CSFD POLICY BRIEF - 2026

SCIENCE AS A COMMON GROUND IN AN ERA OF DISRUPTION

Strengthening Science Diplomacy at the Heart of the United Nations Convention to Combat Desertification

▲ COP16 opens in Riyadh - © CSFD

Context: Why science diplomacy matters now

Land degradation and desertification are accelerating globally, while droughts are becoming more frequent and severe. Along with other human-induced pressures, they are increasingly undermining food security, biodiversity, water resources, climate resilience, and social stability. At the same time, the international landscape is becoming increasingly fragmented, marked by geopolitical tensions, technological disruption, growing inequalities, and declining trust in multilateral cooperation. Recent foresight analyses, such as *Navigating New Horizons*, highlight that global governance is entering a period of systemic turmoil, deep uncertainty, and interdependent environmental, technological, and geopolitical risks. Ecological tipping points, rapid technological change, and social fragmentation are reshaping the foundations of international cooperation.

In this context, achieving Land Degradation Neutrality (LDN) under the United Nations Convention to Combat Desertification (UNCCD) requires more than robust scientific evidence, demanding mechanisms capable of sustaining dialogue, trust, and collective action despite uncertainty and fragmentation.

Science diplomacy provides such a mechanism. It operates through three complementary and mutually reinforcing dimensions: **science in diplomacy,** whereby scientific knowledge informs international negotiations and policy decisions; **diplomacy for science**, whereby diplomatic processes enable international scientific cooperation; and **science for diplomacy**, whereby scientific collaboration builds trust, strengthens relationships, and maintains dialogue among countries. Together, these three dimensions ensure that science, besides informing international decision-making, also enables cooperation and fosters trust across geopolitical boundaries.

Within the UNCCD, these dimensions are already reflected in practice. The Science-Policy Interface (SPI) provides independent, policy-relevant scientific assessments that support negotiations and implementation (**science in diplomacy**). The Convention has created an enabling framework for international scientific cooperation through the development of harmonized methodologies, shared monitoring systems, Land Degradation Neutrality indicators, global drought monitoring initiatives, and collaborative knowledge platforms, allowing countries to generate, compare and exchange knowledge (**diplomacy for science**). Beyond knowledge production, the UNCCD also brings together scientists, policymakers, practitioners, Indigenous Peoples, local communities and civil society in long-term collaborative processes that foster trust, mutual learning and sustained dialogue across regions, even during periods of geopolitical tension (**science for diplomacy**).

Why COP17 is a turning point

COP17 occurs at a pivotal moment for both the global context and the UNCCD evolution. While environmental crises intensify and geopolitical fragmentation weakens multilateral cooperation, maintaining dialogue, trust and collective action has become as important as generating scientific knowledge. At the same time, the establishment of a permanent Science-Policy Interface (SPI) at COP16 provided the Convention with a stronger institutional framework for integrating science into decision-making.

COP17 therefore represents the first opportunity to move beyond strengthening the science-policy interface alone and to recognize **science diplomacy as a strategic function of the Convention**. This means ensuring not only that science informs decisions, but also that the Convention actively promotes international scientific cooperation and uses scientific collaboration to build trust among Parties and support implementation.

Rather than creating new institutions, COP17 can launch a process that connects the existing components of the Convention, its permanent SPI, national science-policy mechanisms, research institutions, monitoring systems, policymakers, practitioners, Indigenous Peoples, local communities and civil society, into a coherent and collaborative science ecosystem. Science diplomacy provides the framework that links these actors, accelerates the circulation of knowledge, reinforces mutual trust and ultimately strengthens implementation of Land Degradation Neutrality.

The critical role of science diplomacy in achieving Land Degradation Neutrality

Implementing Land Degradation Neutrality requires navigating complex environmental, economic and social trade-offs under conditions of uncertainty, divergent national priorities and uneven institutional capacities. Science diplomacy is therefore not an optional complement to implementation, but rather one of its enabling conditions, as it provides the evidence, cooperation mechanisms and trusted relationships needed to align action across countries and sectors.

▲ CRIC21, Samarkand, Ouzbékistan, 2023 © CARI

Science informing diplomacy

Scientific knowledge supports negotiations, policy development and multilateral decision-making on land degradation, restoration and drought resilience. By grounding discussions in independent, policy-relevant evidence, it strengthens transparency, credibility and effectiveness while reducing the influence of short-term political interests.

Science building trust

Beyond informing policy, scientific cooperation creates neutral spaces where countries, institutions, and knowledge communities can work together despite geopolitical tensions. Through shared data, joint research, and common methodologies, science builds confidence, strengthens mutual understanding, and supports long-term international cooperation. This role is especially critical amid growing international tensions, where science remains one of the few universally shared languages: by maintaining channels for dialogue, data-sharing and collaborative research even under strain, it turns shared vulnerabilities into opportunities for collective action.

▲ Plant Genetics Laboratory, Niger © Marie-Lise Sabrié / IRD

Science strengthening collective resilience

Science diplomacy also helps societies anticipate, prevent, and manage shared environmental risks. Land degradation, water scarcity, biodiversity loss, and climate change increasingly interact across borders, with consequences for food security, livelihoods, migration, and social stability. These risks take two closely linked forms: i) cascading crises, where local disruptions can escalate through non-linear thresholds into broader social and political instability, and ii) disruptions from fast-moving technologies such as artificial intelligence, biotechnology, and remote sensing, which bring both opportunities and new governance challenges for land restoration. Science diplomacy strengthens early warning systems and anticipatory governance for the former, and promotes transparency, ethical standards and equitable access for the latter, ensuring both contribute to resilience rather than deepening inequalities. By fostering collaborative monitoring, integrated assessments, and inclusive knowledge systems, science diplomacy strengthens collective resilience. This includes fostering 'response diversity'—multiple, **adaptable ways of responding** to change rather than a single fixed strategy. In doing so, it also contributes to peace by reducing tensions over natural resources and creating trusted conditions for cooperative and adaptive land governance.

Thus, science diplomacy cannot be regarded merely as a supportive tool. It is a cornerstone of achieving Land Degradation Neutrality. By embedding scientific cooperation within diplomatic and policy processes, the UNCCD can strengthen trust, reinforce multilateralism, and accelerate collective action toward resilient land systems.

▼ Agroecology Training in Togo © IRD - Tiphaine Chevallier

Operational recommendations

Together, these recommendations aim to strengthen the conditions under which science can inform, connect, and sustain implementation of the Convention, from knowledge generation to policy dialogue, collective action, and resilience.

For policymakers and international organizations

Protect scientific cooperation as a global public good

In fragmented geopolitical contexts, scientific cooperation remains one of the few mechanisms capable of maintaining dialogue and trust-building. However, emerging technologies and environmental data systems create new governance challenges.

Recommendations:

- *Support international agreements that maintain scientific collaboration, data-sharing, and research mobility on critical environmental issues.*
- *Promote transparency, interoperability and shared governance for environmental knowledge and monitoring systems.*

Integrate scientific foresight into diplomatic processes

Climate change, land degradation, biodiversity loss, water stress, and food insecurity interact through cascading effects that can escalate into geopolitical crises. Reactive governance is no longer sufficient in a context of systemic uncertainty.

Recommendations:

- *Strengthen anticipatory capacities within international institutions and foreign policy frameworks to help societies navigate uncertainty and sustain cooperation. This includes moving beyond reactive crisis management.*
- *Support integrated environmental monitoring, scientific foresight, and international data-sharing to identify interconnected risks before they escalate.*

Build a connected science-policy ecosystem under the UNCCD umbrella

Achieving Land Degradation Neutrality requires more than high-quality scientific evidence. It depends on sustained interactions among scientific institutions, policymakers, practitioners, Indigenous Peoples, local communities and civil society across multiple levels of governance.

Recommendations:

- *Strengthen connections between the SPI, national science-policy mechanisms, research institutions and implementation actors. Reinforce the SPI as a convergence hub for diverse scientific communities, knowledge systems, and international partners.*
- *Promote collaborative scientific networks across regions and disciplines.*
- *Encourage continuous dialogue among scientists, policymakers, practitioners and local knowledge holders.*
- *Support science diplomacy as the framework that connects knowledge generation, policy development and implementation.*

▼ Living Lab discussion in a village near Meskan, Ethiopia, EWA-BELT Project © Quirico Migheli

Invest in cooperative resilience and engage civil society and peacebuilding

Land restoration requires transboundary cooperation, shared monitoring, and collaborative governance. Civil society and citizens are critical but often overlooked actors. In fragmented geopolitical contexts, shared environmental challenges are also opportunities for peaceful cooperation.

Recommendations:

- *Engage civil society and citizens:*
  - *Establish co-designed mechanisms (e.g., citizen forums, advisory committees).*
  - *Promote education and awareness campaigns to embed Land Degradation Neutrality as a collective priority.*
- *Orient climate and restoration finance toward collaborative initiatives that strengthen local capacities and transboundary cooperation. This includes funding grassroots restoration projects such as agroecology, pastoralism, and agroforestry.*
- *Promote cross-border restoration initiatives (Great Green Wall, Bonn Challenge, among others).*
- *Use science to de-escalate conflicts: for example, through neutral data platforms accessible to all countries and joint scientific teams for collaborative research.*
- *Integrate solidarity mechanisms into Land Degradation Neutrality financing (e.g., regional funds for vulnerable countries).*

ILLUSTRATIVE EXAMPLE: THE FRENCH SCIENTIFIC COMMITTEE ON DESERTIFICATION (CSFD)

The CSFD provides one illustration of how an independent national science-policy mechanism can contribute to science diplomacy. By bringing together scientists from diverse disciplines and maintaining long-term dialogue with policymakers, practitioners and civil society, it helps translate scientific knowledge into policy while fostering trust, cooperation and adaptive governance. Similar mechanisms, adapted to national contexts, could strengthen the science-policy ecosystem of the Convention.

For the scientific community

Develop transdisciplinary approaches

Land degradation challenges emerge from interconnected social and ecological systems characterized by complexity and uncertainty. Sectoral approaches are insufficient.

Recommendations:

- *Integrate environmental sciences, social sciences, and local knowledge to address systemic interactions.*
- *Strengthen collaboration between climate, land, water, biodiversity, and health communities.*

◀ Interviews with villagers, Niger Marie-Lise Sabrié © IRD

Strengthen scientists' role as dialogue facilitators and train them for policy engagement

In polarized contexts, science can maintain communication channels and create shared spaces for dialogue.

Recommendations:

- *Train scientists in risk communication, mediation, and international negotiation. This can include negotiation simulations, COP simulations and stakeholder analysis, scenario planning, and joint courses with social scientists.*
- *Promote citizen science and hybrid dialogues to bridge gaps between experts, policymakers, and communities.*
- *Create mentorship networks linking early-career researchers with experienced diplomats and policymakers.*

Promote adaptive and inclusive knowledge systems

Governance depends on both evidence production and collective learning and adaptation under uncertainty.

Recommendations:

- *Encourage collaborative learning processes that integrate multiple knowledge forms.*
- *Foster distributed scientific networks to support adaptive governance.*
- *Acknowledge and communicate the limits of science (such as uncertainties in climate models and data gaps).*

Conclusion

The establishment of a permanent Science-Policy Interface marks the beginning, marks the first step in a broader transformation in how science supports the Convention. The next step is to build a connected science ecosystem in which science diplomacy links scientific cooperation, policy dialogue, and implementation across all levels of the UNCCD. This means building the adaptive capacity and response diversity needed to navigate non-linear change, rather than assuming it can be predicted or controlled.

In an era of increasing geopolitical fragmentation and systemic uncertainty, investing in science diplomacy strengthens both the scientific foundations of the Convention and the conditions that make international cooperation possible. It helps build trust among Parties, supports multilateral engagement, and enhances the Convention's long-term effectiveness. By recognizing science diplomacy as a strategic function of the UNCCD, the Convention would be better positioned to support evidence-informed decision-making and foster international collaboration to achieve Land Degradation Neutrality.

A Note on implementing this Policy Brief

While this Policy Brief provides the scientific tools and evidence needed to strengthen diplomacy, putting its recommendations into practice will require addressing challenges beyond scientific expertise alone. The French Scientific Committee on Desertification (CSFD) stands ready to engage with stakeholders to address these challenges.

- **Managing Editor:**
Jean-Luc Chotte, CSFD Chair
- **Authors:**
Jean-Luc Chotte (French National Research Institute for Sustainable Development, IRD/CSFD), Jean-Daniel Césaro (Agricultural Research for Development, CIRAD/CSFD), Abigail Fallot (CIRAD/CSFD), Sonia Kéfi (French National Centre for Scientific Research, CNRS/CSFD), Christian Leduc (IRD/CSFD), Quirico Migheli (Desertification Research Centre, NRD-University of Sassari/DesertNet International/CSFD), Alexia Stokes (French National Research Institute for Agriculture, Food and Environment, INRAE/CSFD)

- **Layout:** Agropolis International
- **Printing:** LPJ Hippocampe (Montpellier, France)

Contact us:
CSFD - Comité Scientifique Français de la Désertification
Agropolis International
1000 Avenue Agropolis
34 090 Montpellier
France
Tél.: +33 (0)4 67 04 75 75
csfd@agropolis.fr
www.csf-desertification.eu

With the support of:

MINISTÈRE DE L'ENSEIGNEMENT SUPÉRIEUR, DE LA RECHERCHE ET DE L'ESPACE
MINISTÈRE DE LA TRANSITION ÉCOLOGIQUE, DE LA BIODIVERSITÉ ET DES NÉGOCIATIONS INTERNATIONALES SUR LE CLIMAT ET LA NATURE
MINISTÈRE DE L'EUROPE ET DES AFFAIRES ÉTRANGÈRES
MINISTÈRE DE L'AGRICULTURE, DE L'AGRO-ALIMENTAIRE ET DE LA SOUVERAINETÉ ALIMENTAIRE

Find us on :