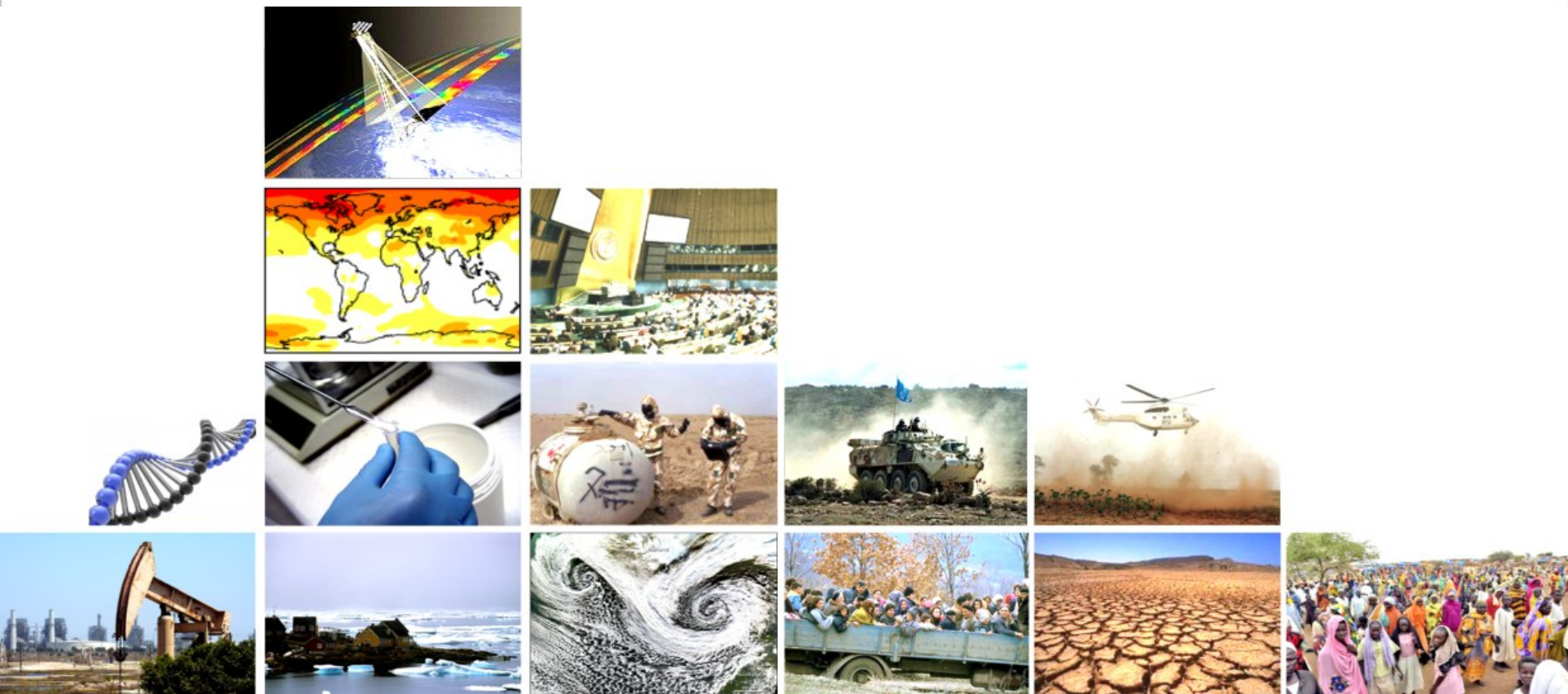




Emerging Environmental Security Issues





Definition

Environmental security is environmental viability for life support, with three sub-elements:

- preventing or repairing military damage to the environment,
- preventing or responding to environmentally caused conflicts
- protecting the environment due to its inherent moral value.



Environment High on Security Agenda

Taking ecological considerations into account is crucial if we are to avoid longer-term environmental problems that can undermine security and development, and lead to further cycles of conflict and displacement.

UN Secretary-General, Ban Ki-moon

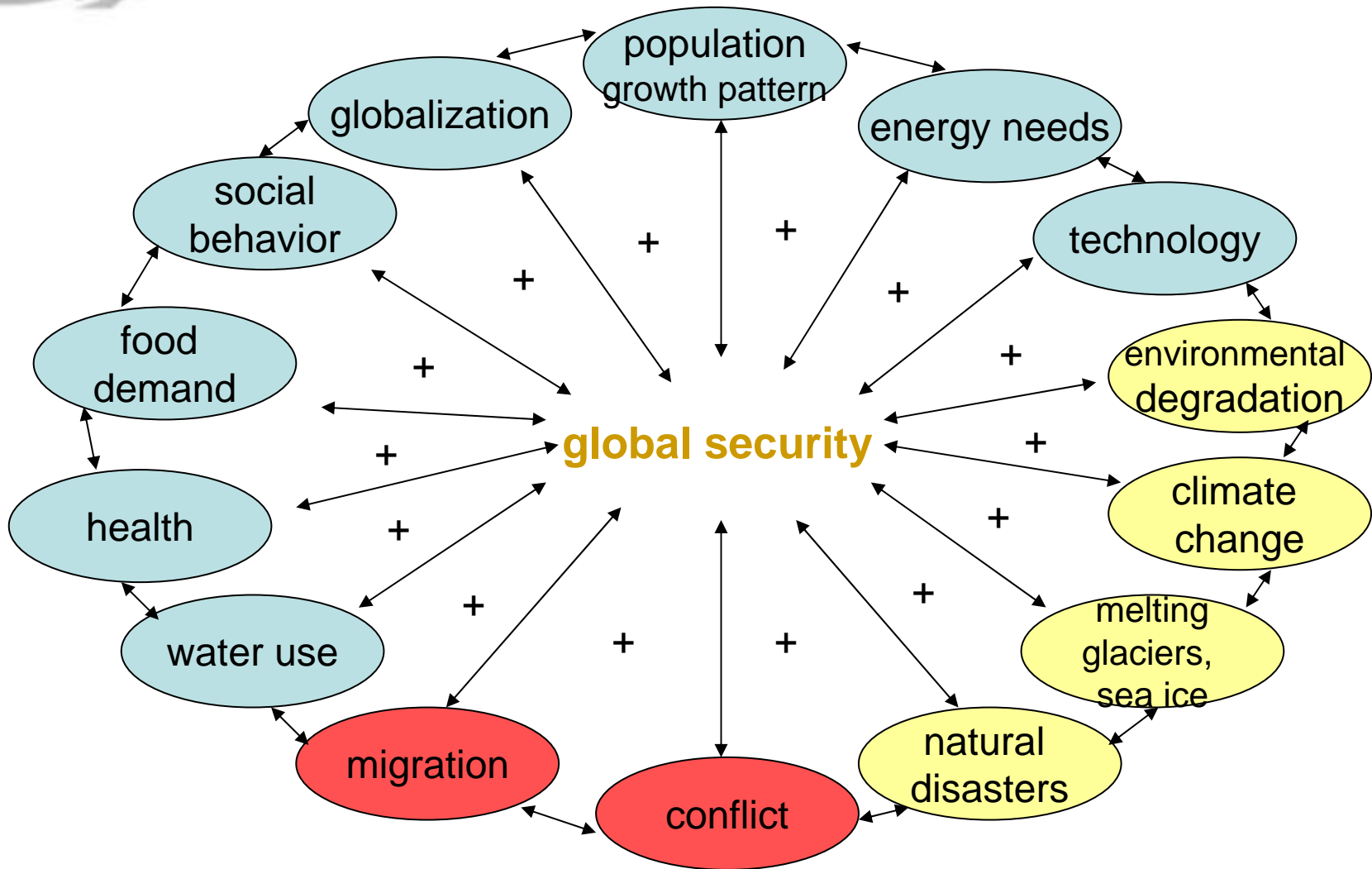
Ecology is a question of national security.

Russian President, Dmitry Medvedev

The world has moved from a global threat once called the Cold War to what now should be considered the Warming War.

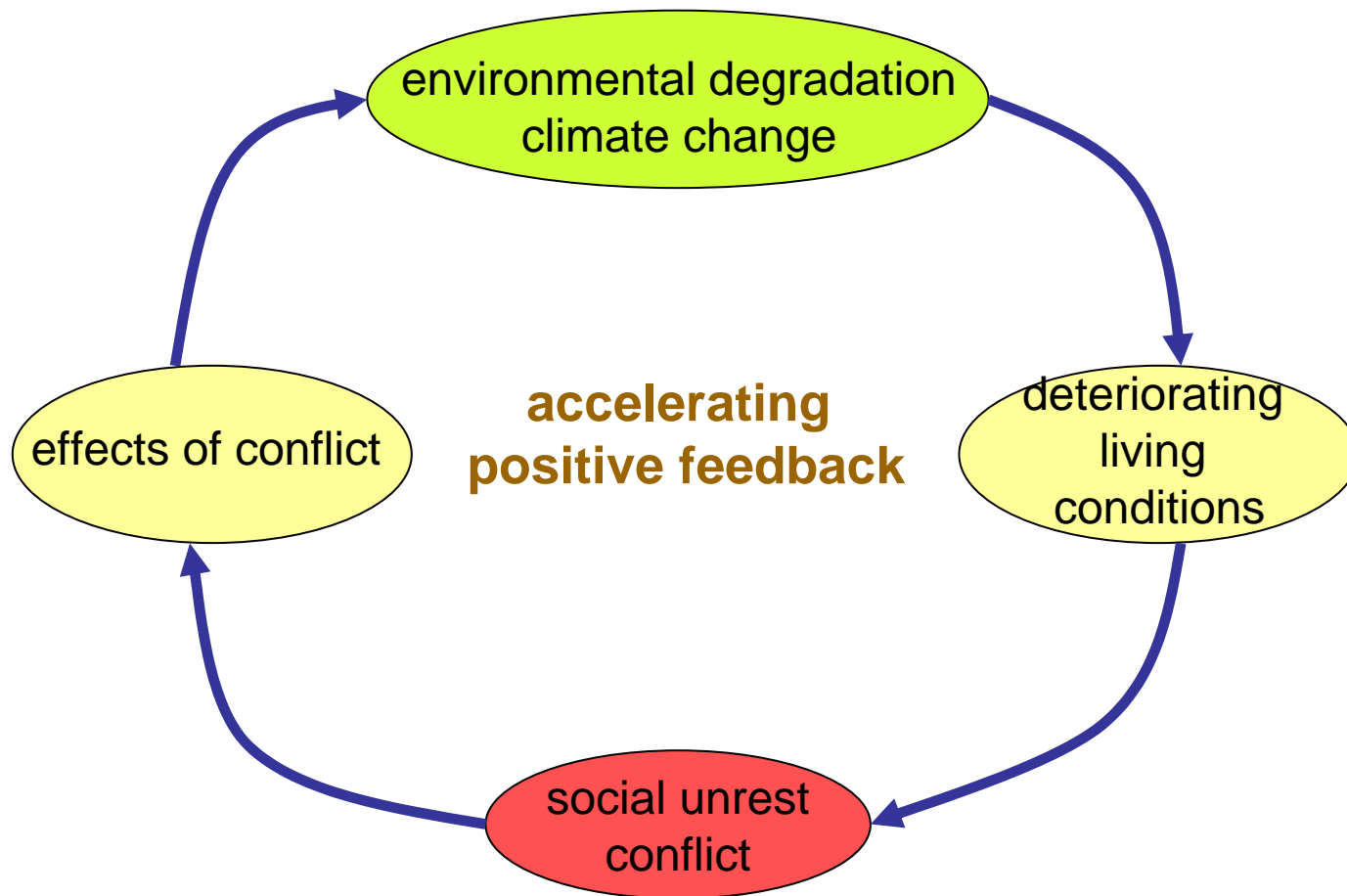
Afelee Pita, Tuvalu Ambassador to the UN

Dynamic & Synergistic



synergistic, interdisciplinary, international environmental policy

Environmental Security



environment issues = conflict multiplier



Global Food Crisis

- + **grain** = 66% of humans' protein intake
- + 40% of world grain output = 75% **fresh water** consumed/year
 - + population growth
 - + energy scarcity
 - + biofuels
 - + climate change
 - + social inequality
 - + GMOs
 - + world grain trade approx. 200 million tons
 - + China consumption 450 million tons grain/year
- + by 2020, 50 million additional people at risk of hunger
- + 120 million to 1.2 billion people to experience some water stress
 - + **by 2050 human demand double of planet's capability**

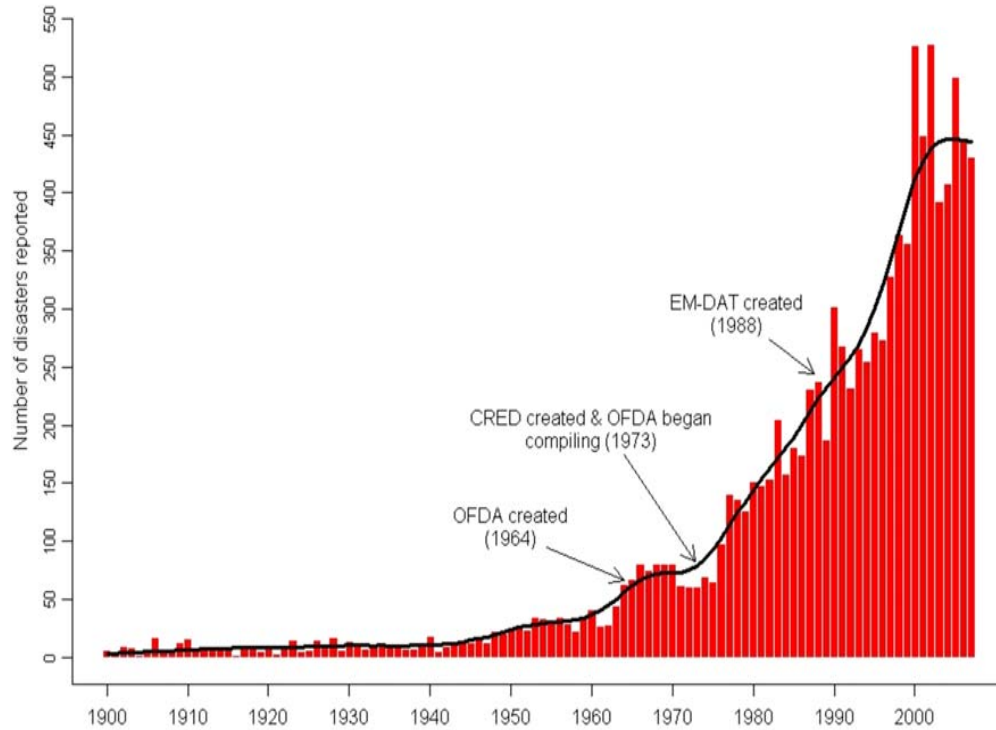
climate change – highest threat to human security
human behavior?

Sea ice and glaciers melting

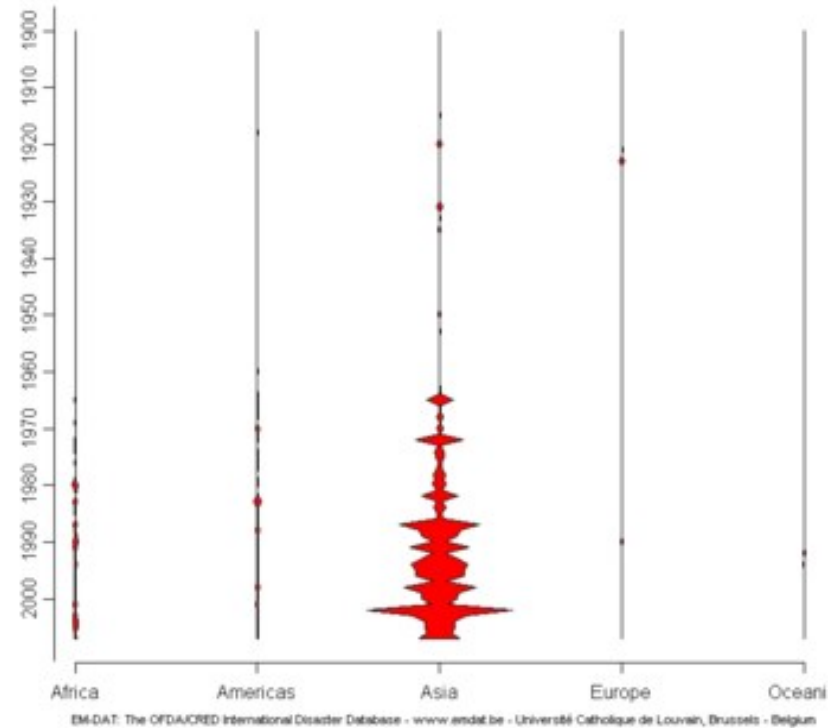




Natural Disasters

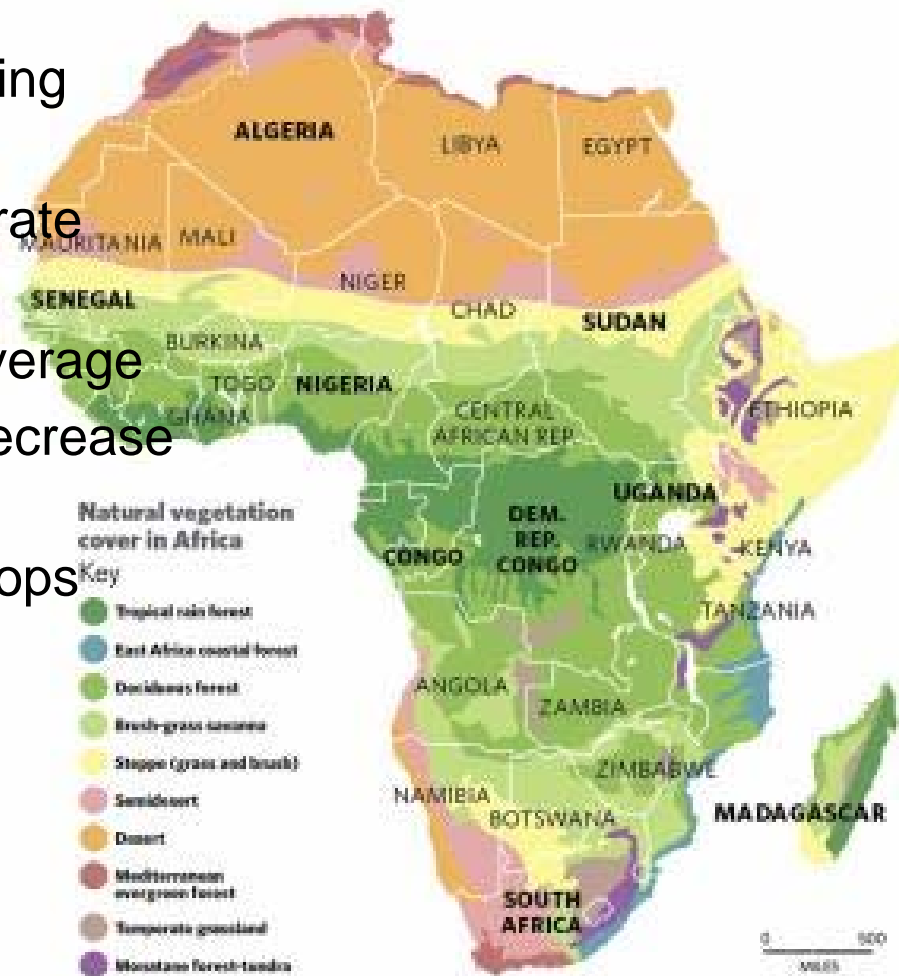


Number of people reported affected by natural disasters 1900-2007

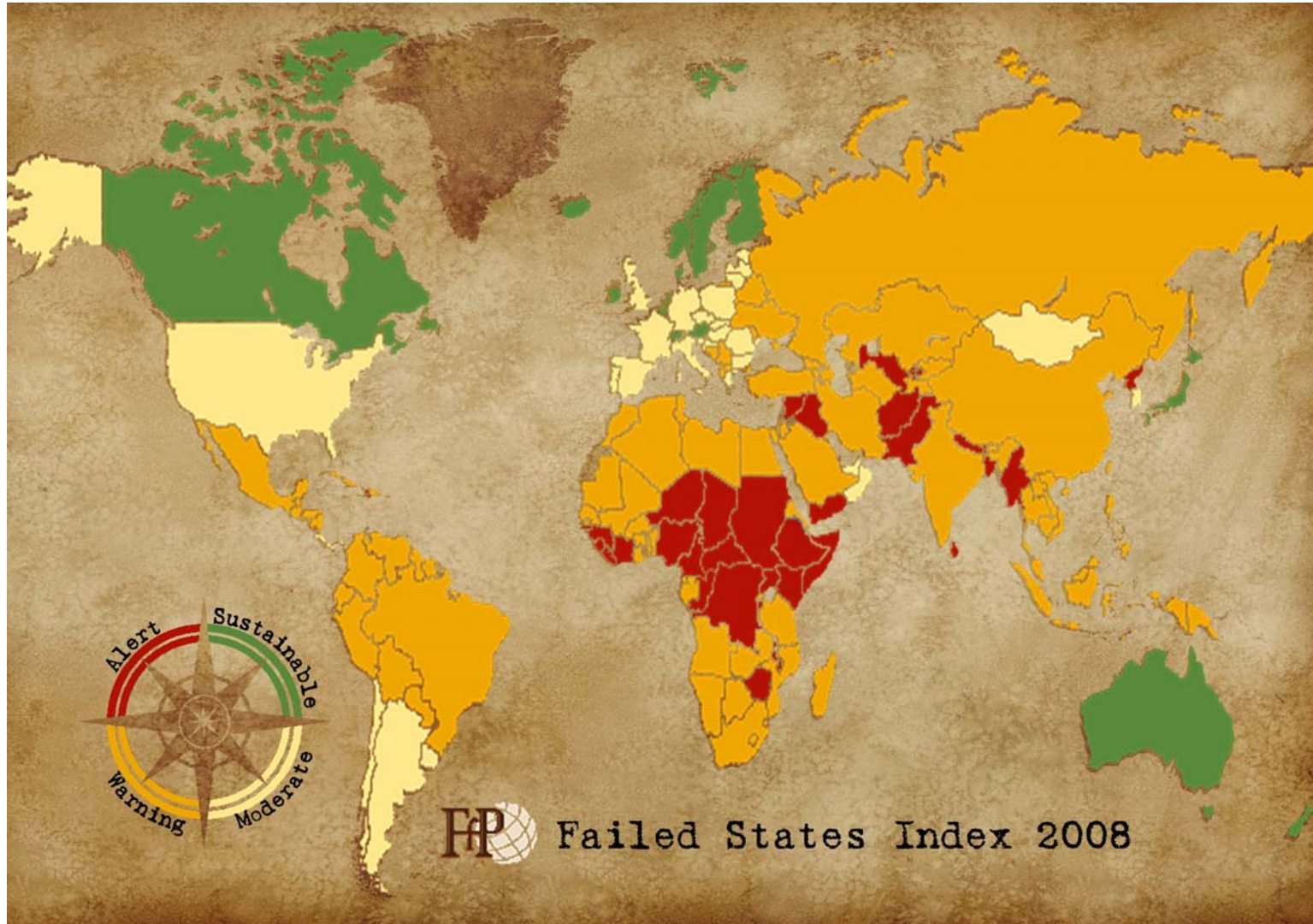


Africa most vulnerable

- 20 of 30 countries with fastest growing population
- by 2050 Africa's population growth rate double of any other region
- deforestation rate = twice world's average
- by 2025, cereal crop yields might decrease 2.5-10%
- by 2020 some rainfall dependant crops could be reduced by up to 50%
- increasing migration



Vulnerability



The Arctic show





Environment and Security

- approx. same number (25 mill) of people displaced by natural disasters as by conflict and human rights
- environmental refugees possibly 250 mill by 2050
- worse case scenarios are underestimates
- ongoing post-conflict liability disputes
- past 20 years, 50% of conflicts “re-conflicts”
- militaries are increasingly called upon to assist in environment-related issues, such as natural disasters
- environmental diplomacy for conflict prevention



New Threats

- waste (e-waste 20-50 mill tons/year; 8.5 mill tons/year hazardous waste movement)
- chemicals (commercial chemicals to grow 80% next 15 years)
- nanotechnology (assessments, standards, terminology)
- biotechnology
- new nonlethal agents
- nanotech methods for delivering biological agents
- SIMAD
- new kinds of weapons
- spread and lack of safety of nuclear, chemical, biotechnology labs
- underwater sonar
- space pollution (41 nations own satellites; anti-ASAT debris)

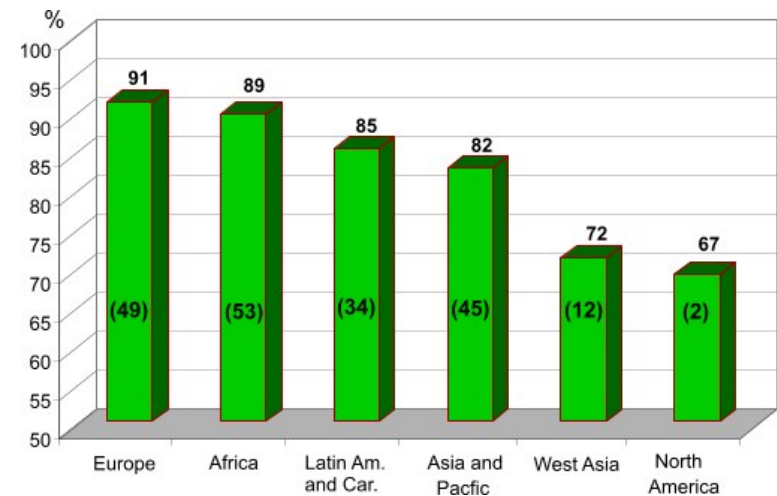
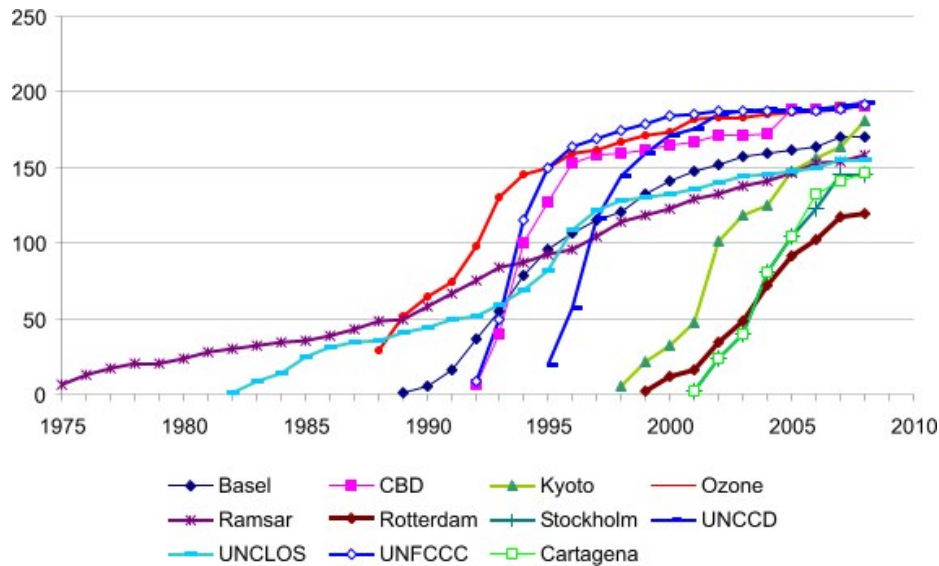


Recent Environmental Agreements

- Protocol V on Explosive Remnants of War
- International Convention for the Suppression of Acts of Nuclear Terrorism
- Convention on Cluster Munitions adopted in May 2008
- European Parliament Resolution for Global Ban of DU Weapons
- Biological Weapons Convention enforcement (biosecurity, codes of conduct)
- Chemical Weapons Convention (use by nonstate actors; destruction deadlines)
- E-waste Declaration for Basel Convention on the Transboundary Movement of Hazardous Wastes and Their Disposal
- Stockholm Convention on POPs adopted evaluation mechanisms and non-compliance mechanism expected for 2009
- Registration, Evaluation and Authorization of Chemicals (REACH) operational
- network of marine protection areas, to be adopted by 2012
- global ban on some heavy metals (in negotiation)
- EU Environmental Liability Directive & Environmental Damage Felony
- mandatory emissions targets at country, regional, local levels

Parties to Multilateral Environmental Agreements

more than 700 MEAs



Source: UNEP GEO Data Portal with updates by the Millennium Project



Trends

- increased protection of the environment and “common spaces”
- adopt precautionary principle versus reactive actions
- polluter pays principle
- expansion of environmental litigations
- introducing liability and criminal sanctions for environmental offenses
- focus of international negotiations switching from designing to reinforcing MEAs
- improving environmental governance and enforcement
- improving knowledge and understanding of MEAs
- developing clear international guidelines and frameworks for environmentally sound management
- more synergistic environmental policy; integration of MEAs for simpler and clearer framework



Trends (cont.)

- international coalitions negotiating international treaties
- local environmental and energy policies
- “competition” for better emissions reduction strategies
- increased participation of civil society in the design of policies
- alliances between private companies, govts, NGOs and IOs to increase eco-efficiency
- early warning, mitigation, and adaptability
- expansion of protected areas
- improving analytical tools for environmental status and comparability
- new watchdog bodies
- Sovereignty vs human rights and environmental security (Myanmar)



Technological developments

- space technology
- global system for countering pandemics
- environmental sensors globally connected
- high-sensitivity sensors for detection and rapid response
- ICT and robotics for detection and cleanup
- bio/nano tech for cleanup and remediation
- improved monitoring systems and models
- early warning systems



Areas of Disagreement

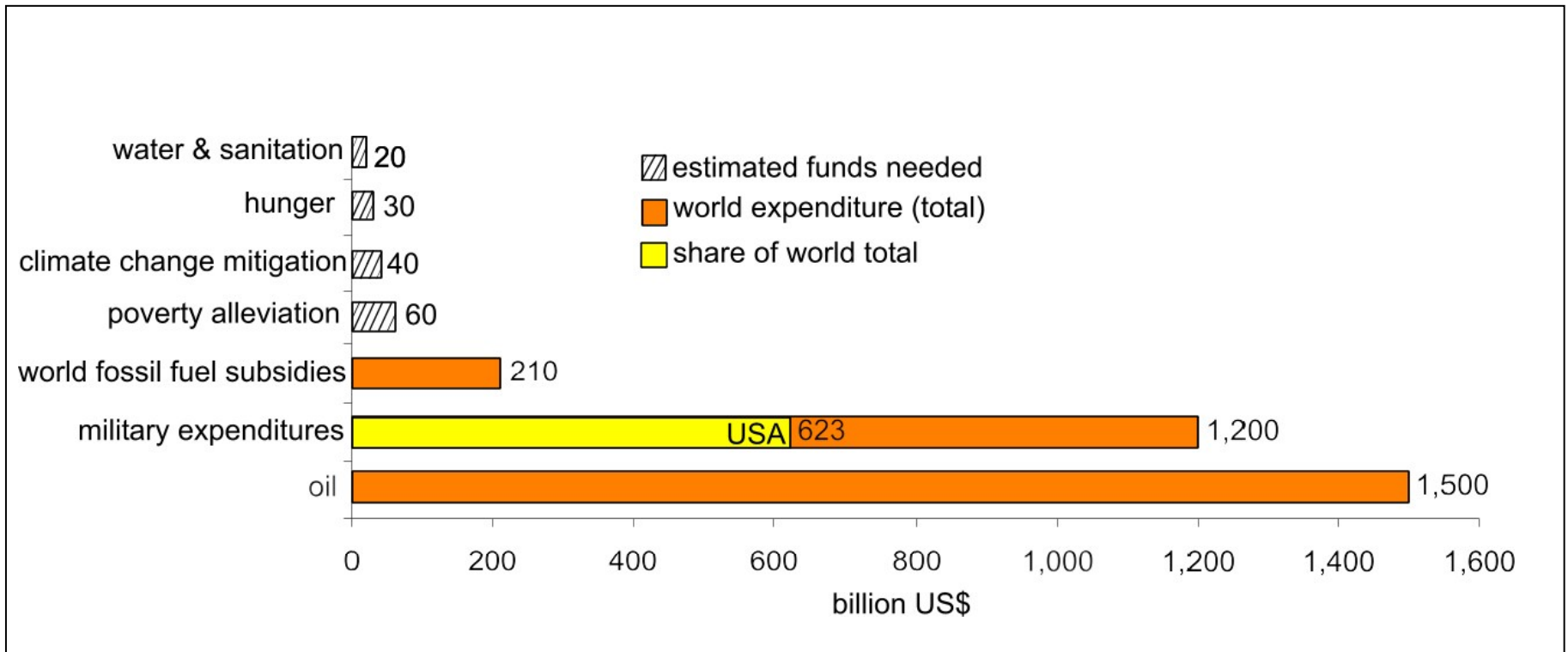
- climate change and post-Kyoto strategy
- nuclear non-proliferation
- cluster bombs
- access to the polar regions and their use
- biodiversity protection
- security implications of environmental aspects
- synthetic biology and nanotech safety strategy
- incapacitating agents
- outer-space security




Necessary Developments

- **System approach**
- improve scientific expertise of security organizations
- independent S&T advisory committee for intelligence agencies
- codes of conduct for the scientific community
- clear standards for new technologies
- integrate extreme scenarios into the decisionmaking process
- Universal Declaration of Environmental Rights and Duties
- UNEP to become UNEO
- legal framework for environmental migrants
- cross-border integrated water-management systems
- global e-waste management and recycling system (regional exist)

Setting priorities right





How about you spend LESS time studying how MY generation destroyed the environment and MORE time figuring out a magical solution?



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