledge Sharing
10.00-10.45 hrs.	Item 9 cont.	Suggested actions for each priority goal and target under action area of the Plan of Action <ul style="list-style-type: none"> b) Action Area 2 – Capacity Building and Technical Support
10.45-11.00 hrs.	Break	
11.00-11.45 hrs.	Item 9 cont.	Suggested actions for each priority goal and target under action area of the Plan of Action <ul style="list-style-type: none"> c) Action Area 3 – Regional Norms and Standards /Intergovernmental Platform
11.45-12.00 hrs.	Item 10	Overview of actions planned under each action area of the Plan of Action <ul style="list-style-type: none"> a) Review the suggested actions b) General discussion on actions and implementation phases
12.00-12.45 hrs.	Lunch	
12.45-13.15 hrs.	Technical presentation: “5D World Map System”	

		by Prof. Yasushi Kiyoki, Professor of Faculty of Environment and Information Studies, Program Chair of “Global Environmental System Leader Program (GESL)”, KEIO University, Japan
13.20-15.00 hrs.	Item 11	Consideration of indicators to support the implementation of suggested actions
15.00-15.15 hrs.		Break
15.15-16.30 hrs.	Item 12	Way forward <ul style="list-style-type: none"> - Presentation by ESCAP secretariat on preparation of the Third Ministerial Conference on Space Applications for Sustainable Development in Asia and the Pacific - Presentation by ESCAP secretariat on engagement of the Fifty years since the first United Nations Conference on the Exploration and Peaceful Uses of Outer Space (1968-2018): UNISPACE+50 - Summary by chair proposals of the members of the Drafting Committee
16.30-16.40 hrs.	Item 13	Other matters
16.40-17.00 hrs.	Item 14	Closing <ul style="list-style-type: none"> - Closing remarks by the chair - Speech by Ms. Tiziana Bonapace, Director, Information and Communications Technology and Disaster Risk Reduction Division of ESCAP - Close of the meeting
Saturday, 2 June 2018		
08.30-08:40 hrs. (tbc)	Tech. Visit	- Pick up from Hotel
10.00-12.30 hrs		GISTDA Ground station, Sri Racha <ul style="list-style-type: none"> - Visit ground station of Geo-Informatics and Space Technology Development Agency of Thailand
12.30-13:00 hrs.		Lunch
13.00-14.30 hrs.		Return to Bangkok/Airport

The 1st Drafting Committee for the Asia-Pacific Plan of Action on Space Applications for Sustainable Development (2018-2030)

31 May – 1 June 2018
MR. H, UNCC
Bangkok, Thailand

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