

# JOINT COMMUNICATION ON RETHINKING THE FUTURES OF MEDITERRANEAN LAND AND WATER



A science–policy conference to capitalize on the legacies  
of recent PRIMA research and innovation projects

 **ACADEMY OF ATHENS, GREECE**  
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## Preamble

The Mediterranean stands at a critical crossroads. Rich in ecological diversity and cultural heritage, this region faces intensifying pressures from climate change, desertification, water scarcity, and socio-economic inequality. These interconnected challenges transcend borders and sectors, generating instability and competition over natural resources. Their complexity and fragmented nature demand collaborative responses that connect science, policy, and society, while engaging stakeholders and local communities in co-developing sustainable pathways.

The Partnership for Research and Innovation in the Mediterranean Area (PRIMA), established in 2018 as an EU Institutionalised Partnership under Horizon 2020, aims to strengthen Euro-Mediterranean cooperation on water scarcity, sustainable agriculture and resilient food systems. With nearly €600 million mobilised, over 260 cross-border projects funded, over 2,500 participants engaged, 170 exploitable results produced, and 127 demonstration sites established, PRIMA has demonstrated its capacity to build partnerships and validate innovations across diverse Mediterranean contexts.<sup>1</sup> As PRIMA's current mandate approaches completion in 2027, the need for a successor framework (PRIMA 2) has become evident. The evolving context, marked by intensifying drought, land degradation, declining soil fertility, water–food–energy vulnerabilities, geopolitical instability and socio-economic inequality, requires an approach that consolidates validated solutions, enables territorial scaling, and strengthens the science–policy–practice interface to support land restoration, sustainable water governance, and climate resilience across Mediterranean communities.

This communication embodies the collaborative values it promotes, as it has been developed through multiple participatory stages. Initially, an online survey and the circulation of a draft version allowed a diverse group of researchers, practitioners, and policymakers to share their perspectives before the conference. At the science-policy conference in Athens on 11 November 2025, keynote presentations by PRIMA Foundation, the Food and Agriculture Organisation of the United Nations (FAO), the United Nations Convention to Combat Desertification (UNCCD), and the University Mohammed VI Polytechnic (UM6P), provided the strategic and institutional context, framing Mediterranean land and water challenges within global sustainable development and climate action frameworks. An intergenerational panel discussion, coordinated by the NextGen4MED youth-led initiative, brought together early-career researchers and senior experts from the PRIMA-funded projects SALAM-MED, OurMED, Ag-WaMED, NATMed, and SUREPASTOR to reflect on the gap between scientific knowledge and transformative practice. Lastly, an interactive drafting session enabled participants to collectively identify and prioritise research, policy, and adoption recommendations, ensuring that this document reflects not only the evidence base but also the lived experience and strategic priorities of a diverse Mediterranean community.

The following recommendations are informed by a set of complementary theoretical frameworks. The research priorities of this joint communication are grounded on a nexus approach, recognising the interdependencies among water, energy, food, soil, and ecosystems, and addressing trade-offs and synergies across these domains. This document also draws on knowledge co-creation principles, emphasising the need for a science-policy-practice interface that is not merely consultative but one where researchers, policymakers, practitioners, and communities collaboratively shape priorities from the outset. A third framework is the dual readiness approach, combining Technology Readiness Levels (TRL) with Societal Readiness Levels (SRL). While TRLs have effectively guided applied research toward market-readiness, experience across PRIMA projects has shown that technical maturity alone is insufficient for widespread adoption. SRLs complement this by assessing the preparedness of social, institutional, governance, and cultural environments necessary for innovations to extend beyond the pilot stage.

Building on these theoretical frameworks, along with empirical evidence from research projects, we identify opportunities to deepen impact and expand Euro-Mediterranean cooperation through a more integrated, inclusive, and adoption-oriented framework. Our recommendations aim to inform the PRIMA2 Joint Programme, the UNCCD strategies for land restoration and drought resilience in the Mediterranean region, and FAO initiatives on sustainable agriculture, water management, and food security. At the heart of this collective effort lies a clear ambition: to capitalise on proven approaches while expanding pathways from evidence to adoption, strengthening partnerships for lasting and scalable change, and promoting transformative innovations that enhance resilience and sustainability for Mediterranean societies and ecosystems.

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<sup>1</sup> [https://future4prima.eu/wp-content/uploads/2025/09/JP-clean-for-consultation\\_2025.pdf](https://future4prima.eu/wp-content/uploads/2025/09/JP-clean-for-consultation_2025.pdf)

# A science-policy-practice interface on the priorities for the future of Mediterranean land and water

## CONSIDERING THAT

PRIMA's experience has yielded valuable lessons about effective Euro-Mediterranean cooperation:

### 1. Joint Governance and Science Diplomacy

PRIMA's co-funding model, bringing together EU and non-EU Mediterranean countries under shared governance, has proven effective in facilitating **science diplomacy** and balanced partnerships. When Southern and Northern Mediterranean actors co-design funding priorities and evaluation criteria, projects better reflect regional needs and generate **locally relevant** solutions. Future programming should clearly distinguish between Section 1 and Section 2 research calls regarding expectations, implementation approaches, and participation constraints to address diverse contexts and capacities across Mediterranean countries.

### 2. Integrated Nexus Approach

Projects adopting a **nexus** lens, recognising interdependencies among water, energy, food, soil, and ecosystems, have been more successful in addressing complex **trade-offs and synergies** under climate stress, land degradation and desertification, recurrent drought and demographic pressure. Examples include combining Subsurface Water Retention Technology with compost and mycorrhizae for argan agroforestry in Morocco, demonstrating water-soil-livelihood nexus benefits (SALAM-MED project); and the DSS-CAFE tool in Spain, enabling forest managers to balance multiple forest ecosystem services (SALAM-MED project).<sup>2</sup>

### 3. Co-design through Living Labs

Projects engaging farmers, communities, and local institutions from the outset have shown greater potential for bridging the innovation-adoption gap and achieving higher adoption rates. **Living Labs** enable stakeholders to diagnose challenges, evaluate trade-offs, and adapt solutions to local contexts, moving beyond extractive and top-down research toward knowledge co-creation that integrates local and scientific knowledge.

### 4. Business model development and innovation support

Dedicated support for **exploitation and scaling** (e.g. the Horizon Results Booster Service) has enabled outcomes to progress from concept to market-readiness.<sup>3</sup>

## RECOGNISING THAT

Opportunities exist to deepen PRIMA's impact by complementing strong technological progress with enabling conditions for systemic transformation:

### 1. Expanding Beyond Technology-Centric Models

While emphasis on **Technology Readiness Levels** (TRL) has effectively supported applied research, future programming could benefit from deeper integration of socio-economic, cultural, and institutional dimensions that shape adoption pathways. Greater attention to social sciences, humanities, behavioural research and **indicators of societal transformation** would complement and enhance technical achievements.

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<sup>2</sup> <https://platform.salam-med.org/living-lab/morocco/>

<https://platform.salam-med.org/technologies/adaptive-vegetation-management-tool-cafe/>

<sup>3</sup> <https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/d-e-booster>

## 2. **Strengthening Pathways from Pilots to Widespread Adoption**

While many innovations have been successfully validated at pilot stage, the transition from technical validation to social adoption requires not just proven technology but also governance frameworks, financing mechanisms, stakeholder capacity, and sociocultural legitimacy.<sup>4</sup> Enhanced support for **scaling** and **policy relevance** represents a significant opportunity.

## 3. **Deepening Science-Policy-Practice Interface**

While project results are scientifically robust, greater potential exists to strengthen their translation for **policy use** and engage policymakers earlier in project design.<sup>5</sup> Extending project durations from 3 to 4 years, particularly for transdisciplinary topics requiring trust-building among diverse stakeholders, would enable deeper engagement. Mechanisms to sustain partnerships beyond funding periods could better enable systemic change and **preserve valuable stakeholder networks**.

## 4. **Enhancing Balance in Participation and Leadership**

While PRIMA has successfully engaged diverse Mediterranean actors, opportunities exist to strengthen **Southern Mediterranean** leadership in coordination roles, enhance pathways for Small and Medium Enterprises (SME) participation (currently 6-14%), and ensure **women, youth, and local communities** are positioned as active co-leaders rather than primarily as consultees or recipients of research. This would deepen ownership, capacity, and sociocultural relevance of solutions.

## **WE RECOMMEND**

### **Strategic Evolution Toward Technology-Society Integration**

Building on PRIMA's innovation achievements, we propose evolving toward a dual readiness framework combining Technology Readiness Levels (TRL) with Societal Readiness Levels (SRL).<sup>6</sup> This approach enables the assessment of both technical maturity and the preparedness of social, institutional, governance, and cultural environments necessary for transformative change.

## **R. RESEARCH PRIORITIES**

### **R1. Advance Nexus Approaches**

Encourage future projects to adopt integrated nexus approaches that generate multiple co-benefits rather than optimising single sectors. Projects should provide clear evidence of the environmental and socio-economic benefits, prioritising context-adapted innovations to:

#### **R1.1 Reduce Water Scarcity and Inefficiency in Farming and Food Systems**

Develop and scale water-efficient technologies and practices that maintain or improve agricultural productivity while reducing water consumption. Build on demonstrated successes, including: smart irrigation systems achieving water savings while maintaining yields;<sup>7</sup> Managed Aquifer Recharge (MAR) systems enhancing groundwater retention;<sup>8</sup> integration of Subsurface Water Retention Technology with compost and mycorrhizae improving argan seedling survival and productivity;<sup>9</sup>

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<sup>4</sup> [https://future4prima.eu/wp-content/uploads/2025/09/JP-clean-for-consultation\\_2025.pdf](https://future4prima.eu/wp-content/uploads/2025/09/JP-clean-for-consultation_2025.pdf)

<sup>5</sup> [https://future4prima.eu/wp-content/uploads/2025/09/JP-clean-for-consultation\\_2025.pdf](https://future4prima.eu/wp-content/uploads/2025/09/JP-clean-for-consultation_2025.pdf)

<sup>6</sup> <https://doi.org/10.1007/s11948-021-00360-3>

<https://doi.org/10.1016/j.erss.2025.104251>

<https://dx.doi.org/10.2139/ssrn.5023609>

<sup>7</sup> AQUAOUNT project: <https://acquaount.eu/>

<sup>8</sup> SALAM-MED project: <https://platform.salam-med.org/technologies/management-of-aquifer-recharge-systems/>

<sup>9</sup> SALAM-MED project: <https://platform.salam-med.org/technologies/subsurface-water-retention-technology/>

constructed wetlands for wastewater treatment and safe agricultural reuse;<sup>10</sup> use of non-conventional water resources for climate-resilient water governance;<sup>11</sup> integrated crop/rangeland/livestock systems;<sup>12</sup> artificial intelligence for precise monitoring and forecasting of degraded lands, enabling targeted interventions and improved resource allocation; agroecology for equitably transformative resilience in food systems.<sup>13</sup>

### **R1.2 Restore Soil Fertility and Promote Land Degradation Neutrality**

Develop strategies to restore degraded soils, enhance organic carbon content, and achieve land degradation neutrality through sustainable land management practices. Quantify greenhouse gas emissions from extensive farming systems and identify climate change mitigation strategies, including carbon accounting and Soil Organic Carbon indicators aligned with the EU Soil Mission.<sup>14</sup> Build on demonstrated successes, including: conservation agriculture preventing land loss and improving organic carbon; natural infiltration techniques with cover plants on terraces reducing surface runoff and soil erosion;<sup>15</sup> adaptive forest management using decision support systems balancing carbon sequestration, water provisioning, fire risk, and biodiversity;<sup>16</sup> Integrated Land Use Planning and Land Degradation Neutrality frameworks.<sup>17</sup>

### **R1.3 Safeguard Ecosystems and Biodiversity while Improving Food and Water Security**

Integrate biodiversity conservation with agricultural and water management objectives, demonstrating how nature-based solutions can simultaneously enhance ecosystem health and food/water security. Build on demonstrated successes, including: ecosystem-based livestock management;<sup>18</sup> Nature-based Solutions (NbS) for water quality improvement, including Forested Infiltration Areas (FIA) to reduce groundwater nitrate pollution;<sup>19</sup> constructed wetlands treating wastewater while creating wetland habitats.<sup>20</sup>

### **R1.4 Climate-Smart Agriculture Supported by Digital Platforms**

Combine real-time digital monitoring with adaptive management to strengthen resilience and promote long-term sustainability in regions highly vulnerable to desertification and climate variability. Build on demonstrated successes, including: high-throughput plant phenotyping and drought-resistant crops; agroecological practices and biostimulant applications; regulated deficit

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<sup>10</sup> NATMed project: <https://natmed-project.eu/case-studies/carrion-de-los-cespedes-living-lab-spain/>

<sup>11</sup> AG-WaMED project: <https://agwamed.eu/>

<sup>12</sup> SUREPASTOR project: <https://surepastor.unifi.it/>

<sup>13</sup> HLPE. 2025. Executive summary of the report Building resilient food systems. Rome, FAO.

[https://sfcs.fao.org/media-cnt/docs/devhlpelibraries/report-20/hlpe20\\_executive-summary\\_en\\_web.pdf](https://sfcs.fao.org/media-cnt/docs/devhlpelibraries/report-20/hlpe20_executive-summary_en_web.pdf)

FAO. 2018. The 10 elements of agroecology guiding the transition to sustainable food and agricultural systems.

<https://openknowledge.fao.org/handle/20.500.14283/i9037en>

<sup>14</sup> <https://op.europa.eu/en/publication-detail/-/publication/a98ef14d-e7ce-11ed-a05c-01aa75ed71a1/language-en>

<sup>15</sup> <https://natmed-project.eu/case-studies/bozcaada-island-turkey/>

<sup>16</sup> <https://platform.salam-med.org/technologies/adaptive-vegetation-management-tool-cafe/>

<sup>17</sup> Scientific conceptual framework for Land Degradation Neutrality. A report of the Science-Policy Interface:

<https://www.unccd.int/resources/reports/scientific-conceptual-framework-land-degradation-neutrality-report-science-policy>.

Verburg et al. (2022). The Contribution of Integrated Land Use Planning and Integrated Landscape Management to Implementing Land Degradation Neutrality. UNCCD-SPI Technical Series No. 06.

[https://www.researchgate.net/publication/377655980\\_The\\_Contribution\\_of\\_Integrated\\_Land\\_Use\\_Planning\\_and\\_Integrated\\_Landscape\\_Management\\_to\\_Implementing\\_Land\\_Degradation\\_Neutrality?channel=doi&linkId=65b114b68c1a4a6d1d1c6cc5&showFulltext=true](https://www.researchgate.net/publication/377655980_The_Contribution_of_Integrated_Land_Use_Planning_and_Integrated_Landscape_Management_to_Implementing_Land_Degradation_Neutrality?channel=doi&linkId=65b114b68c1a4a6d1d1c6cc5&showFulltext=true)

<sup>18</sup> <https://natmed-project.eu/case-studies/lake-system-chimaditida-greece/>

<sup>19</sup> <https://natmed-project.eu/case-studies/arborea-farming-district-italy/>

<sup>20</sup> OURMED project website: <https://www.ourmed.eu/>

irrigation strategies; integrated soil-water-crop management enhancing water and nutrient efficiency while mitigating environmental stress and land degradation; digital monitoring platforms enabling adaptive management.<sup>21</sup>

## **R2. Integrate Social Sciences, Humanities, and Behavioural Research**

Expand the role of socio-economic and cultural approaches and analyses in research design, content, and evaluation criteria, valuing their contributions alongside technical outputs.<sup>22</sup> Projects could address governance processes and power relations; trust-building and social capital; gender and generational dynamics; cultural framing and traditional ecological knowledge; and socio-cultural factors shaping practices and influencing adoption.

## **R3. Establish Clear Living Labs M&E Criteria**

Provide clear methodological and operational definitions of delivery instruments, such as **Living Labs** and territorial pilots, to enhance quality and comparability. Establish adaptive yet clear frameworks and approaches for monitoring and evaluation (M&E) of Living Lab impacts and processes. Ensure projects include communication and facilitator experts to effectively manage stakeholder engagement and knowledge exchange.

## **R4. Design for Scaling, Adaptation and Lasting Knowledge Exchange**

Encourage a shift from single-site demonstrations to multi-site adaptation across diverse Mediterranean contexts. Projects should build upon existing guidelines and policy recommendations as starting points. Projects could produce “adoption packages” integrating technical, economic, institutional, and sociocultural guidance, enabling practitioners to assess the feasibility for their context and adapt innovations accordingly. Consider establishing a common **PRIMA platform** for all data and resources generated by PRIMA projects, ensuring accessibility and interoperability. Encourage the sharing of expertise and the production of common recommendations among different projects within the same calls.

## **R5. Invest in Next-Generation Researchers and Innovation Leaders**

The establishment of youth-led networks such as NextGen4MED (NG4M), emerging from the synergy among [SALAM-MED](#), [OurMED](#) and [NATMed](#), exemplifies the valuable outcome of human capital development through PRIMA-funded projects.<sup>23</sup> Consider institutionalising and expanding such initiatives with dedicated funding tracks for youth-led projects or work packages; structured mentorship programs connecting junior and senior researchers across countries (particularly North-South); training and incentives for transdisciplinary and applied research that may not fit traditional academic metrics. This will retain talent and create a dynamic learning and action-based network of Mediterranean innovators who can continue research-to-practice efforts beyond project lifetimes.

## **P. POLICY PRIORITIES**

### **P1. Establish Science-Policy Decision Labs in Projects and at Programme Level**

Encourage projects to report on **economic, societal, and policy engagement metrics** beyond scientific outputs. Develop KPIs linked to policy outcomes that track progress from research to implementation. Create **structured interfaces** where researchers, policymakers (including Ministries and regional authorities as well as the UNCCD Science Policy Interface, the FAO, and Development Cooperation Agencies), practitioners and end-users co-create policy-ready outputs with actionable

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<sup>21</sup> <https://www.salam-med.org/>

<sup>22</sup> [https://mission-soil-platform.ec.europa.eu/sites/default/files/2025-01/2.%20Social%20sciences%2C%20humanities%2C%20and%20the%20arts%20in%20the%20EU%20Mission\\_0.pdf](https://mission-soil-platform.ec.europa.eu/sites/default/files/2025-01/2.%20Social%20sciences%2C%20humanities%2C%20and%20the%20arts%20in%20the%20EU%20Mission_0.pdf)

<sup>23</sup> <https://www.linkedin.com/showcase/nextgen4med/posts/?feedView=all>

recommendations. Support **alignment** with international frameworks on sustainable land and water management, including Agenda 2030 and its SDGs, and relevant Multilateral Environmental Agreements' strategies and action plans, including those of the United Nations Convention to Combat Desertification (UNCCD), the Convention on Biological Diversity (CBD), and the United Nations Framework Convention on Climate Change (UNFCCC). Additionally, ensure alignment with financial institutions, among all specific Funds and Development Banks. Consider providing dedicated **resources and training on policy communication and Science-Policy-Interface**, specifically targeting early-career researchers and youth-based networks such as [NextGen4MED](#).

## **P2. From Project-Based Networks to a Lasting Mediterranean Knowledge Hub**

Sustain knowledge exchange, policy dialogue, and cross-border learning beyond individual project cycles through an integrated digital infrastructure. Building on models like OurMED's "Med Water Hub", consider establishing a lasting multilingual **Mediterranean Knowledge Hub** that hosts FAIR datasets, adoption packages, policy briefs, and resources accessible to researchers, practitioners, and policymakers, leveraging existing digital infrastructure like the UNCCD Data dashboard and FAO's Inter-Regional Technical Platform on Water Scarcity (iRTP-WS) to enhance cross-regional knowledge exchange and access to technical expertise.<sup>24</sup> Consider integrating this with a digital **Dryland Observatory** linking local sensors, drones, and satellite imagery, as well as with a comprehensive **Living Lab database**, similar to those developed by the European Network of Living Labs (ENoLL), Water4All, and the EU Soil Mission, that maps existing Living Labs, their thematic focus, methodologies, and contact points to facilitate collaboration and knowledge transfer across the Mediterranean region.

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## **P3. Support Institutional Continuity Through Formal Agreements**

Encourage and support formal agreements among research centres, universities, government agencies, and farmer organisations to sustain collaboration, networks, monitoring, and follow-up implementation beyond project lifecycles. Consider offering "network maintenance" grants or clustering calls for former consortia to collaborate on capacity development or scaling activities, avoiding unnecessary dissolution of established partnerships and enabling cumulative learning across funding cycles. Consider establishing an inter-regional "**Drylands Alliance**" with other PRIMA and Horizon Europe projects.

## **A. ADOPTION PRIORITIES**

### **A1. Launch Delivery Instruments with Clear Guidelines**

Continue and enhance PRIMA2 dedicated program components to foster co-design (e.g. Living Labs), transform validated innovations into investment opportunities (e.g. Investment-Readiness Track) and promote peer networks and accompanying tools for knowledge exchange and innovation scaling (e.g. Nexus Communities of Practice).<sup>26</sup>

### **A2. Prioritise Co-Design with Local Stakeholders from Project Inception**

Encourage evolution of research beyond consultation toward **co-design**, incorporating evaluation criteria that capture and reward meaningful engagement of stakeholders with different capacities,

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<sup>24</sup> UNCCD Data Dashboard: <https://data.unccd.int/>

FAO iRTP-WS: <https://www.fao.org/platforms/water-scarcity/en>  
<https://ourmed.eu/index.php/services.html>

<sup>25</sup> ENoLL Members Catalogue: <https://enoll.org/our-network/#webmap-app>

Water4All Atlas of Water Oriented Living Labs: <https://www.water4all-partnership.eu/publication/water4all-atlas-water-oriented-living-labs>

Map of EU Mission Soil Living Labs and Lighthouses: <https://prepsoil.eu/living-labs-and-lighthouses/map>

<sup>26</sup> [https://future4prima.eu/wp-content/uploads/2025/09/JP-clean-for-consultation\\_2025.pdf](https://future4prima.eu/wp-content/uploads/2025/09/JP-clean-for-consultation_2025.pdf)

power, and influence. **Institutionalise stakeholder inclusion** and incentivise structured roles for cooperatives, SMEs, youth, and women innovators, for instance by: identifying and empowering key lead farmers who can serve as champions, creating a snowball effect in adoption; creating a formal advisory board of farmers within project governance structures to ensure their voices inform decision-making throughout the project lifecycle; establishing systematic feedback mechanisms from farmers and local actors to refine practices and inform future research priorities. Encourage projects to implement explicit inclusion mechanisms for **marginalised groups**, for instance by designing interventions responsive to women's needs, tailoring interventions to smallholder farmers' constraints, reserving funding for youth-led initiatives, valuing local and experiential knowledge alongside scientific knowledge, and producing key outputs in local languages for wide accessibility.

### **A3. Establish Post-Project Monitoring and Expand KPIs**

Consider complementing and connecting “Exploitation Plans” with “Transformative Change Pathways” and tracking expanded indicators, e.g. governance innovation, social learning processes, policy adoption pathways, and cross-sector alliances.<sup>27</sup> Consider developing and funding systems to monitor adoption, replication, policy uptake, and capacity outcomes beyond project completion, feeding insights into program design for evidence-based adaptation.

### **A4. Strengthen Social Learning and Address Socio-cultural Adoption Dimensions**

Recognise innovation adoption as a social process shaped by cultural norms, trust networks, and collective learning. Support investments that strengthen sociocultural dimensions of adoption: social learning platforms (e.g. peer-to-peer exchange networks, Living Labs, Farmer Field Schools); digital storytelling and data visualisation to showcase benefits and build confidence in new practices (e.g. G20 Global Land Initiative Land Talks Podcast); recognise and engage with traditional systems; value cultural framings resonating with local identities and values; and foster intergenerational knowledge exchange.<sup>28</sup>

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<sup>27</sup> [https://future4prima.eu/wp-content/uploads/2025/09/IP-clean-for-consultation\\_2025.pdf](https://future4prima.eu/wp-content/uploads/2025/09/IP-clean-for-consultation_2025.pdf)

<sup>28</sup> <https://g20land.org/news/podcasts/>