

Report of the International Conference on Combating Sand and Dust Storms

Tehran, Iran

3-5 July 2017

Introduction

In 2016, the United Nations 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 this, the **International Conference on Combating Sand and Dust Storms: Challenges and Practical Solutions** was held in Tehran, the Islamic Republic of Iran during 3-5 July 2017.

The international event 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, the United Nations Development Programme (UNDP) and the Department of Economic and Social Affairs (UN-DESA) of the UN 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 Deputy Minister level. Also contributing to the conference were 16 international experts and resource persons.

Opening Ceremony

The Opening Ceremony included statements from H.E. Dr. Hassan Rouhani, President of Iran; H.E. Mr. Haoliang Xu, Assistant Secretary-General of the United Nations; H.E. Dr. Masoumeh Ebtekar, Vice President and Head of the Department of Environment of Iran and H.E. Mr. Abdul Rahman Al-Awadi, Executive Secretary of the Regional Organization for the Protection of Marine Environment. The distinguished speakers highlighted the importance of collaboration among countries, relevant UN agencies and other organizations in combatting 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 H.E. Mr. Haoliang Xu, Assistant Secretary General of the UN who invited H.E. Dr. Ebtekar, Vice President and Head of the Department of Environment of Iran, to Chair the Ministerial Segment. The proposal was agreed by acclamation. Once the agenda was adopted, Chairs were elected for the technical sessions. Introductory remarks were presented by Mr. Gary Lewis, UN Resident Coordinator to Iran and an overview presentation was given by Jamil Ahmad, Deputy Director of Intergovernmental Affairs, UN Environment New York Office.

Session 2 was opened by H.E. Mr. Erik Solheim, Head of UN Environment, also representing the Secretary General of the UN.

During the Ministerial Dialogue, statements were made by the distinguished representatives from Afghanistan, Ecuador, Turkey, the Islamic republic of Iran, Iraq, the Syrian Arab Republic, Nigeria, China, the Republic of Korea, Pakistan, Chad, and India. Representatives from organizations including the Regional Organization for the Protection of Marine Environment (ROPME) and the Iranian Forest Rangelands and Watershed Organization (FRWO) also presented statements.

Country representatives shared with the distinguished representatives on how Sand and Dust Storms (SDS) have affected their countries and what existing and planned policies and measures they have in place for addressing the issue of Sand and Dust Storms. Countries emphasized the essentiality of bilateral, regional, and international cooperation including the need for participatory approaches.

Countries highlighted environmental concerns which are made significantly more challenging by terrorist entities, like ISIS, in the region. They further emphasized the challenges brought about by SDS to their sustainable development as well as the impact they have on the ability of these countries in achieving the Sustainable Development Goals and the 2030 Agenda. There was a reference to the need for joint solutions to “make the planet great” again.

Session 3 – Social, economic and environmental impacts and costs

Session Chair: H.E. Tarsicio Granzio, Minister of Environment of Ecuador

Moderator: Mr. Mazen Malkawi, WHO-CEHA/Amman. Cross-sectoral cooperation

Speaker: Mr. Charles Kelly

Summary of discussions:

While the frequency, duration and intensity of SDS has increased in many affected regions, growth in economic growth and population in affected areas have also intensified exposure to SDS. The extent to which a country is impacted by SDS 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 are the number of options available to tackle SDS, thereby reducing vulnerability.

In addition to their immediate and long-term, wide-ranging economic and environmental impact, SDS are a public health issue. In all countries that suffer from SDS, there is evidence of their impact, particularly the serious implications for cardiovascular and respiratory systems. There are, however, some positive side-effect impacts of SDS. 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 SDS 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 these guidelines are developed for regions where SDS and their resulting impacts take place.

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

Technical recommendations from the session:

- Promote sustainable management of land and water use, including in arid and semi-arid areas to mitigate the drivers of SDS.

- Identify a new set of standards to prevent and reduce the impact of SDS on human health in the affected areas.
- Establish a Dust-Health Early Warning System which would protect human health and save lives.
- Develop standard methods and models for quantification of socio-economic and environmental impacts and risk assessments.
- Improve research to fulfil the gaps between scientific findings and operational works.

Session 4 – Source Recognition, Monitoring, Observation, Forecasting and Early Warning Systems

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

Moderator: Dr. C. K. Park, Director, Regional Office for Asia and the South-West Pacific, World Meteorological Organisation

Speaker 1: Dr. Zieaoddin Shoaie, National Centre for Combatting Dust Storms, Tehran

Speaker 2: Ms. Ana Vukovic, University of Belgrade, Serbia

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

Speaker 4: Presentation of State Meteorological Agency of Spain (AEMET) by Ms. Ana 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 SDS. Due to the variations in impact and experiences of countries and regions, sub-regional 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 (EUMESTAT), which can act as a good source of monitoring dust. However, such tools come with certain limitations. Potential dust sources maps and atmospheric-dust numerical models are a priority to forecast local dust storm events in the early warning system. 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:

- Strengthen the national, sub-regional and regional capacity of weather monitoring, climate and forecasting models of sand and dust storms in cooperation with relevant UN bodies and organizations including WMO through technology transfer and allocation of technical and financial assistance.
- Harmonize the collection, quality assurance and control, analyzing, processing, reporting and communicating the required data and information to improve the quality of early warning and forecasting systems.
- Integrate the SDS warning system with warning systems of other sectors in national and regional and global plans and strategies as appropriate.
- Identify and map the SDS hotspots and their impacts at local, national, regional and global levels.
- 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: H.E. Ibrahim Usman Jibril, Minister of State for Environment of Nigeria

Moderator: Mariam Akhtar-Schuster

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

Speaker 2: Dr. Wang Wenbiao, Chairman of the Elion Foundation, Inner Mongolia of China

Speaker 3: Prof. Jacqueline McGlade

Speaker 4: Dr. Hassan Mohammadi, Kuwait Convention Secretariat

Summary of discussions:

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

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

Remote sensing techniques help in monitoring SDS and combatting desertification. Tools exist for monitoring SDS such as satellite imagery, air quality stations and meteorological reports. These need to be better harnessed. We need to invest in improving the quality of early warning systems. Scientific and research observations are critical in addressing SDS. 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 governments and ministries to fund such efforts where they have many competing needs and sectors it should satisfy. Good studies will provide countries with the sound evidence needed and a powerful case for funding.

Technical recommendations from the session:

- Promote using and protecting endemic and appropriate plant species that are able to withstand extreme weather and soil conditions (drought, salinity, etc.) to reduce the negative impacts of SDS.
- Undertake research and evidence-based studies at national and regional levels on the factors that cause and accelerate the negative impacts of SDS (e.g., loss of land cover, overgrazing, soil cultivation methods, etc.) and take appropriate preventive measures.
- Raise public awareness within local communities and encourage their participation for mitigating the negative impacts of SDS.
- Provide socio-economic incentives needed to encourage local people to implement the necessary measures on their land.
- Ensure that actions to tackle the drivers of SDS are consistent with actions recommended under the three respective Rio conventions.
- Consider existing initiatives under the UN Convention to Combat Desertification (UNCCD) 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 SDS.
- Encourage affected developing countries to create their own action plans on SDS at national and regional levels and seek support from the UN and other regional and international organizations for that purpose.
- Develop integrated strategies to promote sustainable use of natural resources.
- Enhance access of states in particular developing countries to finance, transfer of environmentally sound technologies, science and inclusive innovation as well as knowledge sharing, especially through bilateral and multi-lateral collaborative arrangements.

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

Session Chair: H.E. Susanna Terstal, Ambassador of Netherlands Representing the European Union

Moderator: Dr. C. K. Park, Director, Regional Office for Asia and the South-West Pacific, World Meteorological Organisation

Speaker 1: Ms. Tiziana Bonapace, ESCAP, Bangkok

Speaker 2: Dr. Alireza Daemi, Deputy Minister for International Affairs, Ministry of Energy, I.R. Iran, Regional cooperation on sustainable dust disaster management

Speaker 3: Mr. Mazen Malkawi, WHO-CEHA/Amman

Speaker 4: Dr. David Laylin, Specialist in Iranian ecology

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 which aim to address SDS. What is necessary is that those countries cooperate to utilize these existing mechanisms in a more effective and efficient way.

Gaps in effectively combatting SDS 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) 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 this problem and to protect and restore this region. During the conference, sincere willingness to achieve such cooperation was expressed.

Technical recommendations from the session:

- Take appropriate action required to address the main factors at all levels causing SDS in the context of SDGs, also taking into consideration the synergies among the three Rio conventions (UNFCCC, UNCCD and CBD).
- Invite the relevant UN agencies to consider initiating an inter-agency process on SDS globally.

- Stress the need for further cooperation and capacity building through knowledge sharing, technical expertise, boosting of technical cooperation, best practices, and lessons learned.

Field Visits

Two field visits were organized by the FRWO for the participants of the conference. Participants were able to choose between visiting the Aran Bidgol Region in Kashan in Isfahan Province and Ahvaz City in Khuzestan Province.

Kashan: The key principle who took part in the field visit to Kashan was H.E. Mr. Haoliang Xu, Assistant Secretary General of the UN. 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 over 200,000 ha of desert lands.

Ahvaz: The key principles who took part in the field visit to Ahvaz included H.E. Madam Ebtekar, Vice President and Head of the Department of the Environment of Iran and H.E. Mr. Erik Solheim, UN Under Secretary General and Head of UN Environment. Participants visited dry lands that recently generated sand and dust storms to the southeast 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 is an active source of SDS along the Iran-Iraq border.

Technical Recommendations

The technical recommendations were based on the topics of 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 H.E. Dr. Javad Zarif, Foreign Minister of Iran.

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

Through the process of preparing the Ministerial Declaration, countries agreed to cooperate on combating SDS at sub-regional, regional, and international levels including on sharing information, strengthening national legal and institutional frameworks to share early warning

information, enhancing public awareness on the impact and cost of SDS, and strengthening research activities for effective monitoring, forecasting and early warning mechanisms.

The Declaration requested that the Environment Management Group (EMG) of the UN consider initiating an inter-agency process involving relevant UN agencies to prepare a global response to SDS including a Situation Analysis, Strategy and an Action Plan.

Closing

The Chairs of the four technical sessions reported back on the proceedings of the sessions. The Rapporteur, Mr. Gary Lewis, UN Resident Coordinator of the Islamic Republic of Iran, reported back on the key reflections. Concluding remarks were presented by Mr. Jamil Ahmad of UN Environment and Mr. Reza Salamat of UN DESA. H.E. Madam 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 also through meetings that took place on its sidelines.