

# Draft SDS policy framework

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# Draft SDS policy framework

- Context
- Draft Outline of Policy Framework
- SDS definition
- Economic impact assessment of SDS:  
Discussion points drawn from the  
Disaster Literature



# Context

- Sand and dust storms (SDS) = a serious dryland hazard
- Desert dust also affects many people outside drylands due to long-distance transport
- SDS frequency and intensity have increased in some areas in recent decades
- UN resolutions: UNGA (A/RES/70/195) & UNEA2

## UNGA resolution

- acknowledges SDS pose severe impediment to sustainable development of affected developing countries + well-being of their peoples
- emphasizes need to strengthen leadership role of UN system in promoting international cooperation to mitigate and contain SDS

# DRAFT Outline of Policy Framework on Sand and Dust Storms (SDS)

## **Expected Outcome/Vision**

Widespread development and adoption of SDS policy options, where appropriate, in three principal areas:

- (1) monitoring, prediction and early warning;
- (2) impact mitigation, vulnerability and resilience;
- (3) source mitigation.

These policies will establish a mode of SDS management with a major focus on *disaster risk reduction*, as advocated by the Sendai Framework.

# DRAFT Outline of Policy Framework on Sand and Dust Storms (SDS)

## Targets

- Increase the number of countries with SDS policies based on the philosophy of risk reduction, including legislative and instrumental arrangements, and risk reduction strategies for resilience and preparedness
- *Enhance cooperation between [north-south and south-south] countries in SDS management and warning, and source mitigation*
- Increase availability and access to SDS early warning systems and risk information and assessments
- Reduce the number of people affected by SDS
- Reduce the economic losses and damage caused by SDS
- Strengthen resilience and reduce SDS impacts on basic services, particularly transport
- Reduce erodibility and extent of anthropogenic SDS source areas in the context of land degradation neutrality
- Enhance scientific understanding of SDS, particularly in areas such as impacts and monitoring
- Enhance coordination/cooperation among stakeholders in SDS action at national, regional and global levels for strengthened synergies

# DRAFT Outline of Policy Framework on Sand and Dust Storms (SDS)

## **Priorities for Action**

### *(1) monitoring, prediction and early warning*

- Identify and map populations vulnerable to SDS for early warning, including health advisories.

### *(2) impact mitigation, vulnerability and resilience*

- Identify best-practice techniques for physical protection of assets, including infrastructure and agriculture, against SDS in affected areas.
- Establish and implement coordinated emergency response measures and strategies across sectors based on systematic impact/vulnerability mapping/assessment.

# DRAFT Outline of Policy Framework on Sand and Dust Storms (SDS)

## **Priorities for Action Cont.**

### *(3) source mitigation*

- Identify best-practice techniques for source mitigation.
- Highlight synergies among Rio Conventions and related mechanisms and initiatives for SDS source area mitigation strategies.
- Integrate SDS source area mitigation practices into national efforts towards achieving the SDG target 15.3 “Land Degradation Neutrality (LDN)”.

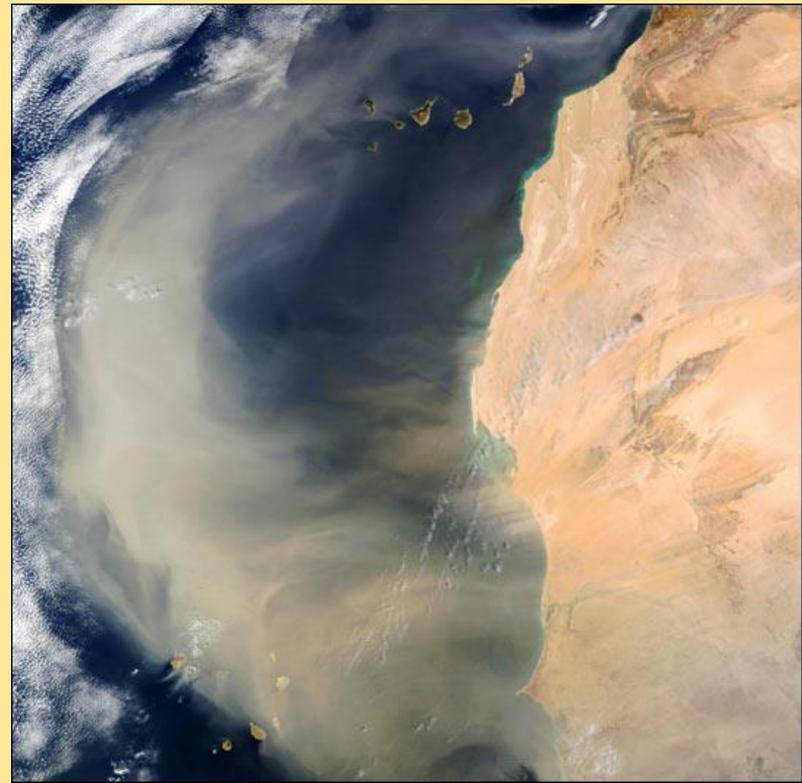
# DRAFT Outline of Policy Framework on Sand and Dust Storms (SDS)

## Priorities for Action Cont.

*Cross-cutting (1, 2 and 3 above)*

- Identify best-practice policy options [and policy failures] at regional/national/local scales.
- Identify key SDS knowledge gaps for focused research.
- Mainstream SDS into disaster risk reduction.
- Build institutional capacity for [coordinated and harmonized] SDS policy development and implementation at regional, national and local levels.
- Explore innovative financing opportunities and other resources needed for SDS actions.
- Establish a coordination mechanism of relevant [UN] organizations for the consolidation of global policy around SDS in order to strengthen synergies and cooperation at a global level.
- Establish a means of implementation (global knowledge network ?)

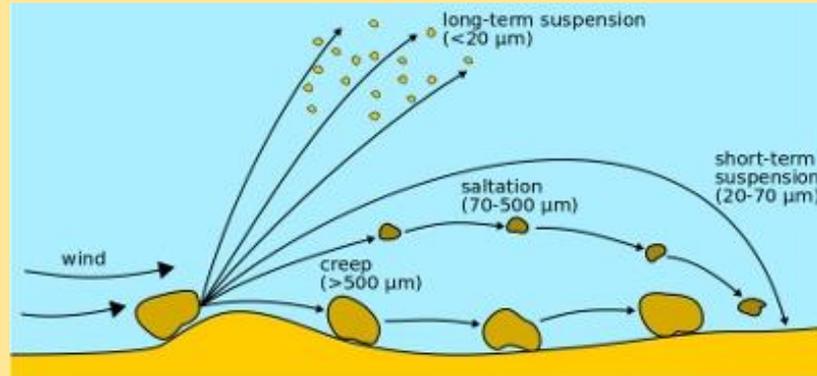
# SDS Issues to ponder



# Sand and dust storms (SDS): definition

Dry, unconsolidated sediments blown from bare ground surfaces

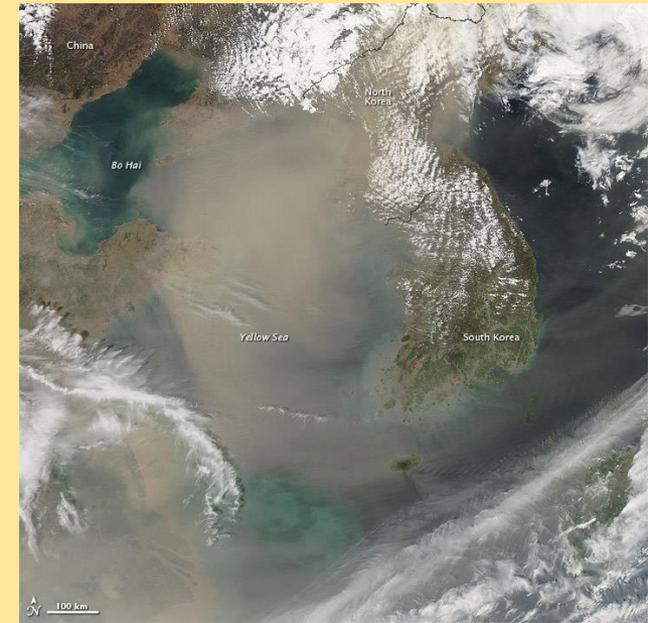
Sand or Dust – grain size



Sand storm:  
local issue



Dust storm:  
local & distant  
(sometimes  
transboundary)  
issue



# Sand and dust storms (SDS): definition

Follow WMO SYNOP Surface Synoptic Observation codes?

ww present weather

05 -- haze

06 -- widespread dust in suspension not raised by wind

07 -- dust or sand raised by wind

08 -- well developed dust or sand whirls

09 -- dust or sand storm within sight but not at station

30 -- slight to moderate duststorm, decreasing in intensity

31 -- slight to moderate duststorm, no change

32 -- slight to moderate duststorm, increasing in intensity

33 -- severe duststorm, decreasing in intensity

34 -- severe duststorm, no change

35 -- severe duststorm, increasing in intensity

98 -- heavy thunderstorm with duststorm

In association with vv visibility code?

# Economic impact assessment of SDS: Discussion points drawn from the Disaster Literature (Hallegatte & Przyluski, 2010)

- Natural disaster: natural event that causes a perturbation to the functioning of the economic system, with a significant negative impact on assets, production factors, output, employment, &/or consumption
- Disasters affect the economic system in multiple ways, and defining the “cost” of a disaster is not easy
- Typologies of disaster impacts usually distinguish between **direct** and **indirect** losses
- **Direct losses** are the immediate consequences of the disaster physical phenomenon
- **Indirect losses** include all losses that are not provoked by the disaster itself, but by its consequences
- Above points probably NOT contentious.

# Direct losses often classified into

## **Direct market losses**

- losses to goods and services traded on markets, for which price easily observed
- e.g. agricultural losses, damaged infrastructure

## **Direct non-market losses** (sometimes aka intangible losses)

- cannot be repaired or replaced through market purchases (i.e. no easily observed price)
- e.g. health impacts, loss of life, ecosystem damage.

# Indirect losses...

- Indirect costs can be caused by hazard destructions or by business interruptions
- Different hazards communities different approaches for defining indirect costs (e.g. business interruption can be in direct losses, indirect losses, or as stand-alone category)
- Costs can be indirect if spanning longer period of time, larger spatial scale or different economic sector than disaster itself
- Can be non-market (e.g. impact on poverty or inequalities).

# Economic impact assessment of SDS: Further issues

**Baseline scenario** needed  
(i.e. what would have occurred in absence of SDS disaster)

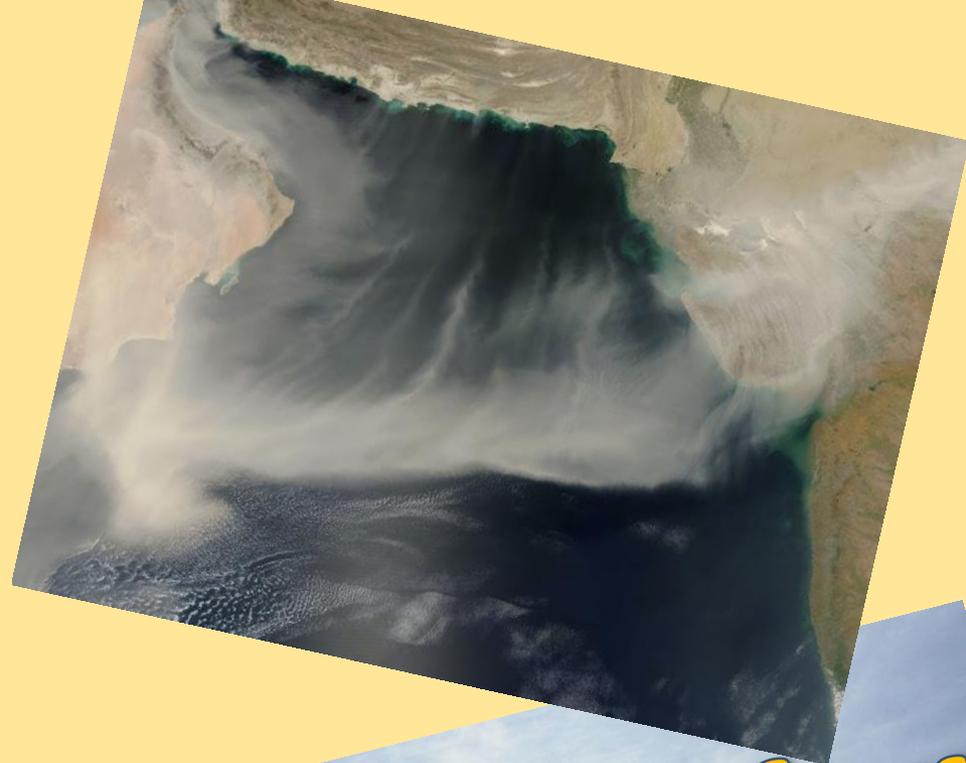
- Several baselines often possible
- No return to baseline = permanent (+ve or -ve) effect, difficult to compare non-disaster scenario

**Purpose of assessment** needed - defining cost of disaster cannot be done independently of purpose

- Different economic agents interested in different types of cost (e.g. households, insurers, local/national government, international institutions).

# Purpose of assessment

- **Insurers** - consequences insured (damage to assets [e.g. rail line, aircraft engine], short-term business interruption)
- **Households** - insurable assets plus other cost categories (e.g. health impacts, perturbation to daily life, income, availability of services)
- **Government** - above plus information on aggregated economic impact (to manage recovery and reconstruction), assessment of total disaster cost (to assess desirability investing in prevention measures)
- **International** - wider economic ripple effects, bilateral relations, compensation?



Thanks for listening