



## Highlights of the Rio Conventions Pavilion UNCCD COP 14



6 September 2019

### Sand and Dust Storms Day: Towards Resilience and Preparedness



A day dedicated to Sand and dust Storms (SDS) served as a platform to inspire and facilitate information exchange among various stakeholders and partners involved in SDS related issues from policy and decision-making, implementation, science, experts to field practitioners and local communities.

The SD Day aimed at facilitating the co-operation and collaboration in SDS management to support the implementation of major global decisions and policies including the UNCCD COP decisions related to SDS including decision 31/COP13(2017), and the provisions of UNGA resolutions on combating SDS. They include resolutions 70/195 (2015), 71/219 (2016), 72/225 (2017) and 73/237 (2018), and UNEA resolutions 2/21 (2016) and 4/10 (2019).

## ***Session 1: Meeting of the UN SDS Coalition***

The Day started with a meeting of the UN SDS Coalition. **Hussain Fateih, UNEP**, welcomed the guests and experts and introduced the members of the coalition. The first speaker was **Tim Christopher, Head of Freshwater, Land and Climate Branch of UNEP**. Mr. Christopher stressed on the fact that a lot of sand and dust is dislocated and soil is disturbed by poor agriculture practices. To combat this problem, he suggested that we need to co-ordinate through better warning systems.

**Utchang Kang, Programme Officer, External Relations, Policy and Advocacy Unit, UNCCD**, welcomed participants to the SDS Day. He said the Day is a great opportunity to overview what we have been doing on SDS in global community. Many progresses were made by collaborative UN agencies thanks to good partnership and collaboration.

Mr. Fateih presented a snapshot of the SDS coalition to the participants.



### **Anne Juepner, Director of Global Policy Centre on Resilient Ecosystems and Desertification:**

Ms. Juepner said that UNDP supports different countries to help minimize land degradations through better food and climate systems. According to her it is now widely recognized that unsustainable land management practices can cause or exacerbate sand and dust storm phenomenon and pose a serious challenge to the sustainable development of affected countries and regions, especially in Asia and Africa.

She observed that mitigating sand and dust storms at their source through addressing desertification and land degradation issues present an effective entry point in this context. Countries can help control the anthropogenic drivers of sand and dust storms such as unsustainable use of agricultural land, deforestation, overgrazing, depletion of water sources and industrial activities.



**Utchang Kang, UNCCD:** Mr.Kang stressed that we need strong commitments from the country parties and from United Nations to combat the growing problems of dust storms. He said that It is an opportunity for everyone to collaborate here to support countries and that they will help them in making the situations better.

**Jose Camacho, Scientific Officer, WORLD METEOROLOGICAL ORGANISATION (WMO):** Mr.Camacho said that the Sand and Dust Storm coalition is an opportunity with which the UN could address the impact of sand and dust storms in different countries of the world.

Mr. Camacho said that sand and dust storms originate on land and are impacted by soil practices which is a land management issue. This complex issue needs a coordinated action from UN agencies. It is important to identify the cause of soil management problems which contribute to dust storms and strong measures are required to address those problems.





**Sanjay Shrivastava, Chief of Disaster Risk Reduction Section, United Nations Economic and Social Commission for Asia and Pacific (UNESCAP):**

Mr. Shrivastava said that disaster risks are becoming very complex. Dust and sand storms are no more just that but they cascade with pre monsoon thunderstorms. When two weather systems converge, they have an impact over a large geographical area and these disasters with trans boundary origins and impacts will become more frequent in the future. He said that the major issues highlighted in Asia points to inequality and environmental degradation. According to him Asia pacific climate risks occupies 85%

of regional risk space. He observed that dust and sand storms are likely to become very frequent in the coming days. Dust and sand storms unlike earthquakes cannot be predicted as they occur invisibly.



## ***Session 2: Technical session on Sand and Dust Storms Sources mapping***

**Sanjay K.Srivastava**, Chief, Disaster Risk Reduction Section, UNESCAP moderated this session.

**Hesham El-Askary, Chapman University:** Mr. Askary quoted from *The Guardian* that the Sahara storms are responsible for spreading lethal meningitis spores through semi-arid central Africa where 250,000 people, particularly children, contract the disease each year and 25,000 die. According to a major study, the asthma rate in Barbados is 17 times greater than it was in 1973 when a major African drought began. SDS highly impact area and top ranking countries in premature mortality due to air pollution are Iran, Egypt and Pakistan. Kawasaki disease in Japan, which causes a permanent heart damage and puzzling in victims is a fall out annual dust cycles. The Calypso overpass in China has a high concentration of aerosol which reached up to 4-5 kilometers in recent years over the areas from Central to Northern inland China including north eastern inner Mongolia. He further informed that dust forecast improvement will come from the new prototype, high-resolution, numeric-dynamical model, accurate mapping and monitoring of sand and sources and greater spatial coverage of dust related observations from ground and space. The things that we need to do to improve the situation are:

- Reach out and establish links with national, regional, international and private sector.
- Identify observations, modelling and application information gaps.
- Identify dust forecast and simulation-related products with optimum/minimum scale of achievement.

**Marijana Kapovic-Solomun, UNCCD SPI (Global SDS source mapping):** Ms. Marijana said that SDS source is the bare topsoil surface susceptible to wind erosion or any surface capable to emit soil particles in favorable wind conditions and that SDS source are of two types i.e. permanent and dynamic SDS. The drivers of SDS are climate conditions (aridity, seasonal weather), weather conditions (extreme wind, drought) and surface conditions (soil texture, soil moisture, temperature, land cover) but the most direct one is the impact of human activities (tillage, water scarcity, livestock).

**Jungrak Kim, University of Seoul:** Mr. Jungrak said that the calibration of satellite data sets by high precision aerial(UAV) stereo observation will give important inputs in helping to combat SDS and that long term time series analyses which will enable the defined driving factor of dust generation and desertification. He stressed on the importance of implanting of data processing scheme in regional institute and that

Enhance Vegetation Index (EVI) is superior than the normalized difference vegetation index (NDVI) and that the ongoing desertification in North East Mongolia is obvious. The contribution to the problem of SDS is attributed to a few million tons per year from coal mining.

**Xiaosong Li, Institute of Remote Sensing and Digital Earth, Chinese Academy of Science:** Mr Li began his talks by referring to the Soil Organic Matter (SOM ) map of China and said that the interpolation was based on soil profile. Multiple methods were used based on national database but the soil samples are same, mainly located in cropland, not suitable for natural dry lands. According to the study area of SOC distribution among 243 samples, 43.44 % of land have an SOM content lower than 0.2%, while only 4.5 % of samples are higher than 2 %. Three models were used- CART, SVM and MLR. The overall performance of CART is better than that of SVM and MLR models. The SOM content (0-20cm) for the whole desertified land in Northern China was mapped with a good accuracy, efficiency and spatial resolution. Analyzing the relationship between vegetation and SOC is our priority in near future.

### ***Session 3: High level session***



**Ibrahim Thiaw, UNCCD Executive Secretary,** delivered the opening remarks for this session. He stated that the Sand and Dust Storms(SDS) Coalition is an important entity to combat the effect of climate change happening all over the world. The growing

problem of dust storms is due to unorganized way of using land and because of this life and health of billions are being affected. Incidence of diseases like asthma, cancer and many other hazardous diseases are on the rise. The coalition is here to brainstorm and find common ground to cooperate and help combat a serious problem for the betterment of future generation. It is time to act, to come together and work as one force for a better tomorrow.



**Guoji Sun (Representative from China):** Mr. Sun stressed on the fact that Sand and Dust Storms(SDS) may continuously occur and it is a disaster faced by almost all the countries in the world. He suggested that the best way to combat this problem is that we come together as a community. Furthermore, China has been affected severely by desertification and storms and it is important for all the countries to take measures to avoid this type of disaster. Furthermore, he suggested that each country should make different standards of indicators according to their own region to assess the problem.

**Utchang Kang, UNCCD:** Mr. Kang provided information and guidance on assessing and addressing the risks posed by Sand and Dust Storms (SDS). The ultimate goal is to reduce societal vulnerability to SDS hazard by mitigating the impacts of SDS.

On the topic of SDS source mapping and monitoring, he said that the mapping and monitoring process give the privilege for an early warning and advisory on health and agriculture which reduce comprehensive impact and help in risk assessment. He suggested that integrated land and water management should be taken up at different levels. Moreover, land and water use regulation, engineering and building standard and technical cooperation (data collection and accessibility) should be managed well so as to avoid over-exploitation and hazardous calamities.

#### ***Session 4: Actions to Combat Sand and Dust Storms***



**Kiyeon Ko, Representative of Republic of Korea**, introduced the session on action to combat Sand and Dust Storms (SDS).

**Sanjay Srivastva Chief of Disaster Risk Reduction Section, United Nations Economic and Social Commission for Asia and Pacific (UNESCAP):**

Mr. Srivastva delivered his introductory speech on Sand and Dust Storms (SDS) in Asia and the Pacific and observed that Sand and Dust Storms (SDS) is a dynamic and complex risk corridor.

In the context of the Asia-Pacific, climate risk occupies 85% of regional 'risks pace'. The disaster risks are accumulated and clustered in hotspots with trans boundary origins and impacts. He also drew attention to the fact that disasters widen inequalities in outcomes and opportunities. Therefore, the Asia-Pacific Disaster resilience network has proposed to understand the risk from the Sand and Dust Storms (SDS) events and analyze the consequences and its impacts.

**Enrico Bonaiuti, ICARDA/WOCAT:** Mr. Bonaiuti presented the Global Overview of Land Use related Sand and Dust Storms(SDS)impacts and he stressed on the unbalanced representation of SDS impacts across geographic areas. He stressed on the importance of the link between SDS sources and impacts is very complex and needs to be better explored and that there is a need to focus research on hotspot sources, analyse the specific impacts generated, and understand/simulate benefits of locally-feasible SLM practices.

**Bakhodir Kuziev, Representative from Uzbekistan:** Mr. spoke on Multi-Partner Human Security Trust Fund for the Aral Sea region (MPHSTF). He drew attention to the occurrence and causes of Drought and SDS in Uzbekistan. The solution to solve this problem is a targeted action by the Government of Uzbekistan.



**Jamal Annagylyjova, UNCCD** : Mr. Annagylyjova said that countries in Central Asia that suffered from SDS events approached UN for help. These countries need to identify the actions required to overcome the situation. There is a rising apprehension that severe sand and dust storms will be witnessed more in the central Asia as opposed to other countries.

**Abeer Suwaid Alabri** : Ms. Alabri spoke on trans boundary co-operation. She spoke at length on the Segments of Kuwait's economy that is affected by SDS- oil industry, airline industry, sea port and marine terminals, sand encroachment, health, agriculture degradation, road accidents, commercial sales, consumer and household cleaning and labor productivity. A study shows that the Demilitarized Zone between the State of Kuwait and the Republic of Iraq (DMZ) is severely affected by SDS events.

**Jose Camacho, scientific officer, World Meteorological Organisation (WMO)**: Mr. Camacho asked the support to SDS monitoring and forecasts for the Sahelian countries and said that SDS is of a Global Scale & Multidisciplinary Problem that will affect the earth drastically in the coming time.