SAFEGUARDING THE MEKONG

Advancing Sand Governance and Biodiversity Protection for Climate Resilience in Laos

BACKGROUND

The 'Sand Governance for Climate Resilience in Laos' project is supported by the Climate Action for a Resilient Asia (CARA) initiative and implemented by WWF-Laos in partnership with the Lao Academy of Social and Economic Sciences (LASES), with financial support from the Government of the United Kingdom through the Foreign, Commonwealth and Development Office.

Conducted from mid-2025 to early 2026, the project examined freshwater governance and the legal, policy and regulatory framework for sand and gravel mining in Laos. It assessed potential environmental and social impacts associated with sand mining, including riverbank erosion, habitat degradation, biodiversity loss, and risks to the livelihoods of river-dependent communities.

The project also identified gaps and opportunities to strengthen policy implementation, intersectoral coordination, monitoring and enforcement. Its findings are intended to support more effective, evidence-based management of sand and gravel extraction, helping balance development needs with the long-term health and resilience of the Mekong River and its tributaries in Laos.

SAND: ESSENTIAL FOR DEVELOPMENT, VITAL FOR RIVERS

In 2025, more than 6.5 million cubic metres of sand and gravel were extracted in Lao PDR by around 356 licensed operators, reflecting growing infrastructure and urban-development demand.

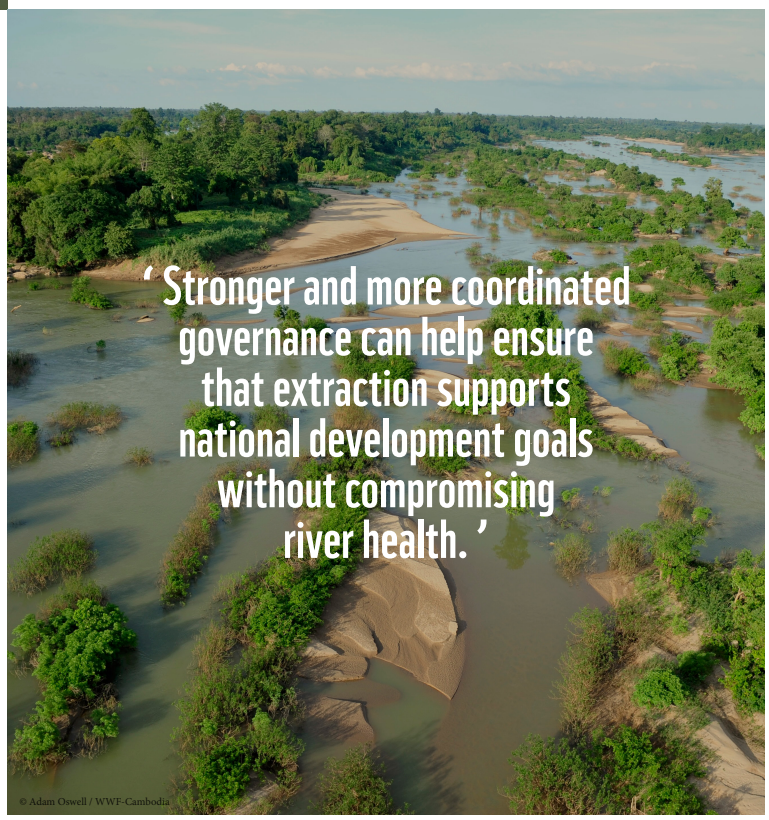
Globally, around 50 billion tonnes of sand and gravel are used each year, making them the world's most widely extracted natural materials.

Sand and gravel are essential for development, but also vital for healthy river systems, biodiversity, water quality and river-dependent livelihoods.

Rapid infrastructure and urban development are fuelling increased demand for sand and gravel across Lao PDR, placing growing pressure on the Mekong River, its tributaries and the communities that depend on them. Stronger and more coordinated governance can help ensure that extraction supports national development goals without compromising river health.

New national research led by LASES identifies practical opportunities to strengthen cross-sectoral coordination, sediment management, environmental and social safeguards, as well as monitoring and compliance.

The findings support evidence-based decisions that balance infrastructure and economic development with environmental and social considerations.



MORE THAN A CONSTRUCTION MATERIAL

Sand and gravel are essential materials for roads, housing, public infrastructure and land elevation in flood-prone areas. Yet sand is far more than a construction material. In river systems, it is part of a dynamic balance between water flows and sediment. It helps shape river channels, supports aquatic habitats and biodiversity, contributes to water quality, and can help buffer climate-related risks.

When sand extraction exceeds the amount naturally replenished by river processes, this balance can be disrupted, creating a sediment deficit that may affect ecosystems, infrastructure and communities.

Research and consultations undertaken through the project highlight potential risks where extraction is not adequately planned, monitored or managed, including riverbed lowering, riverbank erosion, changes in sediment flows and river morphology, declining water quality, habitat degradation, impacts on fisheries and biodiversity, and pressure on agriculture and other river-dependent livelihoods.

KEY FINDINGS AND PRIORITY ACTIONS FOR STRONGER SAND GOVERNANCE

The national assessment, led by LASES, reviewed more than 40 relevant publications and legal documents; consulted over 70 representatives from government agencies and stakeholders at national, provincial and district levels; engaged sand mining operators; and carried out participatory assessments in communities in Vientiane Capital and the provinces of Vientiane, Borikhamxay, Khammouane and Savannakhet.

The research recognizes the Government of Lao PDR's ongoing commitment to sustainable development, alongside the legal, institutional and coordination frameworks already in place for managing sand and gravel extraction. It also identifies opportunities to further strengthen cross-sectoral coordination, sediment management and basin-level planning, environmental and social safeguards, technical capacity at subnational levels, and monitoring and compliance systems.

Key actions identified through the national research include:

- **Strengthening** cross-sectoral coordination among relevant ministries, provincial authorities and other stakeholders.
- **Integrating** sediment management, demand assessment and river basin planning into decision-making, including consideration of scientifically informed extraction limits.
- **Strengthening** Strategic Environmental Assessment, Environmental and Social Impact Assessment, mitigation planning and regular compliance monitoring.
- **Improving** project approval, licensing and regulatory frameworks to clarify roles, reduce overlaps and support consistent implementation.
- **Building** technical and financial capacity at national and subnational levels for environmental assessment, inspection, monitoring and enforcement.
- **Improving** monitoring, transparency and coordinated action to prevent and address illegal extraction, while promoting resource efficiency and environmentally responsible alternatives where feasible.

> We know what needs to happen next. Together, we can make stronger sand governance in Laos a reality – balancing development needs with healthy rivers, biodiversity and resilient communities.

SAND: THE HIDDEN VALUE OF THE MEKONG

LAO ACADEMY OF SOCIAL AND ECONOMIC SCIENCES
WWF
CARA Climate Action for a Resilient Asia
UK International Development
Partnership | Progress | Prosperity