Biodiversity Mainstreaming for Health Security

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Human-Animal Health Links

Most known human infectious diseases are shared with animals

- Rabies, Influenza A, Ebola, SARS, Q Fever, Toxoplasmosis, Salmonella, Brucellosis, Hendra, Echinococcosis, Anthrax, T. gondii, Nipah, Psittacosis, Frolovem, Plague, Bas Congo, Monkeypox, Rift Valley, Leptospirosis, Schistosomiasis, Leishmaniasis, Chagas disease, Hantavirus, Japanese B encephalitis......

- Shared with animals (61%)
- Not known to be shared (39%)

Resulting in over 1,000,000,000 human cases every year

Machalaba and Karesh, Huffington Post
Shared Drivers: Biodiversity Loss and Recent EIDs from Wildlife

- Land use changes
- Food industry changes
- Human susceptibility to infection
- Agricultural industry changes
- International travel & commerce
- War & famine
- Unspecified
- Climate & weather
- Breakdown of public health measures
- Bushmeat
- Human demographics & behavior
- Medical industry changes
- Antimicrobial agent use
- Other industries

EcoHealth Alliance/Loh et al. VBZD, Jones et al. 2008 Nature
Figures are estimates and are presented as relative size. Based upon BioEra, World Bank, and UNDP data. Chart updated by EcoHealth Alliance.
One Health

- Veterinary Medicine
- Comparative Medicine
- Human Medicine
- Social Sciences
- Humanities
- Animals
- Environment
- Biology
- Ecology
- Engineering
- Earth Sciences
ONE HEALTH

OPERATIONAL FRAMEWORK FOR STRENGTHENING HUMAN, ANIMAL, AND ENVIRONMENTAL PUBLIC HEALTH SYSTEMS AT THEIR INTERFACE

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Landscape of One Health Tools (examples)

One Health Operational Framework
Environmental Health Services Capacity Assessment Tool

Components and capacities to help reduce risk and promote resilience