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**Elements of the UNCCD Voluntary Policy Guidelines for
Sand and Dust Storms Source Management**



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I. Introduction

A. Background and rationale

1. Two decisions adopted by the Conference of the Parties (COP) to the United Nations Convention to Combat Desertification (UNCCD) advocate a focus on the management of anthropogenic sand and dust storm (SDS) sources. Decision 31/COP.13 (2017) invited affected Parties to explore options to integrate SDS source mitigation measures into national voluntary land degradation neutrality (LDN) target-setting. This decision was followed by decision 25/COP.14 (2019), which invited Parties, as appropriate, to further explore options to integrate mitigation measures addressing anthropogenic sources of SDS into the subnational, national and regional implementation of the Convention. These Voluntary Policy Guidelines for Sand and Dust Storms Source Management have been drafted in response to these decisions.

B. Objectives

2. The Voluntary Policy Guidelines for Sand and Dust Storms Source Management present practical, proven, gender-responsive, scientifically based and generally accepted principles that can provide a foundation for SDS source management and offer clear guidance on how to translate these principles into practice. These guidelines are intended to result in lower societal vulnerability to the hazard of SDS, with a focus on reducing disaster risk in alignment with the Sendai Framework for Disaster Risk Reduction 2015–2030. This will simultaneously advance sustainable livelihoods, rural development, environmental protection, gender equality and sustainable social and economic development.

C. Nature and scope

3. The guidelines are voluntary in nature and carry no legal obligations. They offer advice and guidance at policy and operational levels, comprising principles and an implementation framework for SDS source management, to be adapted to the needs and capacities of the users. They contribute to national, subregional, regional and global efforts towards mitigating the impacts of SDS by implementing appropriate and gender-responsive management of existing anthropogenic SDS sources.

4. The guidelines may be used by all countries and (sub)regions at all stages of economic development and adapted to specific circumstances. They should be interpreted and applied in accordance with national legal systems and consistent with existing obligations under national and international law.

II. Guidelines

A. Guiding principles of responsible sand and dust storms source management

5. The guiding principles aim to provide assistance in achieving positive outcomes (and avoiding unintended outcomes) during the implementation and monitoring of SDS source management that is compatible with LDN. They are designed to reduce SDS occurrence and contribute to improved and more sustainable livelihoods through SDS source management interventions. These principles are compatible with the LDN concept,¹

¹ <<https://knowledge.unccd.int/knowledge-products-and-pillars/guide-scientific-conceptual-framework-ldn/principles-land>>.

the twelve principles of the ecosystem approach of the Convention on Biological Diversity,² the Restoration Opportunities Assessment Methodology,³ the Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security (VGGT),⁴ and the key principles for sustainable soil management of the Revised World Soil Charter.⁵ Governments may complement these generic principles by also establishing additional nationally specific principles as appropriate.

1. General principles

6. **Maintain or enhance land-based natural capital.** An integrated and sustainable approach should be adopted throughout, given that natural resources and their uses are interconnected. LDN is achieved when the quantity and quality of land-based natural capital is stable or increasing, despite the impacts of global environmental change.

7. **Safeguard tenure rights and enhance human well-being.** Actions taken to implement sustainable SDS source management should recognize, respect and safeguard all legitimate tenure rights of land users⁶ (especially small-scale farmers, pastoralists, women and youth, indigenous peoples and local communities), in line with the VGGT principles, to derive economic benefit and support livelihoods from their activities on the land, and should not diminish the provisioning capacity and cultural value of the land.

8. **Adopt a participatory approach.** Engage with and seek the support of all stakeholders and communities affected by SDS source management interventions by consulting and involving them in all stages of the process, including preparation and planning, data collection and analysis, reporting, evaluating, monitoring and managing. This means ensuring active, free, effective, meaningful and informed participation of individuals and groups in associated decision-making processes. Applying a gender-responsive approach in the participation process is essential to ensure that the participation of women and men is equitable, that their differential needs are addressed, and that the distribution of benefits, resources, status, and rights are equitable. Stakeholders consulted should include women's organizations, as they will have valuable insights into the roles and priorities of women with regard to sustainable land management.

9. **Respect and advance gender equality.** Ensure that stakeholder engagement is gender-responsive and that any impact on women and girls is considered in devising SDS source management interventions. This may include taking specific measures aimed at accelerating de facto equality as and when necessary. A gender analysis is also often conducted as part of LDN transformative projects and programmes (TPPs)⁷ so that SDS source management interventions can build on such analyses in LDN TPP proposals.

10. **Ensure transparency and accountability.** Policies, laws, decisions and procedures adopted during the process of devising and implementing SDS source management interventions should be clearly defined and widely publicized in applicable languages and in formats accessible to all. Individuals, public bodies and non-governmental actors should be accountable and held responsible for their actions and decisions according to the principles of the rule of law.

11. **Promote efficiency.** Ensure that all stages of the implementation and monitoring of SDS source management maximize beneficial outcomes for all while minimizing costs measured in time, resources and effort.

² <<http://www.cbd.int/ecosystem/principles.shtml>>.

³ <<https://www.iucn.org/theme/forests/our-work/forest-landscape-restoration/restoration-opportunities-assessment-methodology-roam>>.

⁴ <<https://www.fao.org/3/i2801e/i2801e.pdf>>.

⁵ <<https://www.fao.org/3/14965E/i4965e.pdf>>.

⁶ Land tenure defines the conditions under which land can be occupied, held or managed, by whom and for how long, and encompasses the rights to use, access and control land.

⁷ <<https://knowledge.unccd.int/sites/default/files/2018-09/LDN%20TPP%20checklist%20final%20draft%20040918.pdf>>.

12. **Consider regional context.** National SDS source management policies and practices should, whenever possible, be integrated into international and regional contexts, given the transboundary nature of many SDS events. Hence, cooperation at the international level is also critical.

2. Principles of implementation

13. **Focus on landscapes.** Understanding, influencing and building consensus among all land user groups and shaping landscape governance is often crucial for the successful implementation of SDS source management strategies, with particular attention to the most vulnerable groups and to gender inequalities. Landscapes may transcend political boundaries and jurisdictions, and sustainable SDS source management requires coordination and cooperation across them. Aligning SDS strategies with national and subnational policy objectives on desertification, land use, climate, biodiversity, gender equality and disaster risk management increases their likelihood of success. Cross-sectoral coordination and cooperation between relevant ministries will also be critical.

14. **Assess multiple benefits.** When selecting an appropriate SDS source management technique, consider how it will interact with other social, economic and environmental functions of the landscape and potentially create co-benefits in addition to erosion control. Consider also which groups of people will benefit from, or be disadvantaged by, specific source management techniques. In this way, a gender-responsive and inclusive suite of enhanced ecosystem goods and services may be generated.

15. **Consider a wide range of strategies.** There are many eligible technical and non-technical strategies for preventing SDS available that should be considered. Abandoned farmland, for example, may regain a protective vegetation cover through natural regeneration, or it may require active restoration by planting shrubs and trees. In practice, many of the available techniques to control wind erosion are used in combination, depending on circumstances.

16. **Tailor to the local context, applying local knowledge.** Deciding upon the method(s) to be used to control SDS depends on numerous factors, including costs, feasibility, timescale and the activities that have caused the degradation concerned. There is no 'one-size-fits-all' approach, and it is important to match strategies for preventing SDS to local ecological, social and economic contexts to improve the chances of success. This reinforces the importance of a participatory and gender-responsive approach, because much information should come from local experts and local communities and stakeholders, including indigenous peoples, with first-hand knowledge of the landscape and livelihoods in the area being assessed. This knowledge is likely to include past land use dynamics which may no longer be obvious, but which continue to affect the current situation. It is important to embrace both the physical and social aspects of the local context.

17. **Manage adaptively for long-term resilience.** Introducing strategies for preventing SDS will not be a one-off exercise because situations are always dynamic. Environmental conditions, human knowledge and societal values are all subject to change, so restoration strategies will have to be reviewed and perhaps adjusted accordingly. New information may become available, and/or a site may respond to an SDS reduction and prevention strategy in an unpredictable way. The drivers of change are numerous and occur over varying timescales. They include the occurrence of drought, the impacts of climate change, fluctuating and changing markets, women's empowerment processes, and developments in local communities such as changes to population and tenure arrangements, to name but a few. This dynamism requires continuous monitoring and learning with meaningful and inclusive participation so that as time progresses, adjustments can be made to the strategies where necessary.

B. Guidelines for action on anthropogenic sand and dust storms source management

18. The incorporation of SDS source management measures into national LDN efforts focuses on the Reduce and Reverse phases in the LDN response hierarchy (Avoid >

Reduce > Reverse land degradation). LDN initiatives aimed at improving land health are likely to incorporate avoidance of SDS as well. The following guidelines are divided into three sequential sections: (i) preparation; (ii) planning; and (iii) implementation, monitoring and adaptive management. Note that the planning and implementation of SDS source management measures as part of LDN should be embedded into existing planning processes rather than being an additional process. Where SDS source management is the primary focus, an appreciation of potential other natural resource management benefits is appropriate, and vice versa. The UNCCD Sand and Dust Storms Toolbox (UNCCD SDS Toolbox)⁸ provides guidance on both perspectives towards SDS source management.

1. Preparation

19. **Develop an enabling environment.** Assuming an LDN lead agency is established, it will have at least begun to develop an enabling environment: a combination of institutional capacity, financial resources, policy and regulatory mechanisms, and science-policy interaction. This process should integrate SDS source management measures into the agreed long-term LDN vision. Particularly important in this regard are reviews of relevant policies for land governance, land-use planning, and natural resource conservation and management, including (i) mechanisms for learning and adaptive management; and (ii) a gender-responsive approach to address gender inequalities. Providing an effective policy framework for SDS source management as part of LDN implementation may require revisions to existing policies if, for example, those policies exacerbate land degradation and lead to SDS.

20. **Engage stakeholders.** A well-designed process will benefit from the active voluntary involvement, at the earliest stages, of local stakeholders with interests in, or influence on, how landscapes are managed. Stakeholders can be identified and engaged through baseline surveys and the use of participatory rural appraisal or similar techniques. It is important to identify the full range of stakeholders to be engaged meaningfully. However, it should be noted that not all stakeholders will be engaged to the same degree.

21. **Conduct preparatory assessments.** Successful SDS source mitigation strategies must be based on up-to-date scientific information on the character of SDS sources, their land degradation status, and the nature and degree of anthropogenic influence, if any. Many sources are highly specific landscape units (e.g. individual fields, ephemeral lakes, piospheres), and these need to be identified and distinguished from more general, larger-scale SDS source areas. The UNCCD Sand and Dust Storms Source Base-map⁹ has been developed to assist in this process. The map is a georeferenced first screening analysis of potential dust sources, and it is recommended that local assessments of SDS sources be carried out at a higher spatial resolution to improve the outputs for the targeting of appropriate SDS mitigation solutions. Once identified, SDS sources should be monitored to assess the variability of their SDS activity. The UNCCD SDS Toolbox contains a module that is specifically focused on SDS source mapping and monitoring.

22. Information also needs to be gathered and evaluated for the landscape surrounding an SDS source area. This will help to identify off-site influences, which in some cases may need to be reduced or eliminated before SDS mitigation can be successful. These preparatory assessments should also include the socioeconomic context of the landscape that includes the SDS source(s). This context is essential because it will help stakeholders to understand land use decisions, identify whether current management regimes are leading to degradation and SDS activity, and inform decisions about which interventions are the most appropriate.

23. **Develop goals and objectives.** The planning and implementation of a project designed to mitigate anthropogenic SDS sources is guided by its goals. These goals are general statements about the desired project results, providing an overall picture of what the project is trying to accomplish. They should be clearly stated and achievable, and be

⁸ <<https://www.unccd.int/land-and-life/sand-and-dust-storms/toolbox>>.

⁹ <<https://maps.unccd.int/sds/>>.

developed by all stakeholders working in partnership. In turn, these goals need to be turned into clear, measurable objectives that can be acted upon. In effect, the objectives provide specific targets, individual actions needed to achieve the goals, and factors that must be changed on the ground to successfully reduce SDS activity in the source area. The objectives should be realistic (e.g. it may not be appropriate to aim for a pre-disturbance state where rapid cultural or climate change is occurring) and accompanied by clear time frames.

2. Planning

24. **Consider the range of intervention options and select the most suitable.** The goals and objectives developed during the preparation phase are used to identify the interventions required. The UNCCD SDS Toolbox contains a module that is specifically focused on SDS source control and management, and it contains numerous options, depending on the nature of the SDS source.

25. Selecting the most suitable intervention(s) for a particular SDS source will depend on the site itself, the surrounding landscape, the feasibility and relative costs/benefits of each intervention and the likelihood of success. Part of the selection process should include the identification of any potentially negative impacts, the specific groups of people who would be impacted (on- and off-site) by each measure and any additional actions that may be taken to limit or mitigate them as much as possible. Note also that in some situations, a short-term intervention may be used while longer term plans are formulated.

26. **Draw up an implementation plan.** This stage involves identifying the steps needed to apply the selected interventions and assign responsibilities and tasks to appropriate actors. Men and women should be involved equally in the responsibilities and tasks. The implementation plan should also incorporate a schedule for timing and guidance on access and permissions (if needed), a budget, the materials required, supervisory structures and any safety matters. The initial plan is likely to be modified and adapted as a result of monitoring and evaluation carried out as part of adaptive management (see para. 27 below).

27. **Draw up a monitoring plan.** Monitoring and evaluation are essential complimentary aspects of the implementation plan. All stakeholders should agree on criteria used for monitoring, as well as details of when and how the monitoring is conducted. The indicators adopted should be measurable, related to the objectives, cost-effective and appropriate to the temporal and spatial scale of the interventions selected. The monitoring plan should include the collection of data and other forms of information, their gender-sensitive analysis, interpretation and evaluation, and a forum for reporting and communicating the findings.

3. Implementation, monitoring and adaptive management

28. **Apply the implementation plan.** The plan should be implemented with monitoring conducted simultaneously so that progress can be measured and evaluated and any necessary modifications to the plan can be made according to the adaptive management approach.

29. **Employ adaptive management.** Applying the monitoring plan developed in the planning phase will provide reliable feedback on activities, results and management. The outputs of monitoring should be assessed at regular intervals and action taken in accordance with the principles of adaptive management. By measuring progress over time, monitoring allows all stakeholders to evaluate whether or not the process is inclusive and proceeding according to plan. Monitoring provides the basis for testing hypotheses that underpin the decisions and the interventions implemented. Monitoring will also provide the evidence base on which aspects of the implementation plan can be iteratively adjusted or adapted if necessary, thus helping to build resilience into the process. Ideally, monitoring should continue after the implementation plan has been completed.