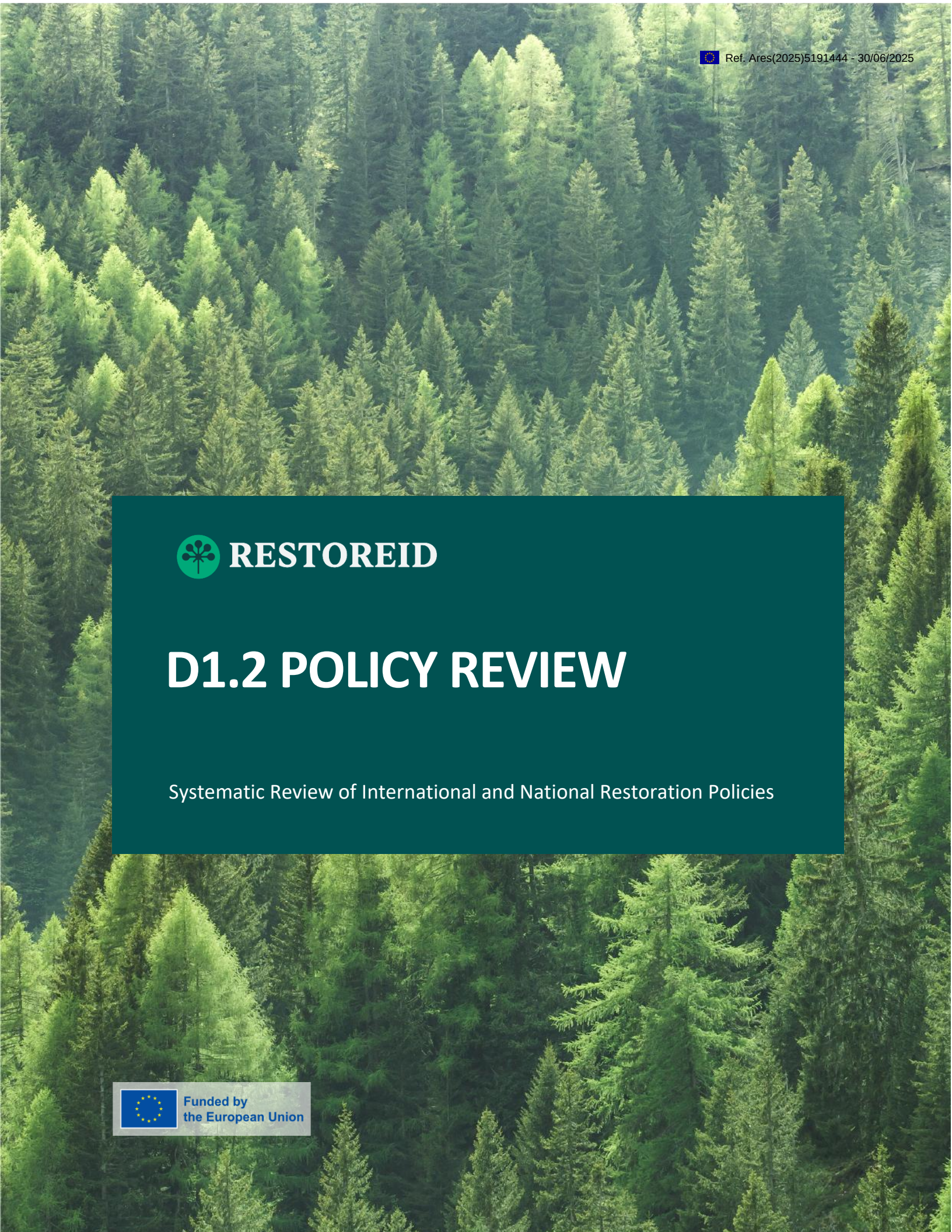

RESTOREID

D1.2 POLICY REVIEW

Systematic Review of International and National Restoration Policies

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1. Executive Summary

This report critically reviews international and national ecosystem restoration policies to assess the extent to which they address unintended consequences, particularly those related to zoonotic disease risk and other negative socio-environmental impacts. While restoration policies widely promote environmental, economic, and climate-related benefits, the analysis reveals a striking omission: the lack of explicit integration of zoonotic disease risk and limited acknowledgment of adverse consequences such as increased vector habitats, human-wildlife conflict, community displacement, and livelihood disruption.

Most policy documents emphasize biodiversity enhancement, carbon sequestration, and sustainable development goals but do not consider how landscape changes, such as reforestation, wetland restoration, or afforestation, might inadvertently create or expand habitats for disease hosts/reservoirs/vectors (e.g., mosquitoes, rodents, bats), increasing the risk of zoonotic spillover. Similarly, policies rarely include social impact assessments or safeguards to prevent the displacement of vulnerable communities or loss of access to traditional land and resources.

Only a few strategies mention risks like monoculture plantations or land tenure conflicts, and even these do not provide concrete mechanisms for mitigation or adaptive management. The absence of a One Health perspective, which integrates environmental, animal, and human health, is a critical gap.

The report recommends urgent improvements, including mandatory risk assessments, cross-sectoral planning, and robust monitoring frameworks, to ensure that restoration efforts are both sustainable and socially responsible, without inadvertently increasing public health vulnerabilities.

2. Introduction

Landscape restoration has emerged as a critical global priority for addressing environmental degradation, mitigating climate change, and enhancing ecosystem services [1–4]Landscape restoration is defined as the process of assisting the recovery of an ecosystem that has been degraded, damaged, or destroyed[5]. This process aims to regain ecological functionality and enhance human well-being in degraded or deforested landscapes. Frameworks such as the UN Decade on Ecosystem Restoration and the Bonn Challenge have galvanized efforts to restore degraded ecosystems, with the goal of achieving both ecological and socio-economic benefits [6,7]. However, the critical relationship between landscape restoration and human health, particularly zoonotic diseases, remains largely overlooked in policy design and implementation, despite growing evidence that land-use changes can drive infectious disease emergence [8].

Zoonotic diseases account for over 60% of emerging infectious diseases globally [9], with many linked to anthropogenic changes in land use, habitat fragmentation, and biodiversity loss [10]. Restoration projects, while aiming to enhance the ability of an ecosystem to maintain its structure, functions, and resilience in the face of environmental changes, can inadvertently influence zoonotic disease transmission by altering wildlife habitats, increasing human-wildlife interactions, or creating new ecological niches for disease vectors [11–13]. Conversely, well-planned restoration efforts can reduce zoonotic transmission by restoring ecological buffers, enhancing biodiversity that dilutes pathogen transmission, and limiting human-wildlife contact [14,15]. However, the outcomes are context-dependent, influenced by factors such as local species composition, land-use history, and socio-economic practices [16,17]. Policies that fail to consider these factors risk undermining both public health and conservation goals.

Interdisciplinary frameworks like One Health are essential in restoration policies because they recognize the deep interconnections between environmental health, animal health, and human well-being [18,19]. Landscape restoration can alter ecosystems in ways that influence disease dynamics, yet many policies fail to integrate public health considerations [20,21]. By adopting a One Health approach, restoration efforts can proactively address zoonotic spillover risks, enhance biodiversity-driven disease regulation, and promote sustainable land-use practices that benefit both ecosystems and communities. Embedding such frameworks into policy ensures that restoration initiatives are not only ecologically sound but also resilient to emerging health threats.

Despite growing recognition of the links between landscape restoration, ecosystem health, and socio-economic equity, existing policy analyses[22–24] have largely overlooked the role of infectious diseases, particularly zoonoses, in shaping these interactions. Previous studies on policy ecosystems and equity have examined the distribution of restoration benefits, procedural inclusivity, and socio-political contexts, yet they rarely consider how these factors influence disease risks or health outcomes. Given that landscape changes can both amplify and mitigate zoonotic spillover risks, an integrated policy appraisal is needed to assess whether current frameworks adequately address the health implications of restoration. By bridging this gap, this study provides a novel interdisciplinary perspective that incorporates zoonotic disease prevention into restoration governance, ensuring that policies are both ecologically and epidemiologically resilient.

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We critically appraise of national and international policies on landscape restoration, focusing on their integration (or lack thereof) of zoonotic and infectious disease considerations. By evaluating the extent to which these policies address the drivers of zoonotic risks and align with One Health, this appraisal aims to identify gaps, highlight best practices, and propose recommendations for more holistic and effective policy development. The appraisal is grounded in a systematic review of policy documents and frameworks, using criteria that encompass ecological, health, socio-economic, and implementation aspects. By doing so, it seeks to contribute to the growing discourse on the need for integrated approaches to landscape restoration and zoonotic disease prevention, ultimately supporting more sustainable and resilient landscapes.

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3. Methods

Data collection

We compiled relevant national and international policies on landscape restoration, zoonoses, and related health frameworks through systematic searches of government databases, international organizations, and relevant gray literature. Sources included policy documents from entities such as the United Nations (e.g., UN Decade on Ecosystem Restoration, CBD, FAO), World Health Organization (WHO), International Union for Conservation of Nature (IUCN), World Organisation for Animal Health (WOAH formerly OIE), national ministries of environment and health, and non-governmental organizations engaged in ecosystem restoration and public health.

To ensure comprehensive coverage, we applied a systematic search strategy using predefined keywords related to landscape restoration (e.g., ecosystem restoration, reforestation, land rehabilitation), zoonotic diseases (e.g., disease spillover, emerging infectious diseases, One Health), and governance mechanisms (e.g., policy frameworks, health-environment integration, risk mitigation). Searches were conducted in policy repositories, google scholar, and governmental portals in four different languages. The keywords and the search strings used are detailed in the Annex 1. Policy inclusion criteria included:

- Geographic scope: National and international policies relevant to landscape restoration.
- Temporal coverage: Policies published from 2015 to capture recent developments.
- Content relevance: Policies that explicitly or implicitly address environmental, socio-economic, or public health aspects of landscape restoration.

Development evaluation criteria

We developed an evaluation framework to systematically assess the extent to which policies integrate zoonotic disease considerations within landscape restoration. The framework comprised four key dimensions:

1. Landscape restoration objectives and activities
    - Type of restoration efforts included (e.g., reforestation, wetland restoration, agroecology).
    - Intended ecological and socio-economic outcomes.
    - Explicit recognition of land-use changes as a driver of ecological or health risks.
2. Zoonotic disease risks and drivers
    - Explicit or implicit references to zoonotic diseases, vectors, and spillover risks.
    - Recognition of anthropogenic drivers of zoonotic emergence (e.g., deforestation, biodiversity loss).
    - Inclusion of disease surveillance, early warning systems, or biosecurity measures.
3. Integration of interdisciplinary approaches
    - Alignment with One Health, EcoHealth, or other integrative frameworks.
    - Cross-sectoral collaboration between health, environment, and agricultural authorities.

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4. Policy coherence and implementation mechanisms
    - Alignment with international agreements (e.g., WHO Global Health Strategies, CBD targets).
    - Institutional mechanisms for policy enforcement, stakeholder engagement, and funding allocation.
5. Equity considerations based on previous studies[22–24]
    - Distributional Equity – Examining whether the benefits and burdens of restoration efforts (e.g., land access, funding, health interventions) are fairly distributed across different communities, particularly marginalized or high-risk populations vulnerable to zoonotic spillover.
    - Procedural Equity – Assessing the inclusivity of decision-making processes, ensuring that affected communities, Indigenous groups, and public health stakeholders have a voice in restoration planning and zoonotic risk management.
    - Recognitional Equity – Identifying whether policies acknowledge historical and social inequalities, particularly in how land use and environmental degradation have disproportionately affected certain populations, thereby shaping their exposure to zoonotic disease risks.
    - Contextual Equity – Understanding how broader socio-political and economic conditions (e.g., land tenure systems, governance structures, capacity for health surveillance) influence the implementation and impact of restoration policies in mitigating zoonotic risks.

Data extraction and analysis

We applied a thematic content analysis approach to extract relevant policy elements systematically. Using NVivo qualitative analysis software, we coded policy documents for explicit (direct mentions) and implicit (indirect references through environmental or socio-economic factors) considerations of zoonotic diseases within restoration strategies.

To ensure intercoder reliability, two independent researchers coded a subset of policies, and discrepancies were resolved through discussion. Extracted themes were categorized under the evaluation criteria, allowing for a structured comparison of policy coverage across different governance levels (e.g., national vs. international) and geographic regions. We synthesized the findings to highlight policy strengths, weaknesses, and opportunities for improvement and developed actionable recommendations to enhance the integration of zoonotic disease considerations into landscape restoration policies.

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4. Results

The 30 policies appraised span a publication period from 2015 to 2024, with the majority (over 70%) published after 2020, reflecting a growing global emphasis on restoration, biodiversity, and One Health integration in recent years. Geographically, 60% of the policies are national in scope, while 20% are global or international, 10% are multi-national, and the remaining 10% are sub-national or local. These policies represent a broad geographical distribution, including Africa (e.g., Kenya, Cameroon, Malawi, Rwanda), Asia (e.g., India, Indonesia, Laos, China), Latin America (e.g., Brazil, Costa Rica, Belize), Oceania (e.g., Australia, Fiji), and Europe (e.g., Belgium). The diverse scales and regions highlight both global commitments and country-specific approaches to ecosystem restoration and biodiversity conservation.

The appraisal of 30 ecosystem restoration policies revealed that while most policies (over 90%) clearly state environmental goals, only about half align with public health outcomes, and less than a third explicitly address zoonotic or infectious disease risks. Where zoonoses are mentioned, they typically include COVID-19, avian influenza, rabies, Ebola, and vector-borne diseases. However, many policies implicitly address drivers of zoonotic spillover, particularly habitat fragmentation, land-use change, and wildlife trade, even if they do not make direct health linkages. This reflects a growing, though uneven, recognition of the One Health approach across restoration and biodiversity strategies. Notably, global and cross-sectoral frameworks are more likely to incorporate comprehensive health and environmental interlinkages than national or local plans.

Primary stakeholders

1. National Governments and Ministries are the primary actors in policy creation, oversight, and cross-sectoral coordination. These include ministries of environment, agriculture, climate change, forestry, water, health, planning, and finance.

2. Subnational and Local Governments implementing policies and restoration initiatives on the ground including state, provincial, regional, county, and municipal authorities.

3. Local Communities and Indigenous Peoples are key stakeholders in implementation, stewardship, and benefit-sharing. Special attention is given to the inclusion of women, youth, and marginalized groups. This is included forest-dependent communities and Indigenous groups in India, Cameroon, DRC, Australia and São Tomé and Príncipe and customary landholders and traditional authorities in Madagascar and Malawi.

4. Private Sector involved in financing, innovation, carbon markets, agroforestry, sustainable forestry, and land management like the Association of Banks (ASB) in São Tomé and Príncipe, Timber Industry Associations (e.g., GFBC) in Cameroon, other corporate partners, carbon finance actors and private nurseries.

5. Civil Society and Non-Governmental Organizations (NGOs) play vital roles in advocacy, technical support, implementation, and community engagement including Global FLR supporters like WWF, WRI,

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and National groups like ECOTRUST and Uganda Forestry Working Group (UFWG) and CECAB in São Tomé and Príncipe.

6. Academic and Research Institutions contributing to policy design, monitoring, and evidence-based interventions including the Makerere University, Uganda, University of Costa Rica (UCR), National Biodiversity Institute (INBio), Costa Rica and other research and academic partners in India, Brazil, Rwanda.

7. International Organizations and Donors providing financial, technical, and strategic support. Examples include FAO, UNEP, UNDP, WHO, UNCCD, GEF, IUCN as core multilateral partners, World Bank, GIZ, USAID, CAFI as major donors and technical agencies and specialized global institutions like ITTO and UNU.

8. Multistakeholder Platforms and Commissions coordinating across sectors and actors at national or international levels such as the Strategic Orientation Committee (Cameroon) , National Biodiversity Commission (Conabio, Brazil), Interministerial Conference for the Environment (Belgium) and the National Technical Committee on Agroecology (Kenya).

Public health entities are involved to varying degrees across the 30 policies, but overall involvement is relatively limited to moderate. The majority of policies (19 out of 30) fall into the “Low involvement” category, indicating that public health actors are either marginally engaged or only included in planning documents without concrete roles.

Four global policies reflect a balanced but not central role for public health institutions, often leaving the coordination or support functions to National Governments to involve the necessary stakeholders. Only 7 policies (including 3 with the highest rating of 5) show strong to full integration of public health entities, usually where One Health, pandemic preparedness, or zoonotic risk management is a key focus. This suggests that while some progressive examples exist, public health considerations remain underrepresented in the landscape and restoration-focused policy arena, with room for greater cross-sectoral integration.

Drivers of zoonotic risk

Few policies explicitly recognize land-use change, such as deforestation, agricultural expansion, mining, and urbanization, as contributing to environmental degradation and zoonotic spillover risks. However, the majority only indirectly mention these drivers or frame them within broader land degradation or biodiversity concerns.

High recognition (6 policies):

These policies directly link land-use change to zoonotic risks. They mention deforestation, encroachment into natural habitats, forest degradation, agricultural expansion, and urbanization as key contributors. Several include wildlife trade, hunting, and tourism as additional spillover risks.

Moderate to low recognition (ratings 1–3, 24 policies):

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Most policies acknowledge land-use change but do not explicitly link it to zoonotic spillovers. They mention:

- Deforestation and forest degradation (e.g., for agriculture, fuelwood, illegal logging)
- Wetland, peatland, and mangrove degradation
- Expansion of infrastructure, roads, and settlements
- Agroecosystem degradation, overgrazing, and invasive species
- Mining, logging, and shifting cultivation

While land-use change is widely recognized across the documents, only a few policies explicitly link it to zoonotic disease emergence. This suggests a gap in integrating One Health perspectives into land management and restoration policies. There is room for more explicit inclusion of zoonotic spillover risks in the context of deforestation, agricultural expansion, and urban growth.

While most policies aim to restore degraded lands and enhance ecosystem services, only a subset explicitly outlines measures that protect biodiversity in ways that buffer disease risks. Biodiversity is often framed in terms of ecosystem resilience, livelihoods, or climate goals, rather than disease mitigation.

Common biodiversity protection measures across policies include:

- Forest Landscape Restoration (FLR)
    - Restoration of native and mixed-species forests
    - Avoidance of monoculture plantations
    - Integration of biodiversity goals into forest policy frameworks
    - Example: “Enhancing National Commitment to FLR” (Sao Tome and Principe) emphasizes native species reforestation and legal frameworks for long-term forest health.
- Protection and restoration of critical ecosystems
    - Wetlands, mangroves, riparian zones, peatlands
    - Biodiversity corridors and buffer zones
    - Example: “Wetland Restoration for Climate Change Resilience” focuses on ecological integrity and species habitat in the face of climate risks.
- Integration of biodiversity in national development and climate plans
    - NDCs and climate strategies incorporate biodiversity conservation (e.g., REDD+)

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- Example: Indonesia's Updated NDC outlines goals to reduce deforestation and integrate biodiversity in adaptation measures.

- Sustainable agriculture and agroecology
  - Diversified cropping systems and agroforestry to maintain on-farm biodiversity
  - Control of invasive species
  - Example: "National Agroecology Strategy 2024–2033" links food system transformation with biodiversity-friendly practices.
- Formal Biodiversity Action Plans and Frameworks
  - Target-based conservation strategies aligned with the Kunming-Montreal Global Biodiversity Framework
  - Example: Belgium's Biodiversity Strategy 2030 and Costa Rica's NBSAP outline national targets to protect habitats and reduce species extinction.
- Recognition of One Health links and cross-sectoral collaboration
  - Integration of biodiversity into public health and One Health strategies
  - Example: India's National One Health Action Plan (2024–2028) connects biodiversity loss with zoonotic risk, promoting ecosystem integrity.

Policy Title	Notable Biodiversity Measure
Kunming-Montreal Global Biodiversity Framework	23 global targets, including 30x30 protection, ecosystem restoration, and halting species extinction
National Landscape Restoration Strategy for Belize	Targets reforestation and biodiversity conservation in degraded lands
National Environment and Climate Change Policy	Links biodiversity with ecosystem services and disaster resilience
Supporting the Global Response to COVID-19	Promotes biodiversity protection as a public health intervention
National Forest Sector Development Program (Ethiopia)	Integrates FLR with biodiversity and community co-benefits

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National One Health Action Plan (India)	Recognizes biodiversity loss as a risk for zoonotic emergence and proposes habitat conservation

Many restoration and FLR plans mention biodiversity as a benefit, but few operationalize it through disease buffering strategies (e.g., landscape-level biodiversity targets, pathogen dilution mechanisms). Stronger integration of One Health is needed in biodiversity-related policies, especially outside of dedicated health or pandemic preparedness plans. Only a few policies, like India's One Health Plan and global post-COVID restoration frameworks, explicitly recognize biodiversity conservation as a mechanism to mitigate zoonotic spillovers. While biodiversity protection is a recurring theme, its role in buffering disease risks remains under-addressed in most policies. There is clear potential to bridge this gap by embedding One Health principles in ecosystem restoration and biodiversity strategies, especially through landscape-level planning and cross-sectoral governance.

Across the reviewed documents and strategies, explicit, detailed provisions aimed specifically at reducing human-wildlife contact or managing wildlife populations are rare, but many policies indirectly support such outcomes through broader ecosystem restoration and conservation goals. Key themes include:

1. Indirect Measures through Ecosystem Restoration

- Habitat restoration (forests, wetlands, riparian zones) and ecological connectivity (corridors) help keep wildlife within natural ecosystems and away from human settlements.
- Buffer zones and landscape-scale planning are commonly promoted to minimize overlap between human activity and wildlife habitats.
- Land-use planning discourages settlement or agriculture in high-conflict areas and supports sustainable land use to prevent habitat encroachment.

2. Wildlife Population Management (in a few documents)

- Monitoring and managing wildlife populations, including control of invasive alien species and threatened species recovery plans.
- Regulation of wildlife trade and bushmeat consumption to prevent overexploitation and reduce zoonotic risks.
- Early warning systems and intersectoral surveillance (e.g., One Health) for detecting and mitigating risks from wildlife populations.

3. Human-Wildlife Conflict Mitigation

- Community-based wildlife management and awareness campaigns to reduce conflict and retaliatory killings.

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- Infrastructure like fencing and enhanced mobility for response teams to manage crop-raiding and other interactions.
- Compensation schemes and sustainable livelihood alternatives to reduce reliance on wildlife.

4. Governance and Cross-Sector Integration

- Many policies align with biodiversity or restoration frameworks (e.g., NBSAP, Bonn Challenge), suggesting a commitment to ecological integrity but lacking targeted guidance on zoonotic disease prevention or direct wildlife interaction reduction.
- Emphasis on inter-agency collaboration (e.g., between forestry, public health, and enforcement bodies).
- Several documents do not explicitly address wildlife contact or population management. Others mention potential risks of increased human-wildlife interaction due to restoration without detailing mitigation strategies. While not always explicit, most policies reviewed include indirect strategies that can reduce human-wildlife contact and improve wildlife management by restoring habitats, zoning land use, and engaging communities. Only a few incorporate direct measures such as surveillance, fencing, or species-specific management.

Socio-economic measures discussed across the 30 policies include:

1. Enhancing Livelihoods and Reducing Poverty

Sao Tome and Principe: The Restoration Initiative (TRI) aims to bolster national commitment to forest and landscape restoration, improving policy frameworks supportive of conservation and sustainable management of forests and coastal ecosystems.

Kenya's National Landscape and Ecosystem Restoration Strategy: Targets increasing tree cover and restoring degraded landscapes, with activities including promoting sustainable agricultural practices and sustainable livelihood options.

Belize's National Landscape Restoration Strategy: Considers political, economic, socio-cultural, technological, environmental, and legal factors (PESTEL) that influence deforestation and land use change, advising on prevalent factors in Belize.

2. Promoting Food Security and Nutrition

Kenya's National Agroecology Strategy (2024–2033): Aims to transform food systems to ensure food security, nutrition, and climate-resilient livelihoods through agroecological approaches.

Sao Tome and Principe's School Feeding Program: The national school feeding and health programme reaches 25% of the population, serving as the largest safety net in the country.

3. Community Engagement and Empowerment

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ITTO Projects in the Tropics: Highlight the importance of integrating diverse stakeholders with a landscape perspective, though challenges like poverty-driven resource exploitation and rural migration persist.

Kenya's National Landscape and Ecosystem Restoration Strategy: Emphasizes the need to accelerate approaches to address key drivers of degradation, including promoting sustainable livelihood options and proper land-use planning.

4. Addressing Migration and Urbanization

ITTO Projects in the Tropics: Acknowledge rural migration as a challenge that hinders forest landscape restoration effectiveness, indicating a need for integrated socio-economic strategies.

While these policies incorporate socio-economic measures that can indirectly reduce disease risks associated with poverty, migration, and food insecurity, there is a general lack of explicit linkage between these socio-economic factors and disease risk mitigation. Integrating health considerations more directly into restoration and socio-economic development policies could enhance their effectiveness in buffering disease risks.

Integration with Health and One Health Frameworks

Level of Integration	**Number of Policies**	**Description**
Not Addressed	7	These policies do not reference or consider One Health concepts explicitly or implicitly.
Conceptual Narrative***(e.g., acknowledging interconnectedness)***	10	Policies recognize the interdependence of human, animal, and environmental health, often in introductions or rationale, but without practical implementation mechanisms.
Cross-Sectoral Collaboration Mechanism	7	Policies describe multi-sectoral governance structures (e.g., inter-ministerial task forces or joint planning between health, agriculture, and environment sectors).
Operational Plans or Implementation Strategies	3	One Health is embedded in the policy's implementation components, including mainly in the the form of joint action plans.
Implicit Alignment (e.g., Bonn Challenge, UN Decade)	3	These global frameworks don't name One Health explicitly but support its outcomes by promoting actions that reduce environmental drivers of disease (e.g., deforestation, land-use change).

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Narrative-level acknowledgment of One Health is relatively common (approximately third of policies), often expressing the **interconnectedness** of ecological and health systems.

Concrete, actionable integration (e.g., through cross-sectoral governance or implementation strategies) is **less common**, found in only about 10 of the 30 policies.

Policies that **explicitly mention multi-ministerial coordination or implementation tools** represent stronger alignment with the One Health approach.

Health components are generally **underrepresented** compared to environmental or economic goals, even in policies that align with restoration and sustainability targets.

To enhance resilience against emerging infectious diseases and ecological degradation, future policies should move beyond conceptual framing and embed One Health into operational and governance mechanisms, especially in areas where land-use change is accelerating.

A majority (60%) of policies contain concrete collaboration mechanisms, suggesting strong support for integrated, interdisciplinary implementation. About 20% mention collaboration in principle but lack details, which may limit effective coordination across sectors. Around 6 policies (20%) provide no clear indication of interdisciplinary processes, highlighting an area for improvement, especially for aligning with One Health and systems-based approaches.

Policy Design and Implementation

The specific restoration activities outlined across the documents are listed below:

1. Afforestation and Reforestation (mentioned in nearly every document)
    - Planting native trees
    - Restoration of degraded forests and reserves
    - Reforestation for erosion control, biodiversity, and carbon sequestration
    - Forest Landscape Restoration (FLR)
    - Natural and Assisted Natural Regeneration (ANR)
    - Enrichment Planting
    - Community Forests and Woodlots
    - Protection and management of natural forests

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2. Agroforestry (extensively referenced)
    - Integrated tree-crop systems
    - Smallholder-based or community-focused agroforestry
    - Agroecology
    - Biodiversity-friendly farming
    - Sustainable land management and organic practices
    - Silvopastoral Systems
    - Sustainable Rangeland and Pasture Management
    - Dryland Reforestation
    - Eco-agriculture and sustainable farming practices
    - Biosaline Agriculture

3. Wetlands, Peatlands, and Riparian Systems
    - Wetland and Riparian Restoration
    - Reconnecting rivers and floodplains
    - Removal/modification of barriers
    - Peatland Restoration
    - Blocking drainage, rewetting, replanting
    - Mangrove and Coastal Wetland Restoration
    - Hydrological restoration, replanting
    - Salt Marsh and Seagrass Bed Restoration

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4. Grassland and Savannah Restoration
    - Native grass planting, erosion control
    - Shrubland Restoration
    - Especially in arid/semi-arid zones
    - Restoration of Mining-Degraded Lands
5. Urban and Peri-Urban Green Infrastructure- Green roofs and ecological corridors
6. Marine and Coastal Habitat Restoration of coral reefs, dunes, intertidal zones
7. Pollinator Habitat Restoration through corridors and floral strips for pollinators

Other restoration activities mentioned soil and water conservation through terracing, mulching, contour planting and gully erosion control; watershed restoration; sustainable land management; invasive species control; fire regime and bushfire recovery; indigenous fire management and use of Non-Timber Forest Products (NTFPs)

One document (Supporting the Global Response to the COVID-19 Pandemic: Land-based Solutions for Healthy People and a Healthy Planet) did not focus on ecological restoration techniques, instead emphasizing risk reduction through land-use planning, ecosystem protection, and wildlife trade regulation. The majority of responses (46%) indicate that restatoration activities are not at all explicitly designed to minimize zoonotic disease risks.

A smaller proportion (14%) believe activities are explicitly designed to a large extent. The overall tendency is skewed toward the lower end of the scale, suggesting that most activities may not be intentionally or clearly targeted at zoonotic disease risk reduction.

<u>Monitoring, Evaluation, and Feedback Mechanisms</u>

Most policies and programs include detailed indicators for restoration progress, particularly through frameworks like the UNCCD's Land Degradation Neutrality (LDN). However, explicit indicators for health outcomes, especially zoonotic disease incidence, are rarely included or systematically tracked. These were widely reported across documents and include:

- Land-based indicators:
    - Hectares of land/ecosystems restored
    - Land cover change
    - Land productivity dynamics

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  - Soil organic carbon stocks
  - Rate of soil erosion or degradation reduction
- Forest and vegetation indicators:
  - Forest cover change
  - Tree survival rates and species diversity
  - Biomass restored
  - Vegetation cover and native species richness
- Biodiversity metrics:
  - Status/trends of threatened species
  - Keystone/endangered species presence
  - Habitat quality and connectivity
  - Number and area of protected areas
  - Invasive species monitoring
- Ecosystem services:
  - Carbon sequestration
  - Water quality improvements
  - Flood risk mitigation
  - Soil health
  - Governance and community participation:
  - Number of community-based restoration initiatives
  - Participation of local populations
  - Livelihood benefits and job creation

Only a few documents mention health-related indicators, and when they do, they are not systematically included or tracked across programs. Commonly cited but rarely operationalized health indicators:

- Incidence of zoonotic or vector-borne diseases (e.g., rabies, Rift Valley fever, malaria)

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- Antimicrobial resistance (AMR) surveillance
- Mental health and well-being metrics
- Urban health indicators (access to green space, heat-related morbidity)
- Nutrition/food security indices
- Air and water quality

No standard health monitoring framework exists across most restoration policies. While many documents acknowledge the link between ecosystem health and human health, this is often conceptual rather than measured. There is a critical need for integrated, dual-purpose indicators that explicitly track both restoration progress and public health outcomes, particularly in the context of zoonotic disease risk reduction.

Most policies indicate that transparent and accessible processes for local community feedback and redress are generally present. However, some policies still lack strong mechanisms suggesting moderate to strong inclusion of community engagement and grievance mechanisms, but with room for improvement in ensuring consistency, accessibility, and enforceability across contexts. Most policies include mechanisms for stakeholder feedback and iterative improvement demonstrating that there is a strong trend toward adaptive, participatory policy design, but improvements are still needed in a minority of cases.

Socio-Environmental Justice and Equity

Distributional equity

The responses indicate that most policy documents include provisions to ensure equitable distribution of restoration benefits. However, some policies lack clear or enforceable equity measures. Overall, there is a strong emphasis on social equity, though implementation and specificity may vary across policies.

Out of the 30 policies, 11 policies clearly identify marginalised or high-risk communities, including Indigenous populations, and provide explicit mechanisms for inclusion (e.g., legal recognition, access protections, resource allocation). While 16 policies mention these groups but with vague or non-binding mechanisms, indicating a partial or symbolic inclusion with one policy providing unclear information with ambiguous language. While there is growing recognition of the importance of including marginalised and Indigenous communities in restoration policy frameworks, only a minority of policies fully operationalize this inclusion through concrete, enforceable measures. Most policies still fall short of ensuring meaningful participation, equitable resource access, and protection of land rights for these communities. This gap presents a risk of exclusion or tokenism, potentially undermining social justice goals and the long-term sustainability of restoration efforts. Strengthening policy language and mechanisms related to legal

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recognition, participatory governance, and equitable benefit-sharing is essential for effective and inclusive restoration outcomes.

Procedural Equity

Across the analyzed policies, around 10+ policies showed strong commitment to participation of underrepresented groups to influence decision-making. Many policies recognize underrepresented groups, such as Indigenous Peoples, women, local communities, and youth, as key stakeholders in restoration and biodiversity planning. The participatory mechanisms include: Joint Forest Management Committees (JFMCs) & Village Forest Committees (VFCs), Community-based forest management and co-management structures, Free, Prior, and Informed Consent (FPIC), Community Dialogue Platforms, Decentralized decision-making, Multi-stakeholder platforms (e.g., CONABIO, ROOHCAM) and Consultations, capacity building, and benefit-sharing schemes. While 12 policies provided moderate provisions with gaps in enforcement. These policies mention inclusion and participation but lack specific procedures for binding decision-making power, clear redress mechanisms, ongoing engagement protocols and clarity on how traditional knowledge is integrated. Around 5+ policies mention inclusion in principle but do not provide formal consultations, establish participatory structures, ensure representation or capacity for underrepresented groups to influence decisions. A few documents (3-4 policies e.g., Ramsar Briefing Note 10) do not provide any mechanisms for inclusive decision-making.

While most policies acknowledge the importance of inclusive governance, implementation varies widely. Many fall short of providing binding, enforceable mechanisms for underrepresented groups to influence actual decision-making, which risks tokenism. While capacity building is often cited but not always supported by resources. Some policies reference training and technical assistance, but without clear budgetary or institutional support, the ability of marginalized groups to engage meaningfully remains limited. The increasing use of FPIC, community co-management, and decentralized governance structures represents progress, but these approaches are not yet standardized or consistently applied. Very few policies include grievance redress systems, which are vital for upholding rights and ensuring accountability in participatory processes. Gender and youth are frequently mentioned, yet specific mechanisms to ensure their sustained participation (beyond initial consultations or representation quotas) are often missing or weak.

Recommendations for Procedural Equity**:**

- Develop and formalize participatory structures with legal mandates for Indigenous and marginalized communities.
- Strengthen monitoring and grievance systems to ensure accountability.

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- Ensure financial and technical support for capacity building among underrepresented groups.
- Promote intersectional inclusion (e.g., Indigenous women, rural youth) in all phases of planning and implementation.
- Encourage knowledge co-production by integrating traditional knowledge in restoration governance as a standard practice.

Recognitional Equity

The degree to which restoration and land-use policies acknowledge and address historical land-use injustices varies widely across documents and regions. The analysis reveals several recurring patterns:

Explicit Recognition (Minority of Cases)

- Some policies explicitly acknowledge the historical marginalization of Indigenous peoples and local communities due to colonial, post-colonial, or inequitable land-use systems. These policies often:
- Reference customary land rights and tenure reforms.
- Promote restorative justice frameworks, benefit-sharing mechanisms, and inclusive governance.
- Support legal recognition of community-managed lands.
- Examples include Kunming-Montreal Global Biodiversity Framework (GBF), Brazil's EPANB strategy and certain national biodiversity strategies (e.g., South and Central American contexts)

2. Implicit Acknowledgement (Common)

- Several policies do not use the language of historical injustice but implicitly recognize past exclusions by:
- Emphasizing inclusive participation of Indigenous peoples, women, and marginalized groups.
- Highlighting equitable benefit-sharing from restoration projects.
- Supporting capacity building, consultation mechanisms, and community empowerment.
- These actions reflect an awareness of past inequities, though without explicit redress measures.

3. Lack of Recognition (Widespread)

Many policies:

- Do not mention historical injustices, colonial legacies, or systemic land dispossession.
- Focus on contemporary engagement (e.g., community participation, livelihoods) without acknowledging historical causes of marginalization.

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- Lack legal or institutional mechanisms for land restitution, reparations, or transitional justice.
- Examples include various regional and sectoral strategies (e.g., Working for Wetlands in South Africa, NPFDP, some One Health frameworks).

Without explicitly addressing historical injustices, inclusion efforts may remain symbolic or procedural. Genuine participation requires confronting past wrongs and redistributing power and resources. Many policies overlook opportunities to reform land tenure systems, provide restitution or reparations, and institutionalize customary land rights. This may perpetuate inequities and undermine long-term legitimacy and sustainability of restoration efforts. Where global or national frameworks are vague, the responsibility falls on implementing countries or projects to embed restorative justice in practice. This makes context-specific interpretation and local governance arrangements critical. There is a pressing need for stronger global standards on addressing historical land-use injustices in restoration policy and guidelines on reparative mechanisms, including tenure reform, FPIC, and legal recognition of Indigenous lands.

While many restoration policies gesture toward inclusivity, few directly confront historical injustices. Without an explicit recognition of past harms and actionable mechanisms for redress, restoration runs the risk of reinforcing old inequalities under new banners. A shift toward restorative, justice-centered policy frameworks is essential for truly equitable and effective ecological restoration.

Contextual Equity

Most policies reviewed do not explicitly address zoonotic disease risks in the context of existing vulnerabilities such as food insecurity, displacement, or poverty. While a few recognize the broader links between ecosystem degradation and zoonotic spillover, the majority fail to connect these risks to socio-economic conditions that heighten vulnerability (e.g., poor health infrastructure, reliance on bushmeat, or displacement due to land-use change).

Only a small number of policies (e.g., specific COVID-19-related frameworks or health-environment nexus plans) explicitly consider the intersection of zoonotic risks and socio-economic vulnerability. These acknowledge how poverty, weak health systems, food insecurity, and unsustainable livelihoods increase exposure to zoonotic diseases and call for integrated, equity-based approaches to address both environmental and public health risks.

Some policies offer indirect recognition of the issue by promoting restoration to improve food and water security and reduce risky human–wildlife interactions, but do not frame these as zoonotic disease prevention strategies tied to existing vulnerabilities.

By not explicitly linking zoonotic risks with social vulnerabilities, most policies miss critical opportunities to build resilience in high-risk populations, such as displaced communities or those dependent on high-risk livelihoods. The absence of clear references to zoonotic disease prevention in restoration and land-use planning limits the ability of implementers to align environmental efforts with public health priorities, especially in contexts where vulnerabilities are high. Future policies should integrate One Health

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principles, recognizing that environmental degradation, socio-economic marginalization, and health risks (especially zoonoses) are interconnected. Ignoring the social determinants of zoonotic risk may perpetuate inequities, as marginalized communities continue to bear the brunt of disease outbreaks due to systemic exclusion from both land restoration benefits and health protections. Despite the global spotlight on zoonoses during the COVID-19 pandemic, many land-use and restoration strategies have not adapted to include public health considerations. This signals a gap in post-pandemic resilience planning.

International Coherence and Alignment

The policies reviewed show a high degree of alignment with international frameworks such as the UN Decade on Ecosystem Restoration, the Convention on Biological Diversity (CBD), and the Sustainable Development Goals (SDGs), indicating:

- Strong rhetorical and strategic alignment with global goals for biodiversity, ecosystem restoration, and sustainable development.
- Frequent references to key international agendas and terminology (e.g., "nature-based solutions," "land degradation neutrality," "ecosystem-based approaches").
- Use of international targets and milestones to guide policy objectives and indicators.
- Commitment to multilateral cooperation and reporting mechanisms under conventions like the CBD, UNFCCC, or UNCCD.

Despite rhetorical alignment, some policies may still lack clear mechanisms for implementation, especially where alignment is more aspirational than actionable. This could hinder the translation of global goals into measurable local impacts.

- Most of the policies lack explicit provisions for transboundary collaboration, especially on issues like wildlife migration and disease control:
- Low scores dominate the dataset, indicating minimal or no recognition of the need for cross-border cooperation.
- Only a few policies explicitly promote regional or bilateral collaboration on shared environmental or health-related challenges (e.g., migratory species, zoonotic disease risks).
- Some policies mention regional frameworks or international agreements, but without clear operational mechanisms or institutional commitments for transboundary action.
- A couple of moderate scores suggest partial or indirect reference to transboundary concerns, possibly through general environmental cooperation.

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The lack of coordination mechanisms significantly limits the ability to monitor, prevent, and respond to zoonotic diseases and vector-borne threats that cross national borders (e.g., through migratory wildlife or human movement). Without transboundary planning, wildlife corridors and shared habitats may be fragmented or inadequately managed, threatening biodiversity and ecological resilience. Regions that span national borders (e.g., watersheds, mountain ranges, drylands) are particularly vulnerable to uncoordinated land-use decisions, undermining restoration success and long-term sustainability. Countries may miss out on opportunities for regional support, joint funding mechanisms, or engagement in multi-country restoration initiatives (e.g., African Forest Landscape Restoration Initiative – AFR100, or the Transfrontier Conservation Areas – TFCAs). The findings suggest an urgent need to strengthen regional environmental governance structures, possibly by leveraging existing organizations like SADC, ECOWAS, ASEAN, or COMESA, depending on the context.

Policy Recommendations:

- Encourage bilateral and multilateral agreements focused on transboundary ecological and health issues.
- Incorporate regional early warning systems for zoonoses.
- Promote harmonization of restoration and disease surveillance policies across borders.

Gaps and Risks

An overwhelming majority of the policies do not mention zoonotic diseases at all, or only reference them indirectly. Where discussed, key preventative and preparedness components are frequently missing. Key themes include:

1. Lack of Explicit Zoonotic Disease Mention

Most policies do not name or define zoonotic diseases.

Public, animal, or ecosystem health risks are often not contextualized within disease spillover frameworks.

2. Absence of One Health or EcoHealth Integration

Even when health is mentioned, policies rarely adopt an operational One Health approach linking environmental, human, and animal health sectors.

No institutional mechanisms, joint budgets, or inter-ministerial strategies are detailed.

3. Weak or Missing Surveillance and Early Warning Systems

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Few or no references to disease surveillance networks or early warning systems, particularly in restoration zones or high-risk human–wildlife interfaces.

Lack of cross-sectoral data-sharing protocols for zoonotic monitoring.

4. Inadequate Human–Wildlife Interface Management

Policies do not outline strategies to reduce risky interactions, e.g., buffer zones, zoning laws, or livestock management at ecosystem edges.

Wildlife trade and bushmeat consumption are rarely addressed as transmission pathways.

5. No Health Risk Assessments or Zoonotic Impact Monitoring

Health Impact Assessments (HIAs) or zoonotic risk evaluations are not included for restoration or infrastructure projects.

Monitoring and Evaluation (M&E) frameworks often ignore public health indicators or spillover hotspots.

6. Socioeconomic and Vulnerability Blind Spots

Policies fail to link food insecurity, displacement, or livelihoods (e.g., bushmeat trade, shifting agriculture) with zoonotic risk.

Marginalized or rural communities are often not targeted for protection or education.

7. Minimal Public Awareness and Local Health Capacity Building

Few policies emphasize community engagement, behavior change, or health system strengthening in the context of zoonotic disease prevention.

Restoration projects, without integrated zoonotic safeguards, may inadvertently heighten spillover risk by changing land-use dynamics, increasing human-wildlife contact, or creating vector habitats. By not embedding zoonotic risk reduction in biodiversity and restoration strategies, these policies miss a cost-effective intervention point for preventing future pandemics. The lack of intersectoral collaboration and surveillance infrastructure undermines countries' abilities to detect and respond to emerging zoonoses, especially in ecologically sensitive areas.

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Policy Recommendations:

Institutionalize One Health within biodiversity and restoration policies.

Develop integrated surveillance systems at ecosystem, community, and national levels.

Regulate wildlife trade and land-use with zoonotic risk assessments.

Ensure community-based monitoring and health system preparedness are resourced.

Introduce Health Impact Assessments into environmental policy pipelines.

Across the reviewed policy documents, unintended consequences of restoration efforts, such as increased vector habitats, human displacement, biodiversity trade-offs, and public health risks, are largely unacknowledged or insufficiently addressed. A few policies briefly acknowledge potential risks such as displacement of communities if land rights are not respected, land-use conflicts and tenure insecurity, biodiversity loss from monoculture plantations, and negative effects on water resources or livelihoods. However, these risks are not elaborated or directly linked to health or vector-borne disease concerns. Most policies do not mention increased vector habitats due to ecological changes (e.g. standing water, vegetation changes), human-wildlife conflicts following ecosystem regeneration, public health risks tied to environmental shifts, social consequences like food insecurity or loss of access to resources, and mitigation strategies or safeguards for vulnerable populations.

Restoration projects may unintentionally increase exposure to zoonotic diseases, vector-borne illnesses, and livelihood disruptions, risks that are not accounted for in planning or monitoring frameworks. Without explicitly addressing displacement or land access issues, restoration may exacerbate inequities, particularly for Indigenous peoples, rural communities, and landless populations. Absence of mechanisms like health impact assessments (HIAs), One Health frameworks, and cross-sectoral collaboration suggests a disconnect between environmental goals and public health or social protection strategies. Restoration policies may fall short of their goals if unintended consequences lead to local resistance, conflict, or negative health outcomes, ultimately undermining ecological and socio-economic benefits.

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5. Conclusion and Recommendations

Ecosystem restoration has become a cornerstone of national and international environmental strategies, with documented benefits including biodiversity enhancement, improved ecosystem services, and climate resilience. However, a review of restoration-related policy documents reveals a consistent gap: the lack of integration of zoonotic diseases risks, and explicit recognition and mitigation of **unintended consequences**, such as **increased vector habitats**, **human displacement**, and **livelihood disruptions**. While the positive impacts of restoration are widely celebrated, policies often fall short in addressing potential social and health-related trade-offs.

1.1 Best Practices Identified

Some policies demonstrate emerging awareness of potential risks. A few acknowledge issues such as **tenure insecurity**, **displacement risks**, and **biodiversity trade-offs** from poorly planned interventions like monoculture plantations. Others emphasize **community engagement** and **participatory planning**, which, while not explicitly linked to mitigation of adverse outcomes, can foster inclusive decision-making and social acceptance. The incorporation of principles around **governance, equity, and land rights** represents a foundational step toward more holistic restoration frameworks.

1.2 Key Gaps

Despite isolated mentions, **public health impacts**, especially those tied to **increased zoonotic and vector-borne disease risks** from altered landscapes, are almost entirely absent from restoration policies. **Human-wildlife conflict**, **access to natural resources**, and **socio-economic displacement** are also underexplored. Crucially, many policies do not incorporate **monitoring frameworks** for unintended consequences, nor do they outline mechanisms for **adaptive management** when negative effects emerge. There is limited cross-sectoral coordination between environmental, health, and social protection agencies, which hampers a comprehensive risk response.

1.3 **Recommendations for Future Policy Development**

1. **Integrate a One Health Approach**: Restoration policy should explicitly incorporate the interlinkages between environment, human health, and animal health. This includes assessing how land use changes may influence vector habitats and zoonotic disease dynamics.
2. **Mandate Social and Health Impact Assessments**: Policies should require health and social risk assessments alongside environmental impact assessments. These should be conducted prior to project implementation and revisited periodically.

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3. **Establish Safeguards for Vulnerable Populations**: Clear guidelines are needed to prevent land dispossession, displacement, and livelihood loss. Restoration should not proceed without ensuring **free, prior, and informed consent (FPIC)** from affected communities.
4. **Develop Monitoring and Adaptive Management Plans**: Restoration policies must include indicators to track both intended and unintended impacts, with adaptive measures triggered when risks materialize.
5. **Promote Cross-Sectoral Collaboration**: Environmental ministries should work closely with health, agriculture, and social welfare sectors to ensure integrated planning and implementation.

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ANNEX

Keyword search

Landscape Restoration & Ecosystem Management	“Landscape restoration”; “Ecosystem restoration”; “Reforestation policy”; “Afforestation policy”; “Land degradation neutrality”; “Sustainable land management”; “Biodiversity conservation”; “Habitat restoration”; “Forest landscape restoration (FLR)”; “Wetland restoration”; “Agroecology”; “Sustainable forestry”; “Nature-based solutions”; “Ecosystem-based adaptation”
Policy and Governance	“Environmental policy”; “Health and environment policy”; “Biodiversity and health policy”; “Cross-sectoral policy”; “Integrated landscape management”, “Conservation policy”; “Protected areas governance”; “Environmental governance”; “Monitoring and evaluation in restoration”
International Frameworks and Agreements	“UN Decade on Ecosystem Restoration”; “Convention on Biological Diversity”; “Bonn Challenge”, “Paris Agreement and ecosystems”, “Global Biodiversity Framework”, “One Health policy”, “WHO health and environment framework”
Zoonotic and Infectious Disease Considerations	“Zoonotic disease”; “zoonoses”; “Vector-borne diseases”; “Infectious disease risk”; “Emerging infectious diseases”; “Wildlife-livestock-human interface”; “Health-ecosystem interactions”

Search string

("Landscape restoration" OR "Ecosystem restoration" OR "Reforestation policy" OR "Afforestation policy" OR "Land degradation neutrality" OR "Sustainable land management" OR "Biodiversity conservation" OR "Habitat restoration" OR "Forest landscape restoration" OR "FLR" OR "Wetland restoration" OR "Agroecology" OR "Sustainable forestry" OR "Nature-based solutions" OR "Ecosystem-based adaptation")

AND

("Environmental policy" OR "Health and environment policy" OR "Biodiversity and health policy" OR "Cross-sectoral policy" OR "Integrated landscape management" OR "Conservation policy" OR "Protected areas governance" OR "Environmental governance" OR "Monitoring and evaluation in restoration")

AND

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("UN Decade on Ecosystem Restoration" OR "Convention on Biological Diversity" OR "Bonn Challenge" OR "Paris Agreement and ecosystems" OR "Global Biodiversity Framework" OR "One Health policy" OR "WHO health and environment framework")

AND

("Zoonotic disease" OR "zoonoses" OR "Vector-borne diseases" OR "Infectious disease risk" OR "Emerging infectious diseases" OR "Wildlife-livestock-human interface" OR "Health-ecosystem interactions")

AND

(POLICY OR STRATEGY OR FRAMEWORK OR "ACTION PLAN" OR GUIDELINES OR "BEST MANAGEMENT PRACTICES")

FAOLEX Search Strategy:

1. Go to: https://www.fao.org/faolex

2. Search by Theme:

Use the “Advanced Search” and try combinations of the above keyword clusters under the “Title/Keyword” and “Subject” fields.

Example 1

Keyword: “landscape restoration”

Subject: “environmental policy”

Type of text: Policy/Strategy

Date: 2020–Present

Example 2

Keyword: “One Health”

Subject: “health and environment”

Type of text: Policy

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Date: 2020–Present

Example 3

Keyword: “biodiversity conservation”

Subject: “ecosystem restoration”

Type of text: Action Plan

Date: 2020–Present

Databases and repositories

1. Google Scholar
2. ProQuest
3. EBSCO host
4. FAO (Food and Agriculture Organization) - https://fapda.apps.fao.org/fapda/#main.html
5. United Nations Environment Programme (UNEP)
6. IUCN (International Union for Conservation of Nature)
7. UNDP (United Nations Development Programme)
8. World Bank Open Data
9. https://climatepolicydatabase.org
10. https://edb.wto.org/
11. Ecolex
12. WHO
13. National websites

Below are translations from DeepL

Landscape Restoration & Ecosystem Management

English	French	Spanish	Portuguese

Landscape restoration	restauration du paysage	restauración del paisaje /*restauración ecológica ?*	restauração da paisagem
Ecosystem restoration	restauration des écosystèmes	restauración de ecosistemas	restauração de ecossistemas
Reforestation policy	politique de reboisement	política de reforestación	política de reflorestamento; política de reflorestação
Afforestation policy	politique d'afforestation	política de forestación	política de florestamento; política de florestação
Land degradation neutrality	neutralité en matière de dégradation des terres	neutralidad en la degradación de la tierra	neutralidade da degradação da terra
Sustainable land management	gestion durable des terres	gestión sostenible de la tierra	gestão sustentável da terra
Biodiversity conservation	conservation de la biodiversité	conservación de la biodiversidad	conservação da biodiversidade
Habitat restoration	restauration de l'habitat	restauración del hábitat	restauração de habitat
Forest landscape restoration (FLR)	restauration des paysages forestiers	restauración del paisaje forestal	restauração da paisagem florestal
Wetland restoration	restauration des zones humides	restauración de humedales	restauração de zonas úmidas; restauração de zonas húmidas
Agroecology	agroécologie	agroecología	agroecologia
Sustainable forestry	foresterie durable	silvicultura sostenible	silvicultura sustentável
Nature-based solutions	solutions fondées sur la nature	soluciones basadas en la naturaleza	soluções baseadas na natureza

Ecosystem-based adaptation	adaptation basée sur les écosystèmes	adaptación basada en ecosistemas	adaptação baseada em ecossistemas

Policy and Governance keywords

English	French	Spanish	Portuguese
Environmental policy	politique environnementale	política ambiental	política ambiental
Health and environment policy	politique de santé et environnement	política de salud y medio ambiente	política de saúde e meio ambiente
Biodiversity and health policy	politique biodiversité et santé	política de biodiversidad y salud	política de biodiversidade e saúde
Cross-sectoral policy	politique intersectorielle	política intersectorial	política intersetorial
Integrated landscape management	gestion intégrée des paysages	gestión integrada del paisaje	gestão integrada da paisagem
Conservation policy	politique de conservation	política de conservación	política de conservação
Protected areas governance	gouvernance des aires protégées	gobernanza de áreas protegidas	governança de áreas protegidas
Environmental governance	gouvernance environnementale	gobernanza ambiental	governança ambiental
Monitoring and evaluation in restoration	suivi et évaluation de la restauration	monitoreo y evaluación en la restauración	monitoramento e avaliação na restauração; monitorização e avaliação na restauração

Zoonotic and Infectious Disease Keywords

English	French	Spanish	Portuguese
Zoonotic disease	maladie zoonotique	enfermedad zoonótica	doença zoonótica
Zoonoses	zoonoses	zoonosis	zoonoses
Vector-borne diseases	maladies à transmission vectorielle	enfermedades transmitidas por vectores	doenças transmitidas por vetores
Infectious disease risk	risque de maladies infectieuses	riesgo de enfermedades infecciosas	risco de doenças infecciosas
Emerging infectious diseases	maladies infectieuses émergentes	enfermedades infecciosas emergentes	doenças infecciosas emergentes
Wildlife-livestock-human interface	interface faune domestique-homme	interfaz vida silvestre-ganadería-humano	interface fauna silvestre-gado-humano; interface fauna selvagem-gado-humano
Health-ecosystem interactions	interactions santé-écosystèmes	interacciones salud-ecosistemas	interações saúde-ecossistemas

	Policy Title	*Year of publication*	*Country or countries involved in the policy*	*What is the geographic or administrative scale of the policy?*
	Enhancing National Commitment to FLR and Establishing a Conducive Policy Framework for Restoration and Sustainable Forest Management in Sao Tome and Principe	2024	Sao Tome and Principe	local and sub national
	National Policy Guiding Principles for Forest Landscape Restoration	2023	Supporting countries to deliver on their Bonn Challenge commitments	National
	Advancing Forest Landscape Restoration in the Tropics: Experiences and Lessons for	2023	Brazil, Costa Rica, Fiji, Ghana, Indonesia, Papua	Multi-national

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Socio-Ecological Resilience and Empowerment of Women in ITTO Projects		New Guinea, Peru, Togo, Thailand, Myanmar, Lao PDR, Cambodia, Vietnam	
National Landscape Restoration Strategy for Belize	2022	Belize	
UPDATED NATIONALLY DETERMINED CONTRIBUTION REPUBLIC OF INDONESIA	2021	Indonesia	National
NATIONAL LANDSCAPE AND ECOSYSTEM RESTORATION STRATEGY	2023	Kenya	National
NATIONAL AGROECOLOGY STRATEGY FOR FOOD SYSTEM TRANSFORMATION 2024 – 2033	2024	Kenya	National
Working for Wetlands	2021	South Africa	National
LAND RESTORATION FOR POST COVID-19 RECOVERY	2021		Global / International
NATIONAL MISSION FOR A GREEN INDIA (Under The National Action Plan on Climate Change)	2020	India	National
National One Health Action Plan 2024-2028	2024	Cameroon	National
National Environment and Climate Change Policy	2019	Rwanda	National
NATiONAL FOREST LANDSCAPE RESTORATiON STRATEGY	2018	Malawi	National
Supporting the Global Response to the COVID-19 Pandemic: Land-based Solutions for Healthy People and a Healthy Planet	2020		Global / International
National Forest Sector Development Program, Ethiopia	2016	Ethiopia	National
Unité de Coordination du Programme d'Investissement pour la Forêt « » UC-PIF Programme d'Investissement pour la Forêt et la Restauration des Savanes « »	2024	DRC	National
Increasing investments in One Health to reduce risks of emerging infectious diseases at the source	2022		Global / International
Restore our Future- Bonn challenge	2020		Global / International

Kunming-Montreal Global Biodiversity Framework	2022		Global / International
National Strategy and Action Plans for Biodiversity (EPANB)	2017	Brazil	National
NATIONAL PLANTATION FORESTS DEVELOPMENT PROGRAMME (NPFDP) CAMEROON 2020 – 2045	2019	Cameroon	National
Wetland Restoration for Climate Change Resilience	2018		Global / International
ALIGNEMENT DE LA STRATEGIE NATIONALE SUR LA DIVERSITE BIOLOGIQUE AUX OBJECTIFS DU NOUVEAU CADRE MONDIAL SUR LA BIODIVERSITE KUNMING-MONTREAL 2020 - 2030	2020	Guinea	National
Actualisering van de Belgische Nationale Biodiversiteitsstrategie voor 2030	2024	Belgium	National
National Biodiversity Strategy and Action Plan (NBSAP) – Costa Rica (2016–2025)	2016	Costa Rica	National
National Biodiversity Strategy and Action Plan II (NBSAP II) 2015-2025.	2015	Uganda	National
"National Biodiversity Strategy and Action Plan 2016 - 2025 Laos	2016	Laos	National
National Landcare Program	2023	Australia	Sub-national / Regional
National Forest Landscape Restoration Strategy TRI China project	2022	China	National
United Nations Decade on Ecosystem Restoration	2021		Global / International