

# Knowledge sharing on environmental and social sustainability issues

## A nature-positive and security-oriented perspective

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A sustainable, secure future is inherently nature-positive.

The health and well-being of human populations, economies, and communities are fundamentally reliant on robust ecosystems. Nature underpins essential resources such as clean water, climate stability, flood mitigation, food security, raw materials, and cultural services. When ecosystems are degraded, it heightens risks, diminishes resilience, and amplifies vulnerability—particularly in the context of climate change.

Nature-based solutions (NbS), which enhance ecological functions, provide effective responses to water-related challenges while yielding numerous environmental, social, and economic benefits. Sharing knowledge is crucial for promoting environmental and social sustainability through NbS in integrated water management; this effort should be paired with skill development—including systemic thinking, collaboration, and accountability—to achieve enduring resilience through education.

Humanity's reliance on ecosystem services is critical for ensuring water availability and quality; these services can mitigate extreme water events such as droughts and floods while supporting biodiversity and economic prosperity. Healthy watersheds and wetlands play vital roles by performing natural filtration, retaining soil, and regulating the climate—functions that lower the risks associated with traditional infrastructure.

The International Union for Conservation of Nature (IUCN) defines Nature-based Solutions as actions aimed at protecting, sustainably managing, and restoring natural or modified ecosystems to effectively tackle societal challenges while simultaneously providing benefits to human well-being and biodiversity. This standard highlights co-benefits, inclusive governance practices, and adaptive learning as fundamental elements for sustainable application.

Social sustainability hinges on the collaborative generation and dissemination of knowledge among various stakeholders including public authorities, practitioners, local communities, researchers, and NGOs. Inclusive governance processes enhance legitimacy while fostering a collective understanding of issues and potential solutions—thereby increasing acceptance of interventions.

Knowledge exchange must be a continuous two-way process: moving from scientific research to practical application as well as from lived experiences to policymaking. Structured knowledge sharing enhances awareness alongside decision-making processes. Water-related challenges are multifaceted—integrated across sectors—and thus require stakeholders to possess the skills necessary to navigate complexity while maintaining collaborative governance.

Systemic thinking equips stakeholders to grasp feedback loops along with interdependencies across ecological systems as well as socio-economic frameworks. Competency models in sustainability like GreenComp underscore the significance of embracing complexity to tackle challenging problems effectively. The implementation of NbS encompasses various sectors (including water management authorities, urban planning agencies, agriculture sectors) across different governance levels (local to regional).

Effective collaboration necessitates negotiation skills along with shared objectives and collective problem-solving approaches. Competencies in cooperation ensure that multi-stakeholder groups evolve beyond mere transactional interactions into lasting partnerships. Adaptive learning allows practitioners to refine their strategies based on feedback mechanisms thereby enhancing resilience in unpredictable contexts.

Fostering responsibility encourages long-term stewardship that transcends project timelines. Framing initiatives within a nature-positive context emphasizes that water resources, ecosystems, and societies are interconnected; ensuring this integration relies on shared comprehension coupled with sustained capacity for learning.

Incorporating knowledge sharing into organizational practices along with governance structures boosts resilience supports equitable outcomes—and facilitates the scaling up of NbS across diverse regions.

## References

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