

2019

**Sand and Sustainability:
Finding new solutions for
environmental governance
of global sand resources**



United Nations
Environment Programme

SUMMARY



Key messages

- **The needs and expectations of our societies are driving the demand for sand resources but a continued responsible supply cannot be assumed without improved governance of global sand resources.**

The scale of the challenge inherent in sand and gravel extraction makes it one of the major sustainability challenges of the 21st century. These materials are one of the largest resources extracted and traded by volume, yet it is one of the least regulated activities in many regions. For one of the most traded commodities on the planet, there is very low general awareness about widespread extraction impacts. Local and international journalists are currently leading in uncovering the scale of the impacts while science and policies to support responsible consumption and extraction are lagging behind. Meanwhile, rivers, river deltas and coastlines are eroding, “sand mafias” are thriving and demand continues to grow.

- **Preventing or reducing damage to river, beach and marine ecosystems and social risks to workers and communities in sand extraction sites can be achieved through some already existing solutions:**

Avoiding consumption through reducing over-building and over-design

Society can make more efficient use of sourced aggregates through alterations to infrastructure and building designs so that sand and gravel demand and extraction is reduced to responsible levels.

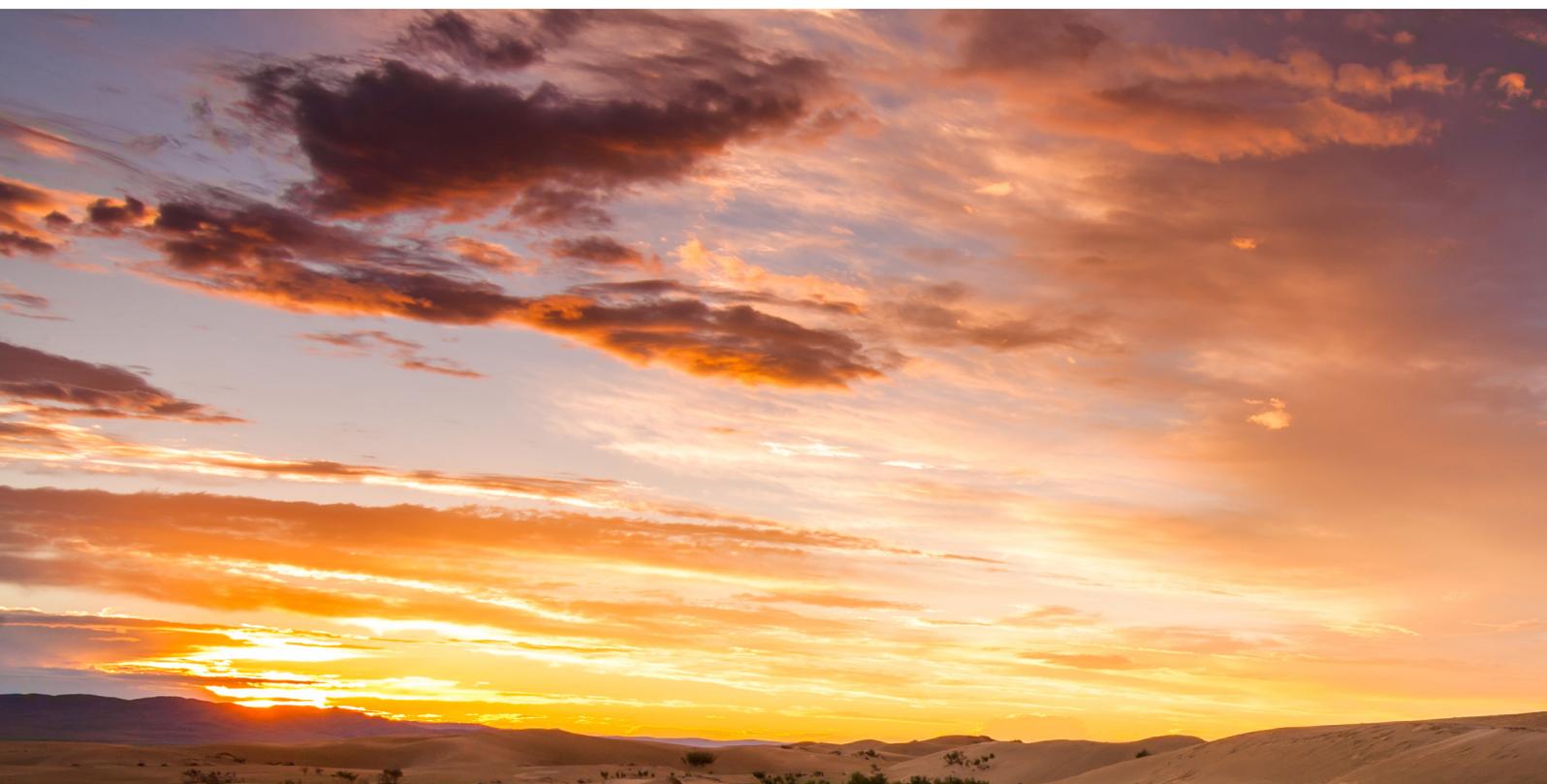
Using recycled and alternative materials to sand in the construction sector

Society can make more efficient use of sourced aggregates through using substitutes to natural sand where feasible so that extraction is reduced to responsible levels.

Reducing impacts through implementing existing standards and best practices

Society can implement existing legal and voluntary standards and best practices in the extractives, environmental and other related sectors while analysing of sourced aggregates through use of substitutes to natural sand so that extraction is reduced to responsible levels.

- **International organisations, national governments, private sector companies, civil society groups and local communities all play critical roles in governance of sand resources. Three main options for joint action are recommended to these groups for faster and more widespread implementation of existing solutions:**



1. Customise existing standards and best practices to national circumstances and extend where necessary to curb irresponsible and illegal extraction

Current legal frameworks are not sufficient considering the global outlook on aggregates demand and production. Existing international treaties, law, standards and best practices provide a foundation, but it is incomplete in places. Where addressed, sand extraction currently crosses extractives, water management, coastal zone management, biodiversity conservation legal systems and best practices. Without an integrated view on the governance, planning and management of these resources, sand extraction risks falling between the cracks into informal, or even illegal practices. Importantly, sand extraction is not regulated in some countries. Guidelines for governing, planning and managing sand extraction at the regional and international legal scale are needed. So is support to countries for customising these guidelines in national policy, law and regulation where these do not currently exist.

2. Invest in sand production and consumption measurement, monitoring and planning

There is a lack of adequate information on sand extraction. We do not understand sand production and transport systems well in the context of current day geological and hydrological processes. Sand and gravel are a challenge to trace to their sources. Strategic monitoring for governance, planning and management of global sand resources is lacking. Coordination across established economic, social and environmental monitoring programmes could help quick start a global, regional and national sand resource monitoring programmes. International community organisations with mandates and access to relevant data need to collaborate on a rapid information synthesis, design a long-term monitoring programme and produce a rapid assessment tool in the context of existing processes in EIA, SEA, Responsible Mining and water governance.

3. Establish dialogue between key players and stakeholders in the sand value chain based on transparency and accountability

The sand industry is fragmented and significantly informal in some parts of the world. Identifying existing sand extraction and trading companies requires peeling back many layers in a complex value chain– particularly in emerging economies. While improving legislative frameworks and regulation is critical, all actors from extraction sites to global levels, will need to be involved in next steps. International community, governments, industries, civil society including the media, nongovernmental organisations and the research and education sector have a role to play developing constructive policies and voluntary actions as an enabling conditions for real change.

Steering deep transformation in how we think about, plan for and manage sand resources. It will mean considering sectoral interdependence and a mix of solutions and actions with a long-term perspective. The impediments to change are not technical, but stem from poor awareness and governance. Building consensus through public awareness-raising and improved coordination across global, regional, national and sub-national levels on this critical sustainability challenge is the starting point. It will be a long road, but the key to a rapid yet smooth transition to more sustainable sand resource sourcing, while reducing the demand in parallel, lies in cooperation.

