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Item 5 of the provisional agenda*

**Performance of the programme of work and budget,
including implementation of the resolutions of the
Environment Assembly**

International Conference on Combating Sand and Dust Storms

Note by the secretariat

Summary

At the request of the Permanent Mission of the Islamic Republic of Iran, the secretariat is pleased to present, in the annex to the present note, the outcomes of the International Conference on Combating Sand and Dust Storms held in Tehran from 3 to 5 July 2017, in particular in relation to the implementation of United Nations Environment Assembly resolution 2/21 on sand and dust storms. The annex is presented without formal editing.

The outcomes of the Conference comprise the following:

- (a) Report of the Conference;
- (b) Technical recommendations;
- (c) Tehran Ministerial Declaration.

The technical recommendations have been revised at the request of the Permanent Mission of the Islamic Republic of Iran and the Permanent Mission of Turkey, and therefore differ from those set out in annex II to document A/71/999 of the United Nations General Assembly at its seventy-first session circulated on 9 August 2017.

* UNEP/EA.3/1.

Annex

Outcomes of the International Conference on Combating Sand and Dust Storms

(a) Report of the International Conference on Combating Sand and Dust Storms

Tehran, 3-5 July 2017

Introduction

In 2016, the General Assembly acknowledged, in its resolution 71/219, “the intention of the Islamic Republic of Iran to host an international event on combating sand and dust storms”. In line with that resolution, the International Conference on Combating Sand and Dust Storms: Challenges and Practical Solutions was held in Tehran from 3 to 5 July 2017.

The International Conference was hosted by the Department of Environment and the Ministry of Foreign Affairs of the Islamic Republic of Iran, with the cooperation of the United Nations Environment Programme (UNEP), the United Nations Development Programme and the Department of Economic and Social Affairs of the Secretariat, as well as other relevant United Nations entities.

A total of 90 international participants from 36 countries attended the event. Four countries were represented at the ministerial level and five countries were represented at the deputy minister level. Also contributing to the conference were 16 international experts and resource persons.

Opening ceremony

The opening ceremony included statements from the President of Iran, Hassan Rouhani, the Assistant Secretary-General of the United Nations, Haoliang Xu, the Vice-President and Head of the Department of Environment of Iran, Masoumeh Ebtekar, and the Executive Secretary of the Regional Organization for the Protection of Marine Environment, Abdul Rahman Al-Awadi. The distinguished speakers highlighted the importance of collaboration among countries, relevant United Nations agencies and other organizations in combating sand and dust storms. They emphasized the urgency of international, regional and national awareness and cooperation on the global problem of sand and dust storms and the need for regional solutions to be identified and then implemented.

Sessions 1 and 2. Ministerial dialogue

Session 1 was opened by the Assistant Secretary-General of the United Nations, who invited the Vice-President and Head of the Department of Environment of Iran, Ms. Ebtekar, to chair the ministerial segment. The proposal was agreed by acclamation. Once the agenda had been adopted, chairs were elected for the technical sessions. Introductory remarks were presented by the United Nations Resident Coordinator in the Islamic Republic of Iran, Gary Lewis, and an overview presentation was given by the Deputy Director of Intergovernmental Affairs at the New York Office of UNEP, Jamil Ahmad.

Session 2 was opened by the Head of UNEP, Erik Solheim, who also represented the Secretary-General of the United Nations.

During the ministerial dialogue, statements were made by the distinguished representatives from Afghanistan, Chad, China, Ecuador, India, Iraq, the Islamic Republic of Iran, Nigeria, Pakistan, the Republic of Korea, the Syrian Arab Republic, and Turkey. Representatives from organizations including the Regional Organization for the Protection of Marine Environment and the Iranian Forests, Rangelands and Watershed Organization also presented statements.

Country representatives shared with the distinguished representatives their experiences of how sand and dust storms had affected their countries and what existing and planned policies and measures they had in place for addressing that issue. Countries emphasized the essentiality of bilateral, regional and international cooperation, including the need for participatory approaches.

Countries highlighted environmental concerns that are made significantly more challenging by terrorist entities, such as ISIS, in the region. They also emphasized the challenges brought about by sand and dust storms to their sustainable development and the impact thereof on the ability of those countries to achieve the Sustainable Development Goals and the 2030 Agenda for Sustainable Development. There was a reference to the need for joint solutions to “make the planet great” again.

Session 3. Social, economic and environmental impact and costs

Session Chair: Minister of Environment of Ecuador, Tarsicio Granzio

Moderator: Representative of the Regional Centre for Environmental Health Action, World Health Organization, Amman, Mazen Malkawi.

Cross-sectoral cooperation speaker: Charles Kelly

Summary of discussions

While the frequency, duration and intensity of sand and dust storms has increased in many affected regions, the increase in economic growth and the population in affected areas has also intensified exposure to sand and dust storms. The extent to which a country is affected by sand and dust storms is largely dependent on its resilience and ability to access the appropriate tools, mechanisms and resources in responding to them. The more resilient a country is, the greater the number of options available to tackle sand and dust storms, thereby reducing vulnerability.

In addition to their immediate and long-term, wide-ranging economic and environmental impact, sand and dust storms are a public health issue. In all countries that suffer from sand and dust storms, there is evidence of their impact, particularly the serious implications for cardiovascular and respiratory systems. There are, however, some positive side effects of sand and dust storms. One such example is the dust from the Sahara, carried across the Atlantic by the trade winds, which eventually settle on and fertilize the Amazon soils in South America.

Cohort studies are necessary to make the studies on sand and dust storms more relevant to the particular contexts and environmental realities and requirements of different regions. There is a need for greater research and studies in which guidelines are developed for regions where sand and dust storms and their resulting effects take place.

While the occurrence of sand and dust storms can be scientifically determined, quantifying their impact on society, the economy and the environment is more difficult to conduct, owing to the lack of relevant data. There is a clear need to generate high-quality relational data sets. Suggested methods of doing so included utilizing livelihood analysis to determine the socioeconomic costs of sand and dust storms. Risk assessments should be conducted in a way that is appropriate for all, and there is a need to develop the right mechanisms and tools to do so.

Technical recommendations from the session

- (a) Promote the sustainable management of land and water use, including in arid and semi-arid areas to mitigate the drivers of sand and dust storms;
- (b) Identify a new set of standards to prevent and reduce the impact of sand and dust storms on human health in the affected areas;
- (c) Establish a dust-health early warning system, which would protect human health and save lives;
- (d) Develop standard methods and models for the quantification of the socioeconomic and environmental impact and risk assessments;
- (e) Improve research to fill the gaps between scientific findings and operational works.

Session 4. Source recognition, monitoring, observation, forecasting and early warning systems

Session Chair: Director General, National Environment Protection Agency, Mostapha Zaher

Moderator: Director, Regional Office for Asia and the South-West Pacific, World Meteorological Organization (WMO), C. K. Park

Speaker 1: Representative of the National Centre for Combating Dust Storms, Tehran, Zieaoddin Shoaie

Speaker 2: Expert, University of Belgrade, Ana Vukovic

Speaker 3: Director of the Research Department at the Turkish State Meteorological Service, Mustafa Coşkun

Speaker 4: Presentation of the State Meteorological Agency of Spain by Ms. Vukovic

Summary of discussions

Early warning systems need to build on capacities on risk knowledge, monitoring and warning services, as well as dissemination and communication response capabilities. Scientific research and observations are critical in addressing sand and dust storms. In the light of the variations in the impact and experiences of countries and regions, subregional mechanisms were suggested as a useful platform for exchanging data and knowledge. There are tools, such as the European Organization for the Exploitation of Meteorological Satellites, that can act as a good source for monitoring dust. However, such tools come with certain limitations. Potential dust sources maps and atmospheric dust numerical models are a priority for forecasting local dust storm events in the early warning system. In order to improve the quality of early warning and forecasting systems, integrating meteorological and land surface observations, air dust concentration and source monitoring in near-real time is required. Harmonized methods should be used for data collection to ensure consistency.

Technical recommendations from the session

- (a) Strengthen the national, subregional and regional capacities of weather monitoring, climate and forecasting models of sand and dust storms in cooperation with relevant United Nations bodies and organizations, including WMO, through technology transfer and the allocation of technical and financial assistance;
- (b) Harmonize the collection, quality assurance and control, analysis, processing, reporting and communication of the required data and information to improve the quality of early warning and forecasting systems;
- (c) Integrate the sand and dust storm warning system with warning systems of other sectors into national, regional and global plans and strategies, as appropriate;
- (d) Identify and map the sand and dust storm hotspots and their impact at the local, national, regional and global levels;
- (e) Establish a dust-health early warning system, which would protect human health and save lives.

Session 5. Policy options, technology innovation and resource mobilization, considering cross-sector integrated approaches

Session Chair: Minister of State for Environment of Nigeria, Ibrahim Usman Jibril

Moderator: Mariam Akhtar-Schuster

Speaker 1: Land degradation specialist at the Arab Centre for the Study of Arid Zones and Dry Lands, Bassem Katlan

Speaker 2: Chair of the Elion Foundation, Inner Mongolia, China, Wang Wenbiao

Speaker 3: Jacqueline McGlade

Speaker 4: Representative of the secretariat of the Kuwait Regional Convention for Cooperation on the Protection of the Marine Environment from Pollution, Hassan Mohammadi

Summary of discussions

In order to effectively address sand and dust storms, sound knowledge, good statistics and indicators, effective governance and smart ways of approaching issues are needed. This is particularly key given the geopolitics within the region. Soil pollution and the displacement of topsoil is exacerbated by the various conflicts occurring within the region. Investing in capacity development mechanisms is important to build resilience. The Kubuqi model in Mongolia is an excellent example of successful steps taken to combat sand storms and desertification in Mongolia.

In the short to medium term, there is a need to reinforce protective strategies to reduce the negative impact of sand and dust storms. In the longer term, the emphasis should be on integrated strategies that promote sustainable land and water management.

Remote sensing techniques help in monitoring sand and dust storms and combating desertification. Tools exist for monitoring sand and dust storms, such as satellite imagery, air quality stations and meteorological reports. These need to be better harnessed. There is a need to invest in improving the quality of early warning systems. Scientific and research observations are critical in addressing sand and dust storms. They will facilitate forecasting, which is essential for early warning. Investment is essential in mitigation efforts. Clear quantitative evidence is required in making a case for such efforts to be funded by Governments and ministries, which have many competing needs and

sectors that they should satisfy. Good studies will provide countries with the sound evidence needed and a powerful case for funding.

Technical recommendations from the session

- (a) Promote the use and protection of endemic and appropriate plant species that are able to withstand extreme weather and soil conditions, such as drought and salinity, to reduce the negative impact of sand and dust storms;
- (b) Undertake research and evidence-based studies at the national and regional levels on the factors that cause and accelerate the negative impact of sand and dust storms, such as loss of land cover, overgrazing and soil cultivation methods, and take appropriate preventive measures;
- (c) Raise public awareness within local communities and encourage their participation in mitigating the negative impact of sand and dust storms;
- (d) Provide the socioeconomic incentives needed to encourage local people to implement the necessary measures on their land;
- (e) Ensure that actions to tackle the drivers of sand and dust storms are consistent with the actions recommended under the three Rio Conventions (the United Nations Framework Convention on Climate Change, the United Nations Convention to Combat Desertification and the United Nations Convention on Biological Diversity);
- (f) Consider existing initiatives under the United Nations Convention to Combat Desertification in Those Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa regional action plan to establish a “green wall” on desert margins and other initiatives, such as regional air pollution agreements and policies that have the potential to address sand and dust storms;
- (g) Encourage the developing countries affected to create their own action plans on sand and dust storms at the national and regional levels and seek support from the United Nations and other regional and international organizations for that purpose;
- (h) Develop integrated strategies to promote the sustainable use of natural resources;
- (i) Enhance the access of States, in particular developing countries, to finance, the transfer of environmentally sound technologies, science and inclusive innovation and knowledge-sharing, especially through bilateral and multilateral collaborative arrangements.

Session 6. Global, regional and cross-sectoral cooperation and responses

Session Chair: Ambassador of the Netherlands representing the European Union, Susanna Terstal

Moderator: Director, Regional Office for Asia and the South-West Pacific, WMO, C. K. Park

Speaker 1: Representative of the Economic and Social Commission for Asia and the Pacific, Bangkok, Tiziana Bonapace

Speaker 2: Deputy Minister for International Affairs, Ministry of Energy, Islamic Republic of Iran, Regional cooperation on sustainable dust disaster management, Alireza Daemi

Speaker 3: Representative of the Regional Centre for Environmental Health Action, World Health Organization, Amman, Mr. Malkawi

Speaker 4: Specialist in Iranian ecology, David Laylin

Summary of discussions

There are many synergies between the Sustainable Development Goals and multilateral environmental agreements. There is a need for a global dialogue on sand and dust storms. There are many existing mechanisms and institutions that aim to address sand and dust storms. What is necessary is that countries cooperate to utilize these existing mechanisms in a more effective and efficient way.

Gaps in effectively combating sand and dust storms include: (a) information (lack of relevant and scientific data and communication mechanisms); (b) cooperation (deeper cooperation and commitment required); and (c) capacity (need for training) and communication mechanisms.

The need for both international collaboration and provincial and cross-border cooperation was discussed. The Hamouns in Iran and Afghanistan were used as an example of an area particularly affected by land degradation and desertification and the necessity for comprehensive cross-border

cooperation to address that problem and to protect and restore the region. During the conference, sincere willingness to achieve such cooperation was expressed.

Technical recommendations from the session

- (a) Take appropriate action to address the main factors at all levels causing sand and dust storms in the context of the Sustainable Development Goals, also taking into consideration the synergies among the three Rio Conventions;
- (b) Invite the relevant United Nations agencies to consider initiating an inter-agency process on sand and dust storms globally;
- (c) Stress the need for further cooperation and capacity-building through knowledge-sharing, technical expertise, the boosting of technical cooperation, best practices and lessons learned.

Field visits

Two field visits were organized by the Forests, Rangelands and Watershed Organization for the participants in the conference. Participants were able to choose between the Aran Bidgol region in Kashan in Esfahan Province and Ahvaz city in Khuzestan Province.

Kashan: The key principal who took part in the field visit to Kashan was the Assistant Secretary-General of the United Nations. Participants were introduced to successful examples of practical solutions to combat sand and dust storms and their effects on land rehabilitation and environmental improvement on more than 200,000 ha of desert lands.

Ahvaz: The key principals who took part in the field visit to Ahvaz included the Vice President and Head of the Department of the Environment of Iran, Ms. Ebtekar, and the Under-Secretary-General and Head of UNEP, Mr. Solheim. Participants visited dry lands that had recently generated sand and dust storms to the south-east of Ahvaz city. Participants were introduced to rehabilitation projects, including a visit to a successful project for restoring the 127,000 ha Hur-ul Azim wetlands, which are an active source of sand and dust storms along the Iran-Iraq border.

Technical recommendations

The technical recommendations were based on the topics of the four technical sessions and were adopted at the closing of the conference.

Ministerial Declaration

The Conference adopted the Tehran Ministerial Declaration. It was discussed during and following the first ministerial dialogue session, and relevant deliberations continued throughout the afternoon of the first day. The Declaration was eventually adopted by acclamation during the dinner hosted by the Foreign Minister of Iran, Javad Zarif.

The paramount relevance of the Declaration lies in its signifying a constructive spirit in the discussions and the commitment of all participating countries to securing benefits for all in the face of the challenges posed by sand and dust storms.

Through the process of preparing the Declaration, countries agreed to cooperate on combating sand and dust storms at the subregional, regional and international levels, including on sharing information, strengthening national legal and institutional frameworks to share early warning information, enhancing public awareness of the impact and cost of sand and dust storms and strengthening research activities for effective monitoring, forecasting and early warning mechanisms.

The Declaration requested that the Environment Management Group of the United Nations consider initiating an inter-agency process involving relevant United Nations agencies to prepare a global response to sand and dust storms, including a situation analysis, a strategy and an action plan.

Closing

The Chairs of the four technical sessions reported on the proceedings of the sessions. The Rapporteur, the Resident Coordinator in the Islamic Republic of Iran, Mr. Lewis, reported the key reflections. Concluding remarks were presented by the Deputy Director of Intergovernmental Affairs of UNEP, Mr. Ahmad, and a representative of the Department of Economic and Social Affairs, Reza Salamat. The Vice President and Head of the Department of the Environment of Iran, Ms. Ebtekar, presented her concluding remarks and closed the conference.

All participants were invited for a group photo. The International Conference was a useful platform for networking and exchanging knowledge, both in the form of interactions during the course of the conference and through the meetings that took place on its sidelines.

(b) Technical recommendations**Introduction**

Sand and dust storms have a wide geographical reach, as they occur in all world regions and are transboundary in nature. Their impact on achieving sustainable development is therefore significant at the local, regional and global levels. The main drivers for the increase of sand and dust storms, specifically in arid and semi-arid areas, are the drastic changes in annual rainfall, temperature and droughts as a result of climate change and unsustainable land management and water use.

The following technical recommendations are classified based on the topics of four technical sessions.

Social, economic and environmental impact and costs to:

- (a) Promote the sustainable management of land and water use, including in arid and semi-arid areas, to mitigate the drivers of sand and dust storms;
- (b) Identify a new set of standards to prevent and reduce the impact of sand and dust storms on human health in the areas affected;
- (c) Establish a dust-health early warning system, which would protect human health and save lives;
- (d) Develop standard methods and models for the quantification of the socioeconomic and environmental impact and risk assessments;
- (e) Improve research to fill the gaps between scientific findings and operational work.

Source recognition, monitoring, observation, forecasting and early warning systems to:

- (a) Strengthen the national, subregional and regional capacities of weather monitoring, climate and forecasting models of sand and dust storms in cooperation with relevant United Nations bodies and organizations, including the World Meteorological Organization (WMO), through technology transfer and the allocation technical and financial assistance;
- (b) Harmonize the collection, quality assurance and control, analysis, processing, reporting and communication of the required data and information to improve the quality of early warning and forecasting systems.
- (c) Integrate the sand and dust storm warning system with warning systems of other sectors into national, regional and global plans and strategies. as appropriate.¹
- (d) Identify and map the sand and dust storm hotspots and their impact at the local, national, regional and global levels;
- (e) Establish a dust-health early warning system, which would protect human health and save lives.

Policy options, technology innovation and resource mobilization, considering cross-sector integrated approaches to:

- (a) Promote the use and protection of endemic and appropriate plant species that are able to withstand extreme weather and soil conditions, such as drought and salinity, to reduce the negative impact of sand and dust storms.
- (b) Undertake research and evidence-based studies at the national and regional levels on the factors that cause and accelerate the negative impact of sand and dust storms, such as loss of land cover, overgrazing and soil cultivation methods, and take appropriate preventive measures;
- (c) Raise public awareness of the local communities and promote their participation in mitigating the negative impact of sand and dust storms.
- (d) Provide the socioeconomic incentives needed to encourage local people to implement the necessary measures on their land;
- (e) Ensure that actions to tackle the drivers of sand and dust storms are consistent with the actions recommended under the three Rio Conventions (the United Nations Framework Convention on

¹ Turkish delegation participated in the Discussions process with the reservation that Technical Recommendations is derived from the views of the panellists. Turkey believes that this should not be considered as a negotiated text.

Climate Change, the United Nations Convention to Combat Desertification and the United Nations Convention on Biological Diversity);

(f) Consider existing initiatives under the United Nations Convention to Combat Desertification in Those Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa regional action plan to establish green walls on desert margins and other initiatives, such as regional air pollution agreements and policies that have the potential to address sand and dust storms;

(g) Encourage the developing countries affected to develop action plans on sand and dust storms at the national and regional levels and seek support from the United Nations and other regional and international organizations for that purpose;

(h) Develop integrated strategies to promote the sustainable use of natural resources;

(i) Enhance the access of States, in particular developing countries, to finance, the transfer of environmentally sound technologies, science and inclusive innovation and know-how-sharing, especially through bilateral and multilateral collaborative arrangements.

Global, regional and cross-sectoral cooperation and responses to:

(a) Take appropriate action to address the main factors at all levels causing sand and dust storms in the context of the Sustainable Development Goals, also taking into consideration the synergies among the three Rio Conventions.

(b) Invite the United Nations system to consider initiating an inter-agency process on sand and dust storms globally;

(c) Stress the need for further cooperation and capacity-building through sharing know-how, experiences, technical expertise, the boosting of technical cooperation, best practices and lessons learned.

(c) Tehran Ministerial Declaration

We, the Ministers and high-level representatives participating in the International Conference on Combating Sand and Dust Storms:

Having met in Tehran to exchange views and share experiences and best practices in combating sand and dust storms and to contribute to global and regional efforts to put forward a concerted and collective response to this serious challenge,

Recalling General Assembly resolutions 70/195 and 71/219, United Nations Environment Assembly resolution 2/21, the World Meteorological Organization (WMO) Congress Decision Cg-XV/3.3.3.6 and Economic and Social Commission for Asia and the Pacific resolution 72/7, in which it was acknowledged that sand and dust storms pose a daunting challenge to the sustainable development of affected countries, including and in particular in Asia and Africa, and that coordinated prompt measures are needed to address it at the national, regional and global levels,

Acknowledging that sand and dust storms, which are on the rise in terms of severity and frequency in many parts of the world, are detrimental to human health, agricultural land, livelihoods, coastal and marine environment, infrastructure and the socioeconomic systems in all affected countries,

Fully aware that sand and dust storms occur because of the natural biogeochemical cycles of the Earth and human-induced factors, including climate change and unsustainable land management and water use,

Recognizing the negative impact of sand and dust storms on some countries and regions that are far away from their hotspots, owing to their transboundary nature,

Further recognizing that combating the challenge of sand and dust storms requires concerted and collaborative global, regional and subregional as well as national responses to address this phenomenon, and also underlining the role of the United Nations in promoting international cooperation and partnerships among countries and other relevant stakeholders to combat sand and dust storms,

Agree to cooperate on combating sand and dust storms at the subregional, regional and international levels on the following:

(d) **Share** information, lessons learned and best practices, exchange views and expertise, develop mitigation and adaptation policies and measures, and exchange technical and monitored data and forecasting information to reduce the risk of sand and dust storms;

(e) **Strengthen** national legal and institutional frameworks to share early warning information on sand and dust storms, and raise awareness and promote integrated and synergistic actions across sectors, and foster strengthened cooperation among relevant institutions at the global, regional and national levels;

(f) **Enhance** public awareness on the impact and cost of sand and dust storms on human health, agricultural practice, food security, infrastructure, transport and in general socioeconomic sectors and the environment and partnerships among relevant stakeholders on the mitigation of the impact;

(g) **Collectively endeavour** to enhance cooperation and coordination at the global, regional and subregional levels to address the causes and impact of sand and dust storms, including through the promotion of sustainable water use and land management, to reduce future risks and impact of sand and dust storms;

(h) **Develop and implement** a strategy on disaster risk reduction and resilience to promote sustainable land management and water use in croplands, rangelands, wetlands, deserts as well as rural and urban areas;

(i) **Strengthen** research activities for effective monitoring, impact-based assessment and forecasting and early warning mechanisms for sand and dust storms, to address disaster prevention and mitigation and for the development of appropriate preparedness and effective responses to sand and dust storms;

(j) **Encourage** enhanced regional and international cooperation to observe and forecast, mitigate and cope with the adverse effects of sand and dust storms, and seek technical and financial support from the relevant United Nations organizations to that end;

- (k) **Consider** to further develop policy dialogue on responding to the issues of sand and dust storms among interested countries in partnership with relevant international bodies and organizations, including the establishment of a future platform, in synergy with relevant United Nations system entities;
- (l) **Recognize** the role of the Asian and Pacific Centre for the Development of Disaster Information Management, regional seas programmes and the WMO Sand and Dust Storm Warning Advisory and Assessment System, to develop human and institutional capacity through strengthened regional cooperation in disaster information management;
- (m) **Invite** the Environment Management Group of the United Nations to consider initiating an inter-agency process involving relevant United Nations system entities, warranting to prepare a global response to sand and dust storms, including a situation analysis, a strategy and an action plan. This could result in developing a United Nations-wide approach to addressing sand and dust storms, which can be used as an inter-agency framework for mid- or long-term cooperation and division of labour;
- (n) **Request** the General Assembly to consider this declaration for appropriate actions;
- (o) **Express** our deepest gratitude to the Government and people of the Islamic Republic of Iran for the excellent arrangements and the warm hospitality that they extended to participants in this important International Conference.
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