



# *La santé dans le nexus : des solutions sans compromis*

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# Integrating Biodiversity and Health: Findings from the IPBES Nexus Report

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The Intergovernmental Science-Policy Platform on Biodiversity & Ecosystem Services

**#NexusAssessment**



Food and Agriculture  
Organization of the  
United Nations



# Production of the Nexus Assessment

- **Produced over a period of 3 years**
  - 3 author meetings and 4 meetings to advance the Summary for Policymakers
  - 2 external reviews and 1 additional Government review of the Summary for Policymakers
- **Draws on 6,500 sources of knowledge**
  - Peer-reviewed, literature, grey literature and Indigenous and local knowledge
  - References and data sources from all IPBES regions
  - Considers the IPBES conceptual framework
  - Recognizes and considers different world views, values and knowledge systems
- **Assessment team**
  - Produced by a group of 165 selected experts
  - Assisted by over 70 contributing authors
  - Supported by a technical support unit



**Nexus assessment team**  
**Third author meeting, ICIMOD, Nepal**



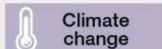
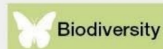
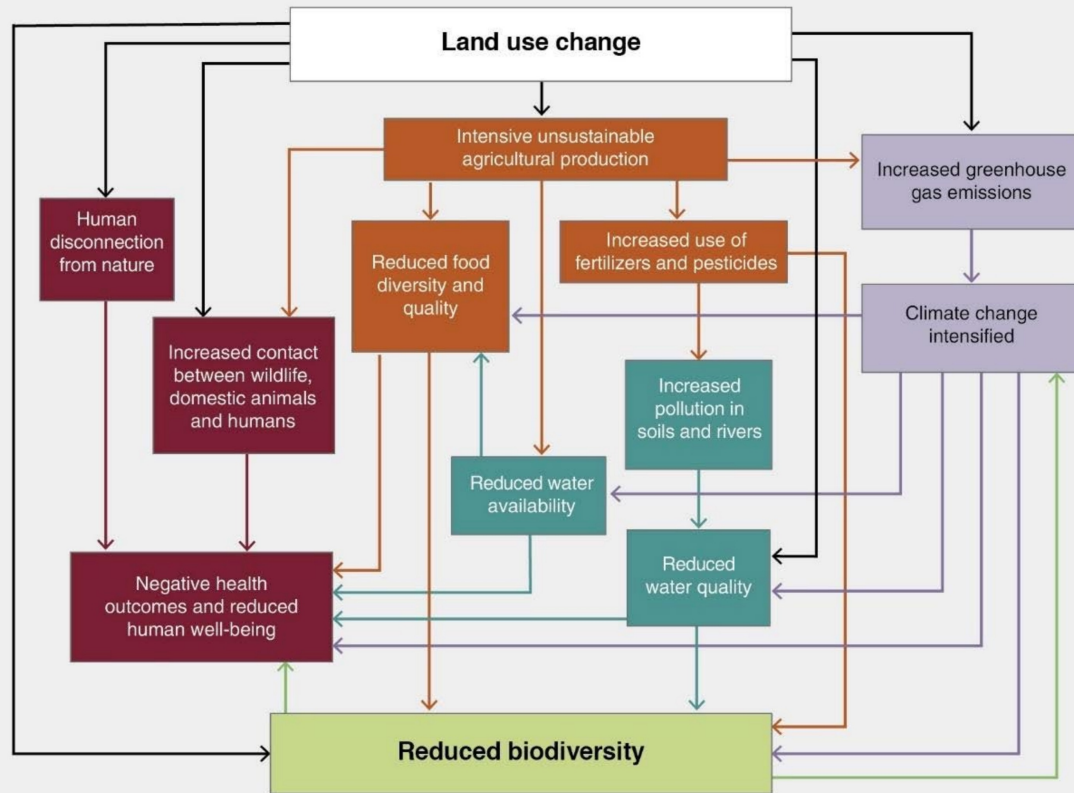


The thematic assessment report on  
**INTERLINKAGES AMONG  
 BIODIVERSITY, WATER,  
 FOOD AND HEALTH**

SUMMARY FOR POLICYMAKERS



**EXAMPLE OF CASCADING NEGATIVE EFFECTS ON NEXUS ELEMENTS**





# Indirect drivers are impacting nexus elements

## B TRENDS IN INDIRECT DRIVERS AND THEIR IMPACTS ON NEXUS ELEMENTS

Indicators of indirect driver		Trend in indirect driver	Biodiversity	Water		Food		Health		Direct driver
				Availability	Quality	Quantity	Quality	Physical	Mental	Climate change
Economic	GDP	↑	↓	↓	↓	▲	▼	▼	▼	↑↑
	Material intensity	↘	—	—	—	▲	—	—	—	↓
	Trade	↑	↓	↓	↓	▲	▼	▼	▼	↑
	Poverty	↓	—	~	—	~	~	~	~	—
Demographic	Population	↗	↓	↓	↓	▲	▼	▼	▼	↑↑
	Urbanization	↗	↓	↓	↓	▲	~	▼	▼	↑
Institutional	Regulations (environmental)	↑	▲	▲	—	—	—	—	—	—
	Armed conflicts	↑	~	—	—	—	↓	↓	↓	↑
Cultural	Knowledge/literacy	↗	—	—	—	—	—	—	—	—
	Per capita consumption	↗	↓	↓	↓	▲	▼	▼	—	↑↑
Technology	Renewable energy (solar and wind)	↑	↓	—	—	~	—	~	—	↓
	Use of ICT	↑	↓	—	—	—	—	↓	—	~

Trend characterization, annual growth rate since 2001

↑	> +3%
↗	0.3 to 3%
→	-0.3 to 0.3%
↘	-0.3 to -3%
↓	< -3%

How trend in indirect driver impacted trend in direct driver

↑↑	Intensification
↑	Modest intensification
—	Stable/little impact
↓	Small reduction
↓↓	Large reduction
~	Variable

How trend in indirect driver impacted trend in nexus element

▲	High positive impact
▲	Moderate positive impact
—	Stable/little impact
▼	Moderate negative impact
▼	High negative impact
~	Variable

Level of evidence of impact

Well established
Established but incomplete
Unresolved
Inconclusive

Summary for Policymakers, Figure SPM.3 - panel B

# Nexus response options

- **Nexus response options** are **actions or policies** that support **effective, sustainable, synergistic governance and management** of the **nexus elements and their interlinkages**
- The options assessed represent a **range of solutions** available to **actors in multiple sectors**, including Indigenous Peoples and local communities – there is a **role for everyone, collaboration is key**
- The options can be applied at different **spatial** and **temporal scales** and in different **ecological, social, political, and economic contexts**
- **Many response options already exist** that address nexus interactions – over **70 response options** are assessed in the Chapter 5 sector-based subchapters of the report



## Nexus elements

## Nexus elements



## Summary for Policymakers, Figure SPM.7

# Response options are available worldwide

## Nexus elements

### Biodiversity



### Water



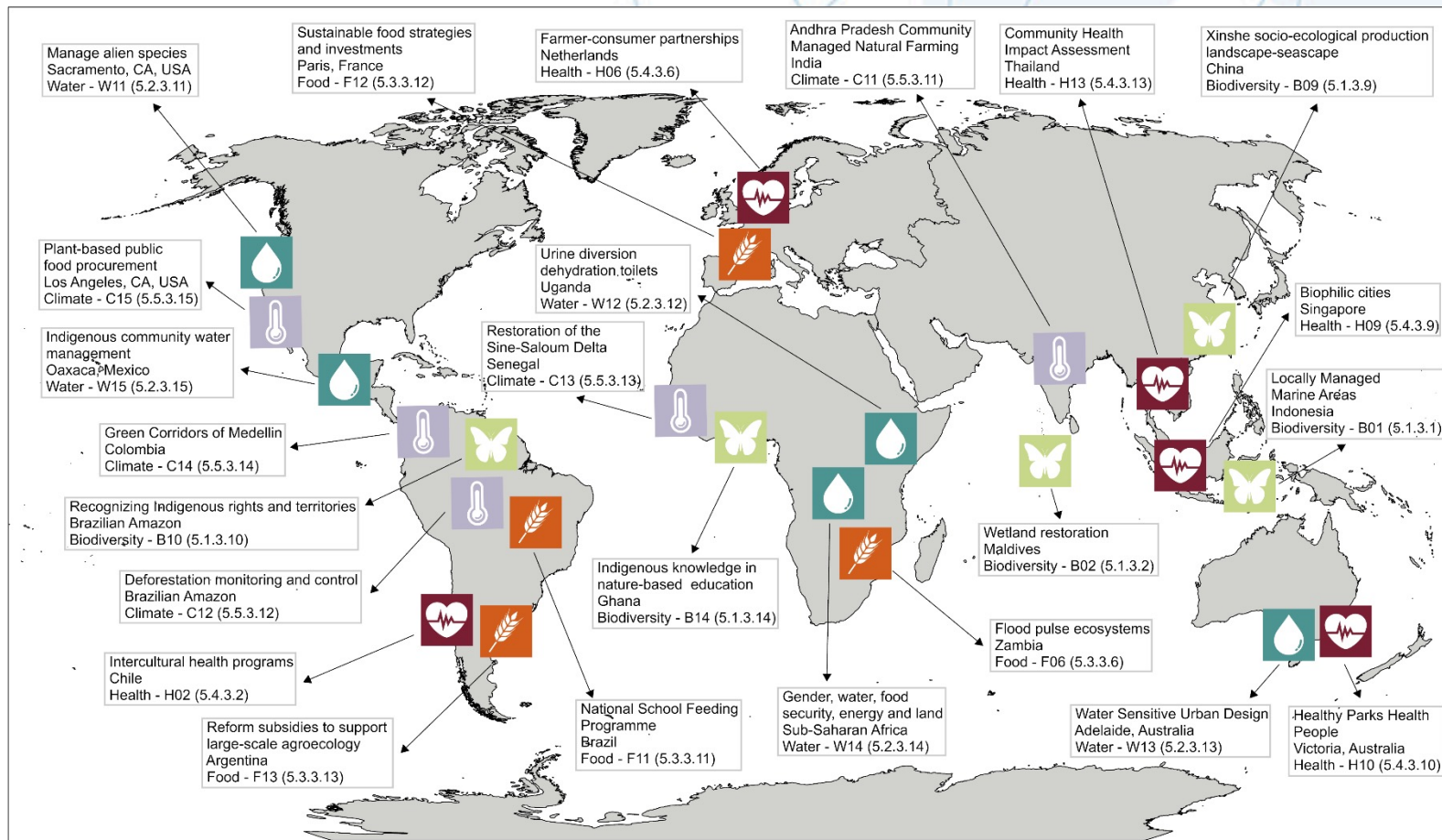
### Food



### Health



### Climate change

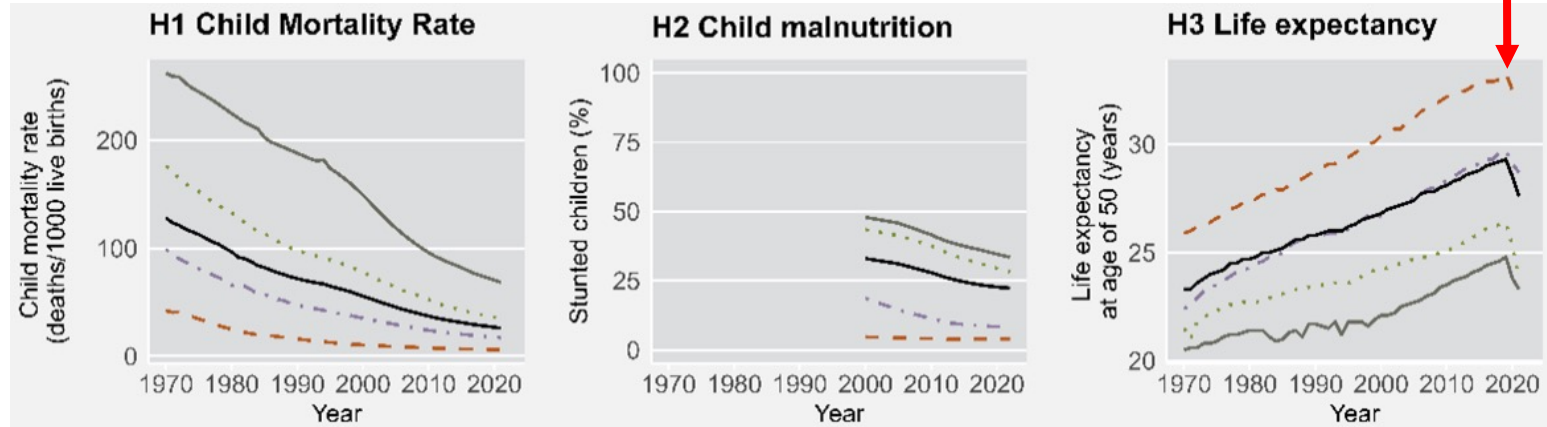


Chapter 5.6, Figure 5.6.8



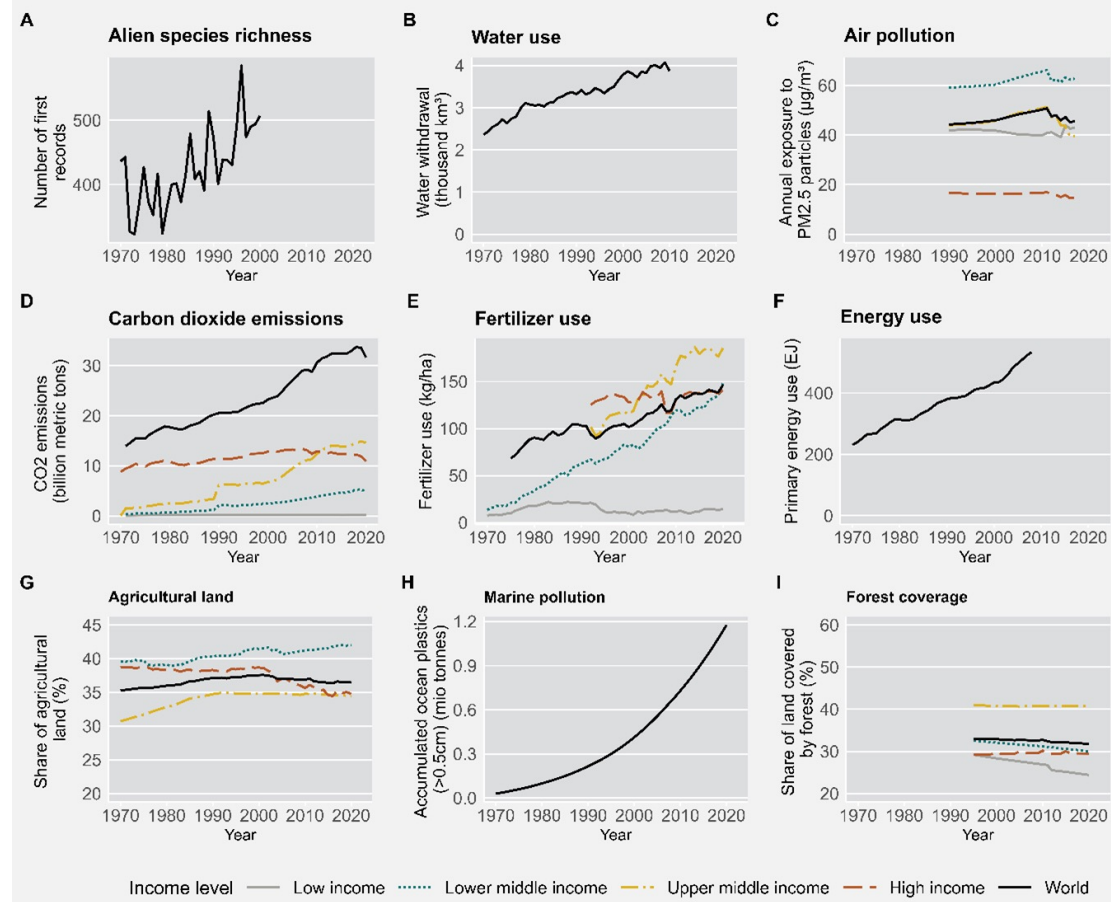
# Past and current trends in health

- People are **living longer** – ↓ mortality rates ↓ malnutrition ↑ life expectancy
- Prevalence of **non-infectious chronic diseases has increased**
  - Infectious diseases account for 16% of all deaths globally and 44% of deaths in low-resource countries
- **Diabetes and obesity have escalated** in recent decades
- **Mental health conditions** have **significantly increased** globally



# Trends in direct drivers of biodiversity loss

- **Direct drivers of biodiversity loss** affect human health
  - Land- and sea-use change
  - Unsustainable exploitation
  - Climate change
  - Pollution
  - Invasive alien species



Chapter 2, Figure 2.4



# Drivers of biodiversity loss – examples of health impacts

- **Land- and sea-use change**

- Decreased water quality and quantity
- Drives infectious disease emergence

- **Unsustainable exploitation**

- Decreased food security
- Loss of livelihoods

- **Climate change**

- Injury and loss of life due to extreme weather events
- Stress, anxiety
- Increased pathogen dispersal

- **Pollution**

- 9 million premature deaths in 2019 (16% of all deaths worldwide) attributed to air and water pollution

- **Invasive alien species (IAS)**

- 85% of IAS negatively affect human well-being (e.g., vectors for infectious zoonotic diseases, alteration of cultural landscapes)



Photo by [Ulet Ifansasti/Greenpeace](#) on [Flickr](#), CC BY-NNC-ND 2.0

# Options for delivering sustainable approaches to health

## Nexus Assessment chapter 5.4

- **15 health response options** assessed against multiple criteria
  - Evidence for implementation worldwide
  - Technologically feasible
  - Positive impacts on nexus elements
  - Social implications
  - Economic implications
  - Alignment with international policy frameworks
  - Equity
  - Potential for transformative change



## Response options

## Integrate planning and governance

## Integrated watershed-health interventions

## Managing risk

## Biodiversity management for zoonoses

## The *One Health* approach

## Health Impact assessment

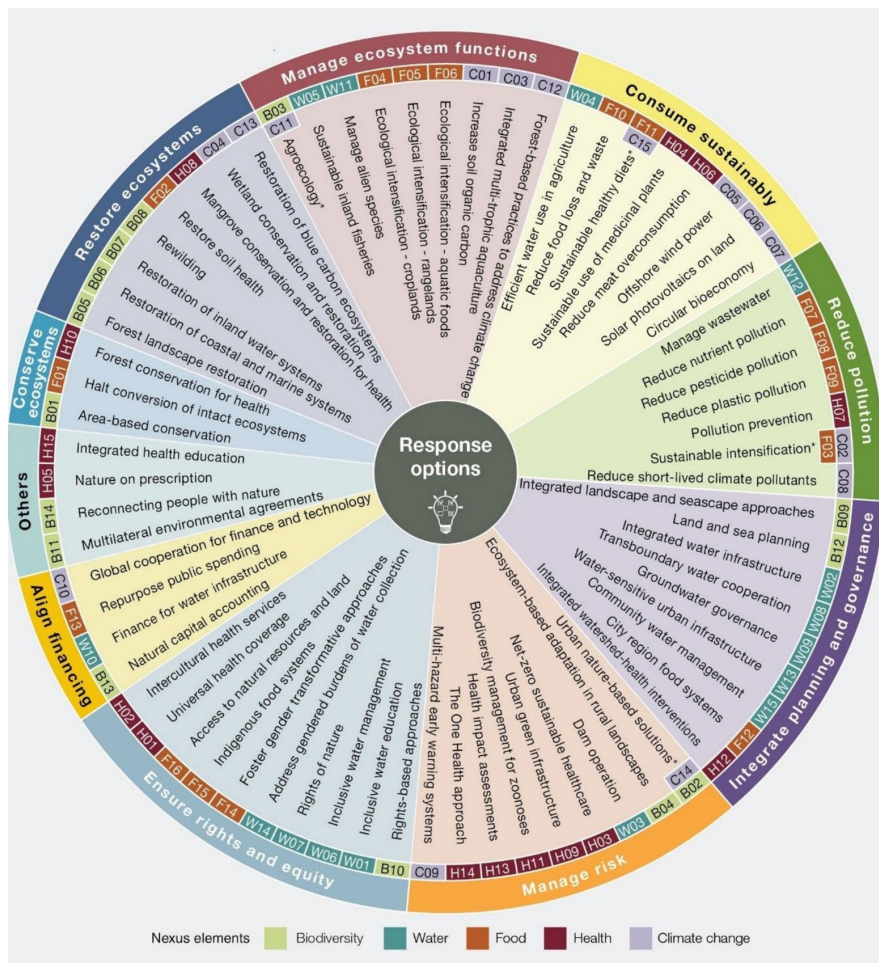
## Urban green infrastructure

## Conserve ecosystems

# Forest conservation for health

## Restore ecosystems

# Mangrove conservation and restoration for health












# Health response options positively impact all nexus elements

- Based on available evidence, **nearly all impacts** of health response options on the nexus elements **are positive**
- No negative impacts**
- No trade-offs** between elements for a given option
- Multiple nexus element benefits** for a given option

Summary for Policymakers,  
Figure SPM.8 (partial figure)

 Blue dots = positive impacts  
 = no impact  
 IC = inconclusive  
 NE = no evidence

						
H01	Universal health coverage	IC/NE	•	•	●	●
H02	Intercultural health services	IC/NE	NE	●	●	NE
H03	Net-zero sustainable healthcare	●	●	●	●	●
H04	Sustainable use of medicinal plants	●	•	•	●	•
H05	Nature on prescription	—	—	•	●	•
H06	Reduce meat overconsumption	●	—	●	●	●
H07	Pollution prevention	●	●	●	●	●
H08	Mangrove conservation and restoration for health	●	●	●	●	●
H09	Urban green infrastructure	●	●	•	●	●
H10	Forest conservation for health	●	●	•	●	●
H11	Biodiversity management for zoonoses	●	●	●	●	●
H12	Integrated watershed-health interventions	●	●	•	●	•
H13	Health impact assessments	●	●	●	●	●
H14	The One Health approach	●	●	●	●	•
H15	Integrated health education	•	•	●	●	•

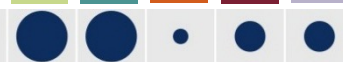
# H09: Urban green infrastructure

## ➤ Singapore

- Greening of urban and peri-urban areas provides **multiple benefits to human health and well-being and biodiversity**
  - Reduced cardiovascular, respiratory and heat-related mortality
  - Improved mental health and lower anxiety
  - Improved air and water quality
  - Disaster risk reduction (e.g., flood mitigation)
  - Habitat for plants and animals
- **Singapore – a biophilic “City in a Garden”**
  - Parks, gardens, greenways for **conservation** and **connecting people with nature**
  - Green roofs and hanging gardens **reduce urban heat island effects**
  - Healthcare facilities with **therapeutic gardens**



Khoo Teck Puat Hospital, Singapore



# H10: Forest conservation for health

## ➤ Australia

- **Protects biodiversity** while **supporting human health and well-being**
  - Water and food security
  - Forest-based livelihoods
  - Climate change mitigation and adaptation
- **Australia – Caring for Country**
  - Land and sea management by Indigenous Peoples
  - **Inclusion of Indigenous Peoples** in policy, planning, and implementation, drawing on Indigenous and local knowledge
  - **Positive outcomes** for nature and human health and well-being
- **Victoria, Australia – Healthy Parks Healthy People**
  - Healthy parks are fundamental to **vibrant, healthy communities**
  - Developed to support **physical, mental, spiritual health and well-being, social inclusion, healthy aging, and child development**



Kakadu National Park, Australia





# H12: Integrated watershed-health interventions

## ➤ Fiji

- A systems approach to human health and watershed management
  - Place-based responses that address **physical, mental, and cultural health and well-being**
  - Protection of catchments provides clean water, **preventing water-related diseases** and **increasing water security**, and **conserves biodiversity**
  - Disaster risk reduction (e.g., reduced landslides)
- **Fiji – Watershed Interventions for Systems Health (WISH)**
  - **Preventative action** to reduce the risk of water-related diseases and natural disasters within multiple catchments
  - Participatory processes and co-design of interventions to ensure **culturally acceptable actions**
  - Enabling and enhancing **local environmental stewardship**
  - Government and community **collaboration to improve governance** of watershed systems



# H13: Health impact assessments

## ➤ Thailand

- **Decision-making tool** to assess how a policy, programme or project may potentially **affect population health**
  - Underpinned by **stakeholder engagement, equity, sustainable development** and the **ethical use of evidence**
  - Emphasis is on **policymaking processes, social learning, governance and capacity strengthening**
  - **Supports decision-making** that promotes health and well-being
  - Empowers communities to participate in public policy processes
  - Can improve the consideration of **health outcomes** for policies and projects linked to the **nexus elements** (e.g., biodiversity conservation, water management, agriculture, climate change)
- **Thailand – community health impact assessments**
  - Enshrined in the Constitution and National Health Act
  - Assessment of health impacts from 1) public policies and 2) projects or activities that may affect environmental quality, natural resources and human health (mandatory)
  - Individuals and communities have the right to request and participate in assessments under the National Health Act



# H14: The One Health approach

- Addresses **interlinkages** among humans, animals and ecosystems in the context of health challenges, such as emerging infectious diseases, antimicrobial resistance and food safety, to **safeguard human, animal and ecosystem health**
- Aligns with nexus approaches to address **interlinkages** among biodiversity, water, food, health, and climate change
- Addressing issues **linked to the nexus elements** (e.g., biodiversity conservation, wildlife trade, deforestation, sustainable land use) within One Health approaches **can strengthen pandemic prevention**
- One Health approaches have been **successful** in addressing antimicrobial resistance, water-related illnesses, neglected tropical diseases, and plant pests and diseases in forests and croplands
- One Health can strengthen the protection of ecosystems, with **positive outcomes for people and nature**
- One Health approaches are **cost-effective** but policy coordination across sectors and lack of funding for **preventive approaches** to human, animal and ecosystem health remain challenging

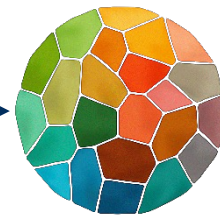




# Health response options support global policy frameworks

**Collectively, the health response options support the achievement of:**

- All 17 **Sustainable Development Goals**, with four response options each supporting the achievement of **more than five goals**
- 22 of the 23 **Kunming-Montreal Global Biodiversity Framework** targets, with 10 response options supporting the achievement of **more than five targets**
- The **Paris Agreement** long-term global goals for **climate change mitigation and adaptation**



**PARIS2015**  
UN CLIMATE CHANGE CONFERENCE  
COP21•CMP11

# Relevance of health findings for global initiatives

## The Nexus Assessment:

- Strengthens the evidence base for **nature's contributions to people** and the **interlinkages between biodiversity and health**
- Provides a **range of response options** for actors within the health sector
  - Actions and policy options to facilitate the realization **biodiversity and health co-benefits**
  - **Collaborative, inclusive, adaptive** sector-specific and cross-sectoral actions that can be implemented at different levels and on different scales with **benefits for biodiversity, health and the other nexus elements**

## The findings are applicable to:

- The integrated, collaborative work of the **Quadripartite** (FAO, WHO, WOA, UNEP) to address **interlinkages** between and support **human, animal, plant and ecosystem health**
- The scientific and advisory work undertaken by the **One Health High Level Expert Panel** in support of the Quadripartite
- Activities taken under the six action tracks of the **One Health Joint Plan of Action**
- **Pandemic prevention, preparedness and readiness** under the newly adopted **WHO Pandemic Agreement**
- Implementation of The Convention on Biological Diversity **Global Action Plan on Biodiversity and Health**

**Merci !**