

# UNEP GLOBAL JUDGES PROGRAMME

APPLICATION OF ENVIRONMENTAL LAW BY NATIONAL  
COURTS AND TRIBUNALS

## PRESENTATION 2

# MAJOR ENVIRONMENTAL PROBLEMS

# OUTLINE OF PRESENTATION

A) Major environmental issues

B) Responses at the national level

C) Responses at the international level

# MAJOR ENVIRONMENTAL ISSUES



- ◆ **Pollution of Air, Water and Land**
- ◆ **Hazardous Chemicals and Wastes**
- ◆ **Land Degradation**
- ◆ **Loss of Biodiversity**
- ◆ **Ozone Depletion**
- ◆ **Climate Change**
- ◆ **Loss of natural and cultural resources**

# POLLUTION OF ENVIRONMENTAL MEDIA

**LAND**

**AIR**

**POLLUTION  
OF  
MEDIA**

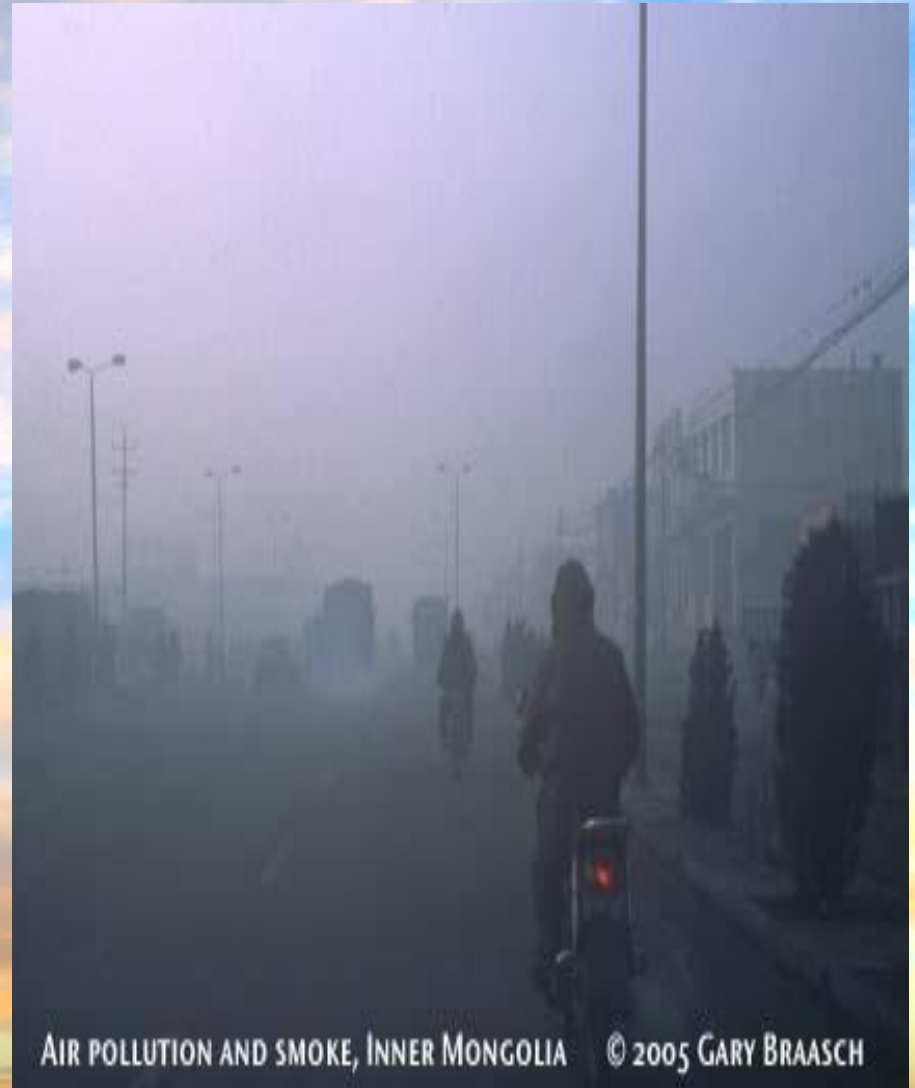
**WATER**

# AIR POLLUTION

## Definition:

the emission of any impurity into the air, such as smoke (including tobacco smoke), dust, cinders, solid particles, gases, mists, fumes, odours and radioactive substances.

Air pollution and smoke in Inner Mongolia

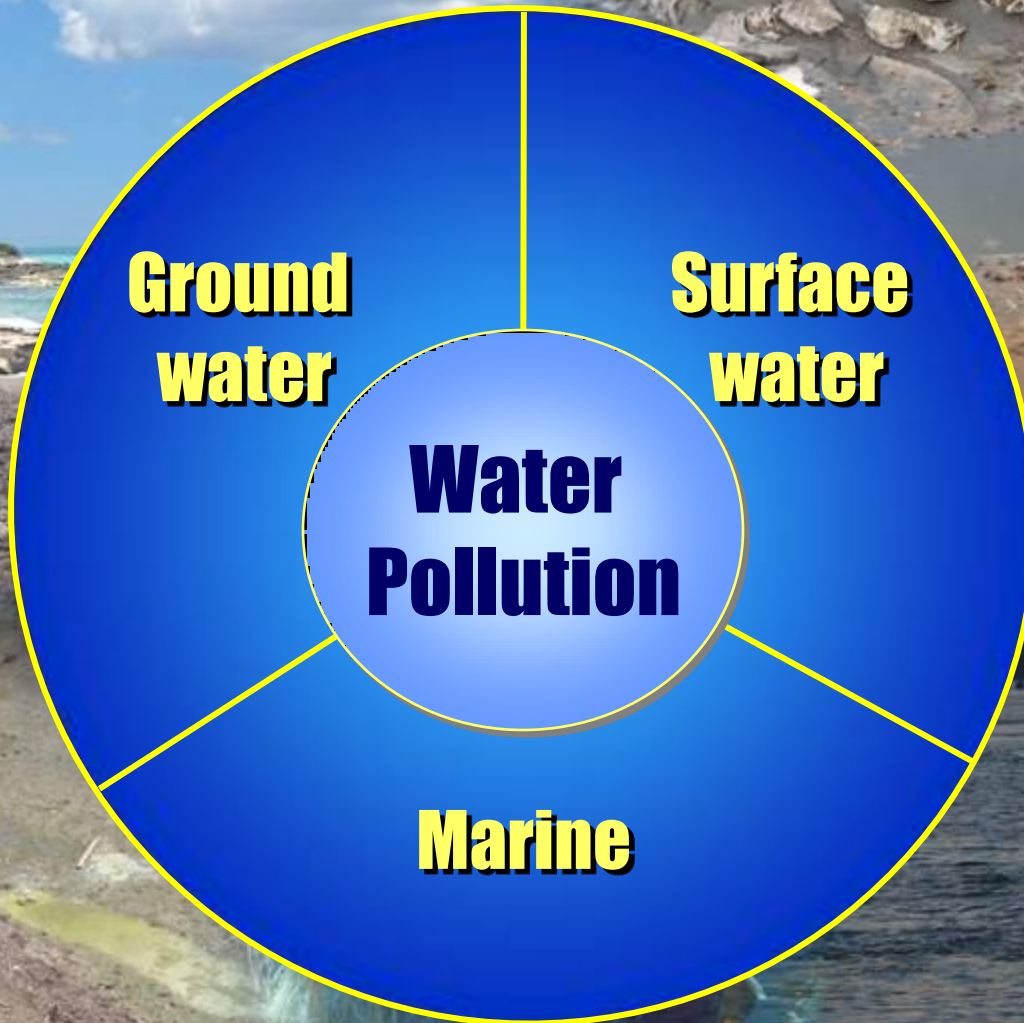


AIR POLLUTION AND SMOKE, INNER MONGOLIA © 2005 GARY BRAASCH

# Smoke from incineration of domestic waste on banks of river



# WATER POLLUTION



# Surface Water Pollution





# Ground Water Pollution



# Marine Water Pollution



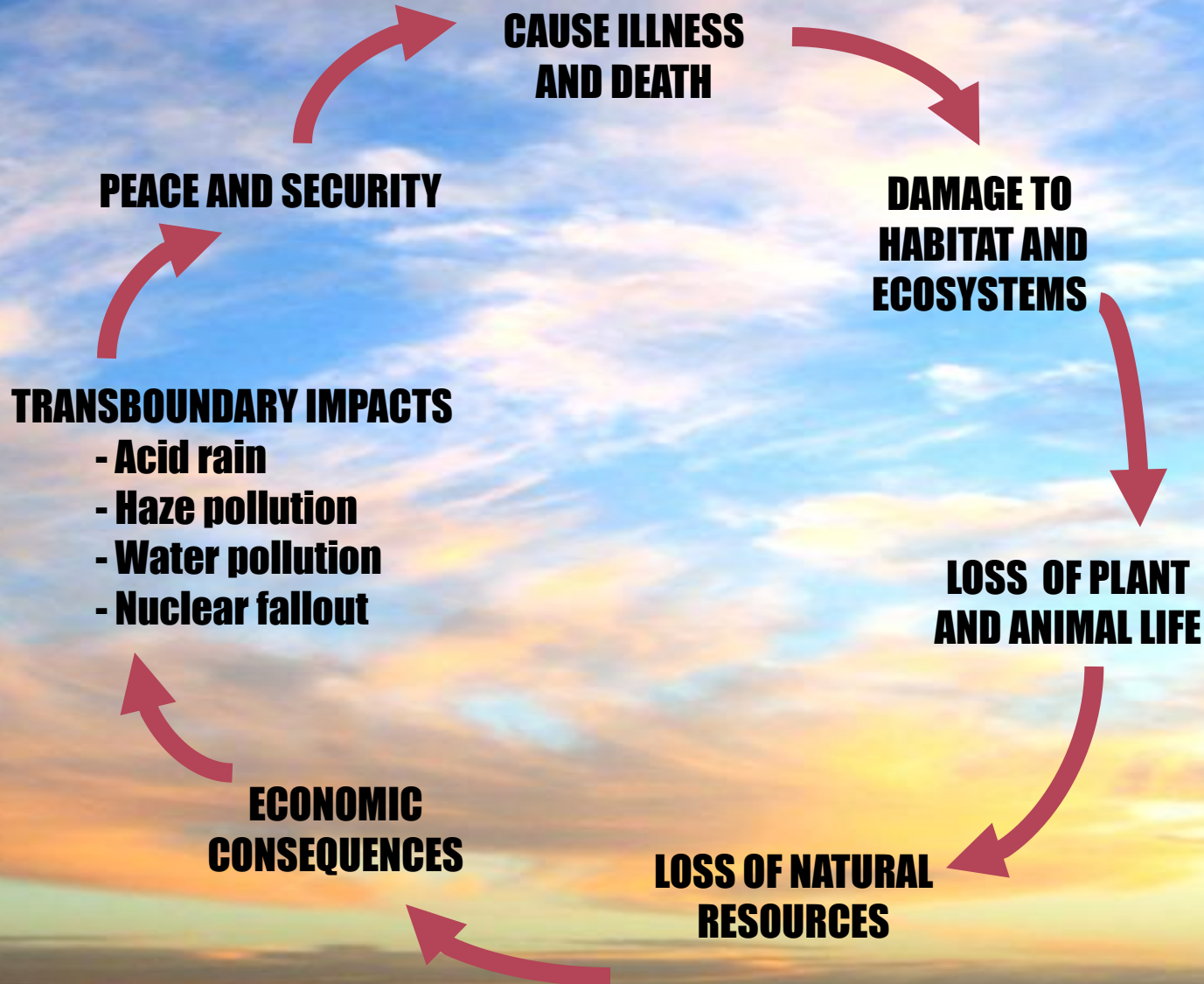
# Few quality fish can survive in polluted rivers



# Land Pollution: Plastic bag and general waste dump beside communal toilets on riverbank



# MAJOR CONCERNS



# MAJOR CAUSES OF POLLUTION

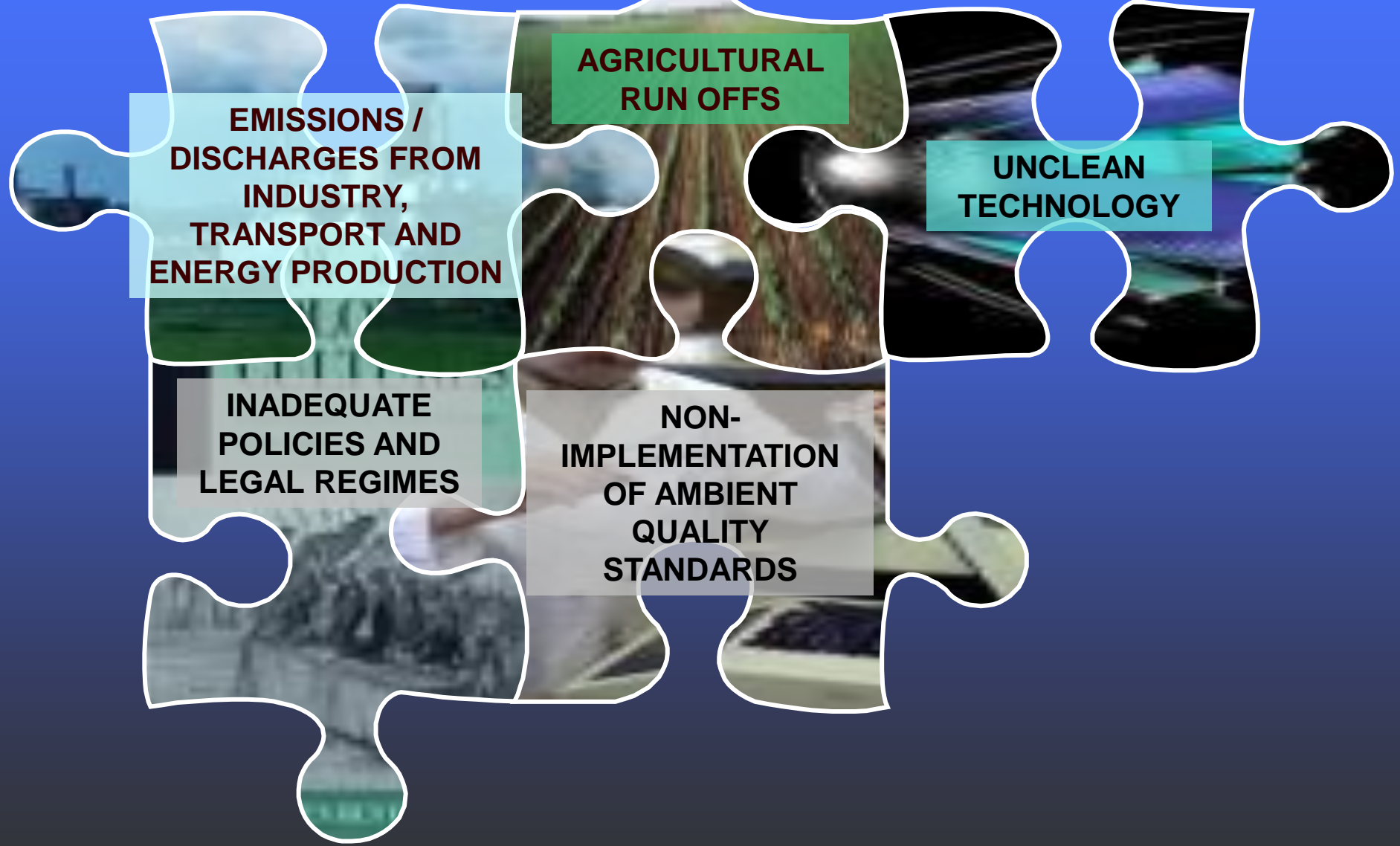
**EMISSIONS /  
DISCHARGES FROM  
INDUSTRY,  
TRANSPORT AND  
ENERGY PRODUCTION**

**AGRICULTURAL  
RUN OFFS**

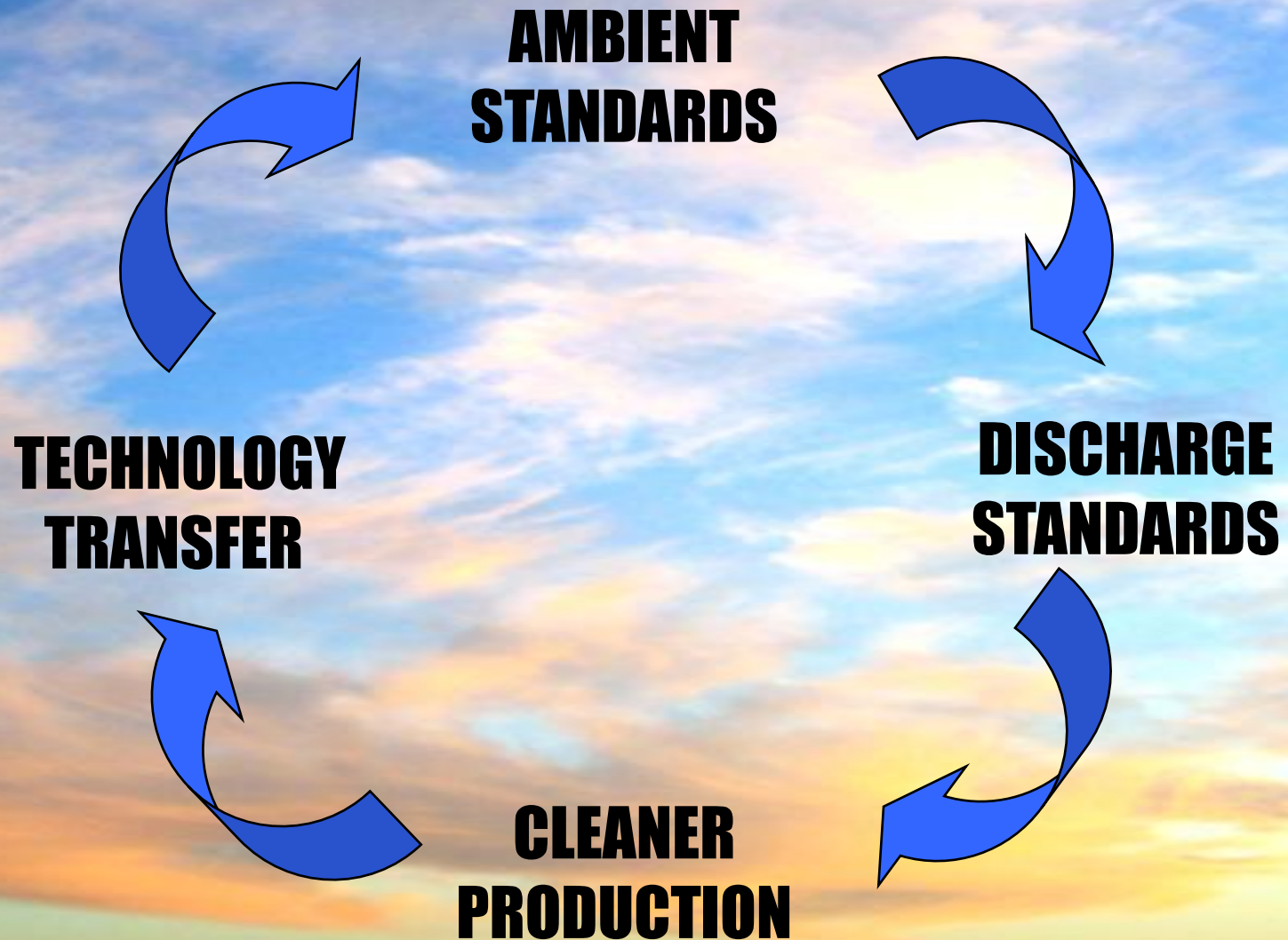
**UNCLEAN  
TECHNOLOGY**

**INADEQUATE  
POLICIES AND  
LEGAL REGIMES**

**NON-  
IMPLEMENTATION  
OF AMBIENT  
QUALITY  
STANDARDS**



# REMEDIAL MEASURES



# HAZARDOUS WASTES AND CHEMICALS



**HAZARDOUS  
WASTES**

**CHEMICALS  
IN  
INTERNATIONAL  
TRADE**

**HAZARDOUS  
WASTES  
AND  
CHEMICALS**

**PERSISTENT  
ORGANIC POLLUTANTS**





# MAJOR CONCERNS

ILLEGAL DUMPING

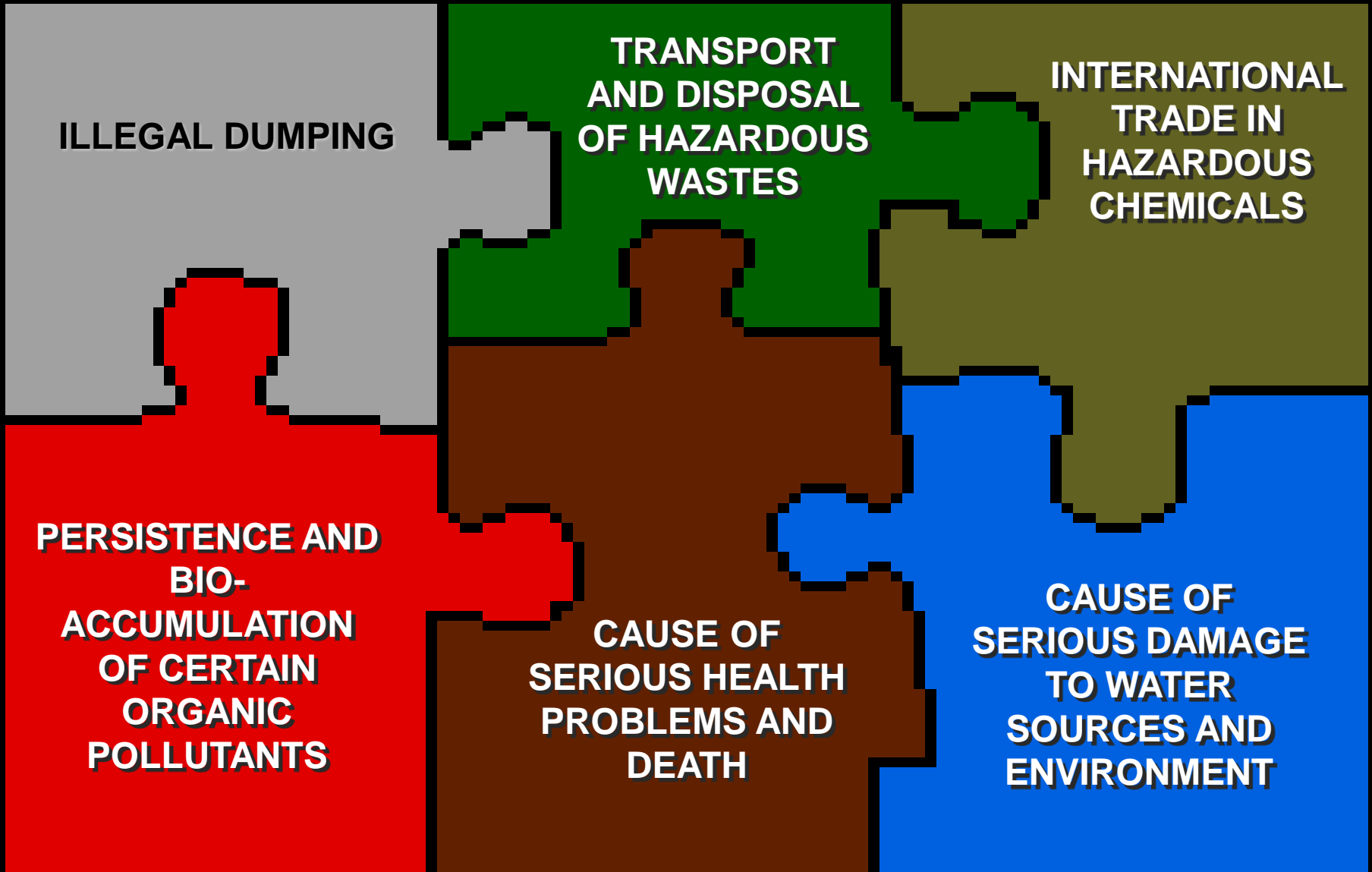
TRANSPORT  
AND DISPOSAL  
OF HAZARDOUS  
WASTES

INTERNATIONAL  
TRADE IN  
HAZARDOUS  
CHEMICALS

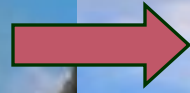
PERSISTENCE AND  
BIO-  
ACCUMULATION  
OF CERTAIN  
ORGANIC  
POLLUTANTS

CAUSE OF  
SERIOUS HEALTH  
PROBLEMS AND  
DEATH

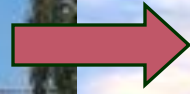
CAUSE OF  
SERIOUS DAMAGE  
TO WATER  
SOURCES AND  
ENVIRONMENT



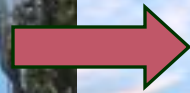
# MAJOR CAUSES



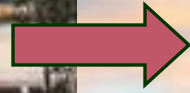
**PRODUCTION, USE AND DISPOSAL OF CHEMICALS INCLUDING PESTICIDES**



**GENERATION AND DISPOSAL OF HAZARDOUS WASTES**



**IRRESPONSIBLE INTERNATIONAL TRADE IN HAZARDOUS CHEMICALS AND WASTES**



**PRODUCTION AND USE OF PERSISTENT ORGANIC POLLUTANTS**

# NATIONAL MEASURES

- Effective implementation of national Policies and legislation
- Effective management of production, transport, storage and use of chemicals
- Effective disposal of hazardous wastes
- Phasing out production and use of persistent organic pollutants (pops)
- Development of alternative feedstocks and disposal options



# INTERNATIONAL ACTION

The background of the slide features a photograph of several blue hazardous waste drums. A yellow caution tape with the word 'CAUTION' printed in black is stretched across the foreground, partially obscuring the drums. The drums have red labels with the words 'HAZARDOUS WASTE' visible. The overall scene is dimly lit, with a blue hue.

**BASEL CONVENTION ON THE  
CONTROL OF TRANSBOUNDARY  
MOVEMENTS OF HAZARDOUS  
WASTES AND THEIR DISPOSAL**

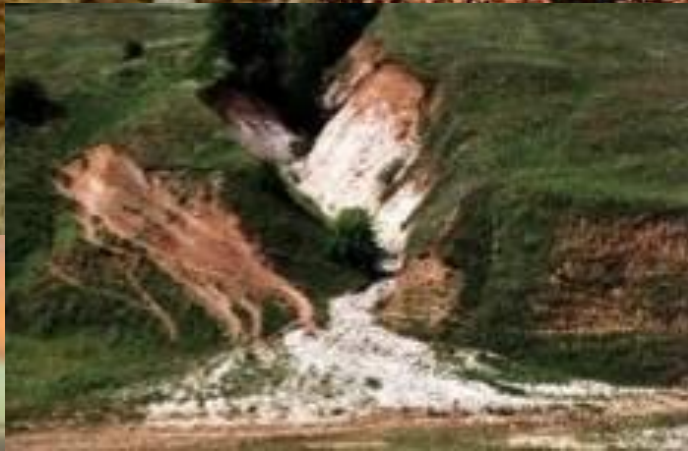
**ROTTERDAM CONVENTION ON THE  
PRIOR INFORMED CONSENT  
PROCEDURE FOR CERTAIN  
HAZARDOUS  
CHEMICALS AND PESTICIDES IN  
INTERNATIONAL TRADE**

**CHEMICALS PROGRAMMES OF UNEP  
AND FAO**

**STOCKHOLM CONVENTION ON  
PERSISTENT ORGANIC POLLUTANTS**

**TRANSFER OF TECHNOLOGY**

# LAND DEGRADATION



# MAJOR CONCERNS



**LOWER SOIL  
PRODUCTIVITY**

**DISRUPTION OF  
WATER CYCLE**

**FORCED  
MIGRATION**

**POOR WATER  
RETENTION**

**POVERTY**

**LACK OF FOOD  
SECURITY**

**DROUGHT**

# MAJOR CAUSES



**OVER-CROPPING**

**OVER-GRAZING**

**LAND CONVERSION**

**DEFORESTATION**

**SOIL POLLUTION THROUGH INDUSTRY  
AND AGRICULTURE**

**EROSION**

# INTERNATIONAL ACTION

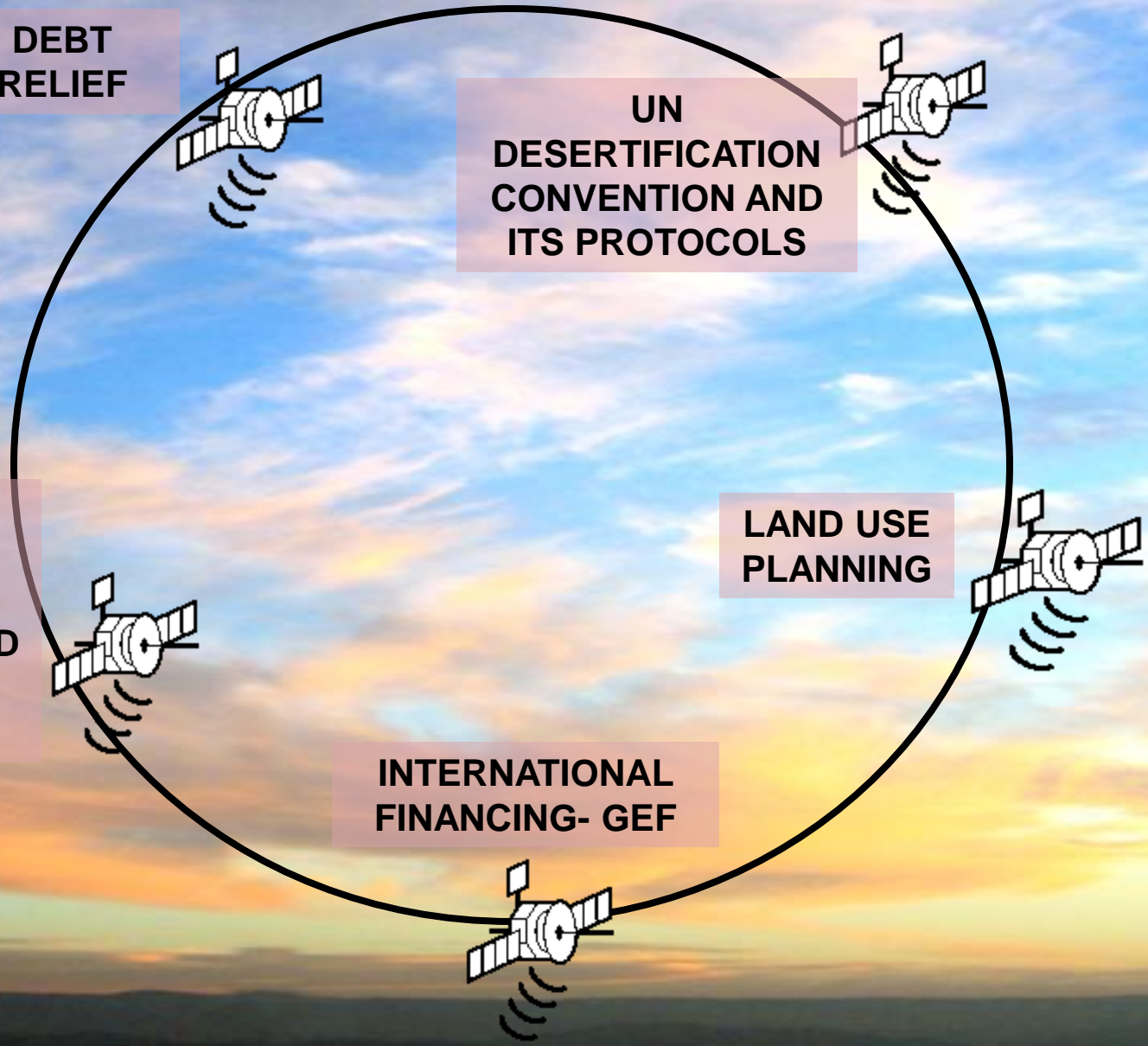
DEBT  
RELIEF

UN  
DESERTIFICATION  
CONVENTION AND  
ITS PROTOCOLS

LAND USE  
PLANNING

INTERNATIONAL  
FINANCING- GEF

LINKS TO  
CBD,  
CLIMATE  
CHANGE AND  
OZONE  
REGIMES





# NATIONAL MEASURES



# LOSS OF BIODIVERSITY

**Major concerns**

**Major causes**

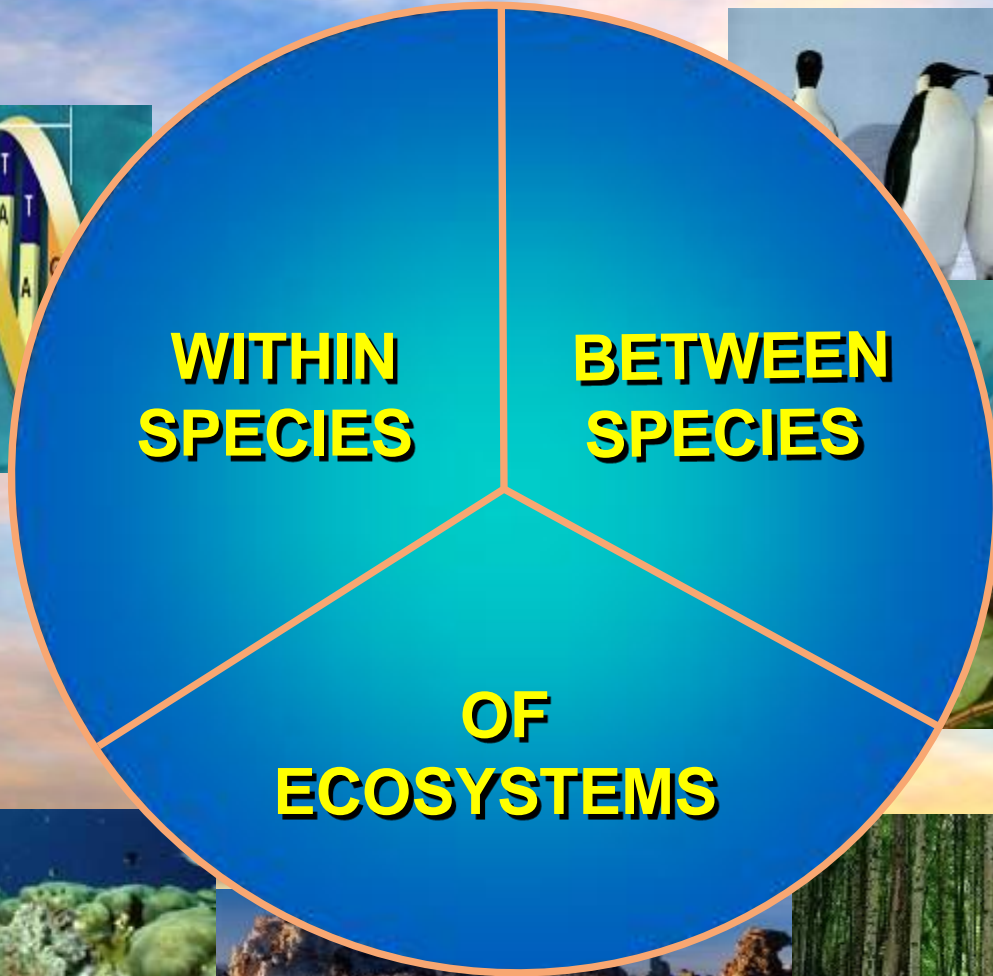
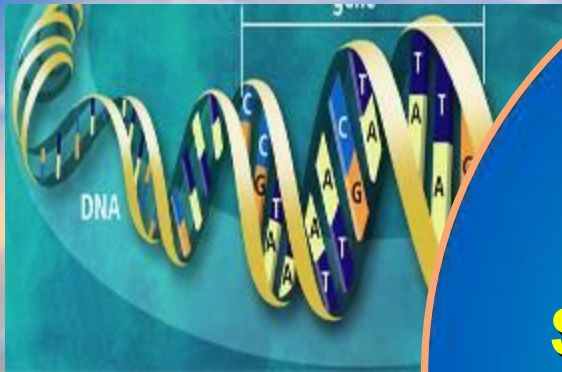
**Biodiversity  
loss**

**Remedial  
measures**

**National measures  
for Remediation**

# WHAT IS BIODIVERSITY?

**VARIABILITY AMONG LIVING ORGANISMS**



# MAJOR CONCERNS



Loss of species

Loss of genetic resources

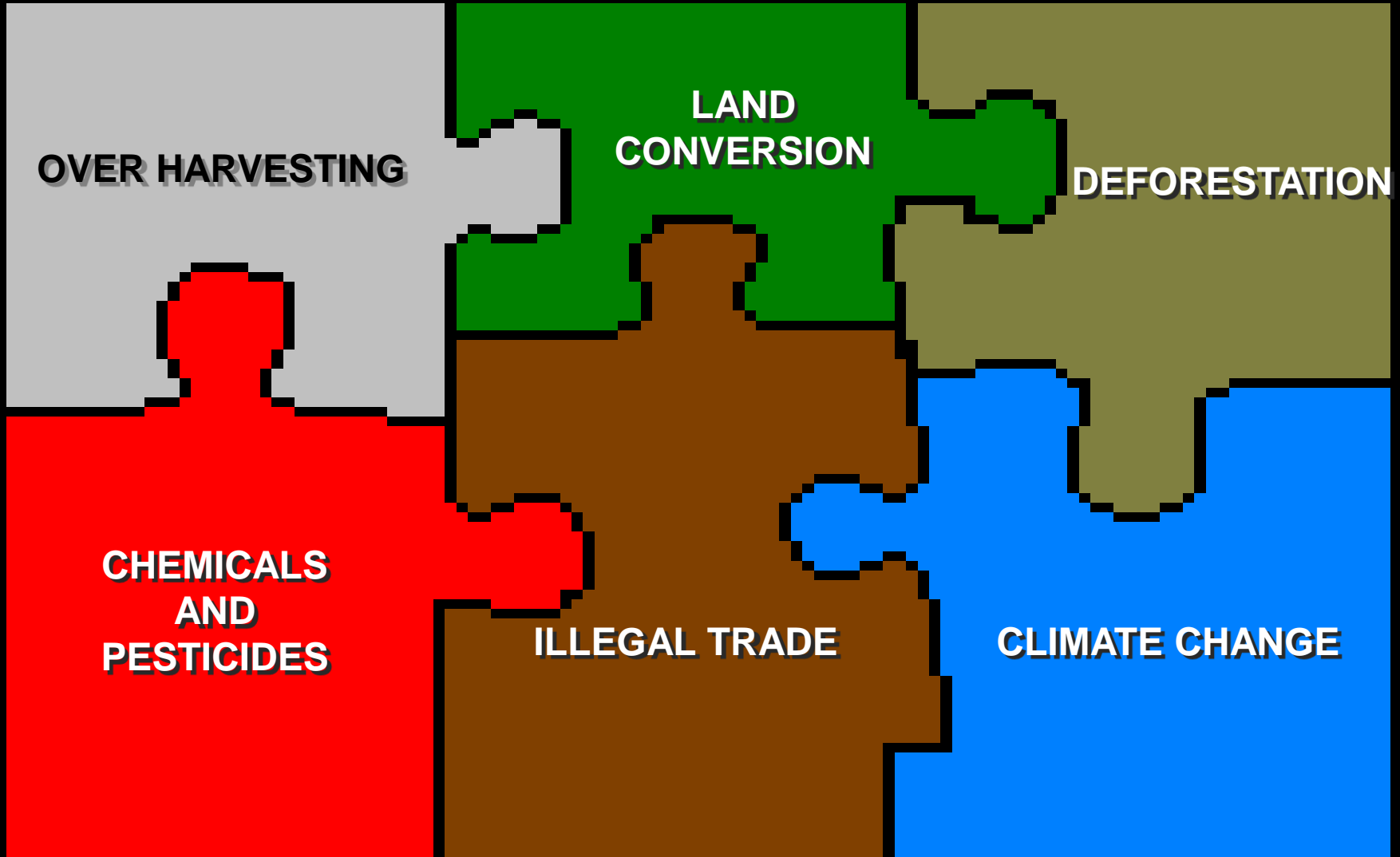
Agricultural vulnerability

Habitat destruction

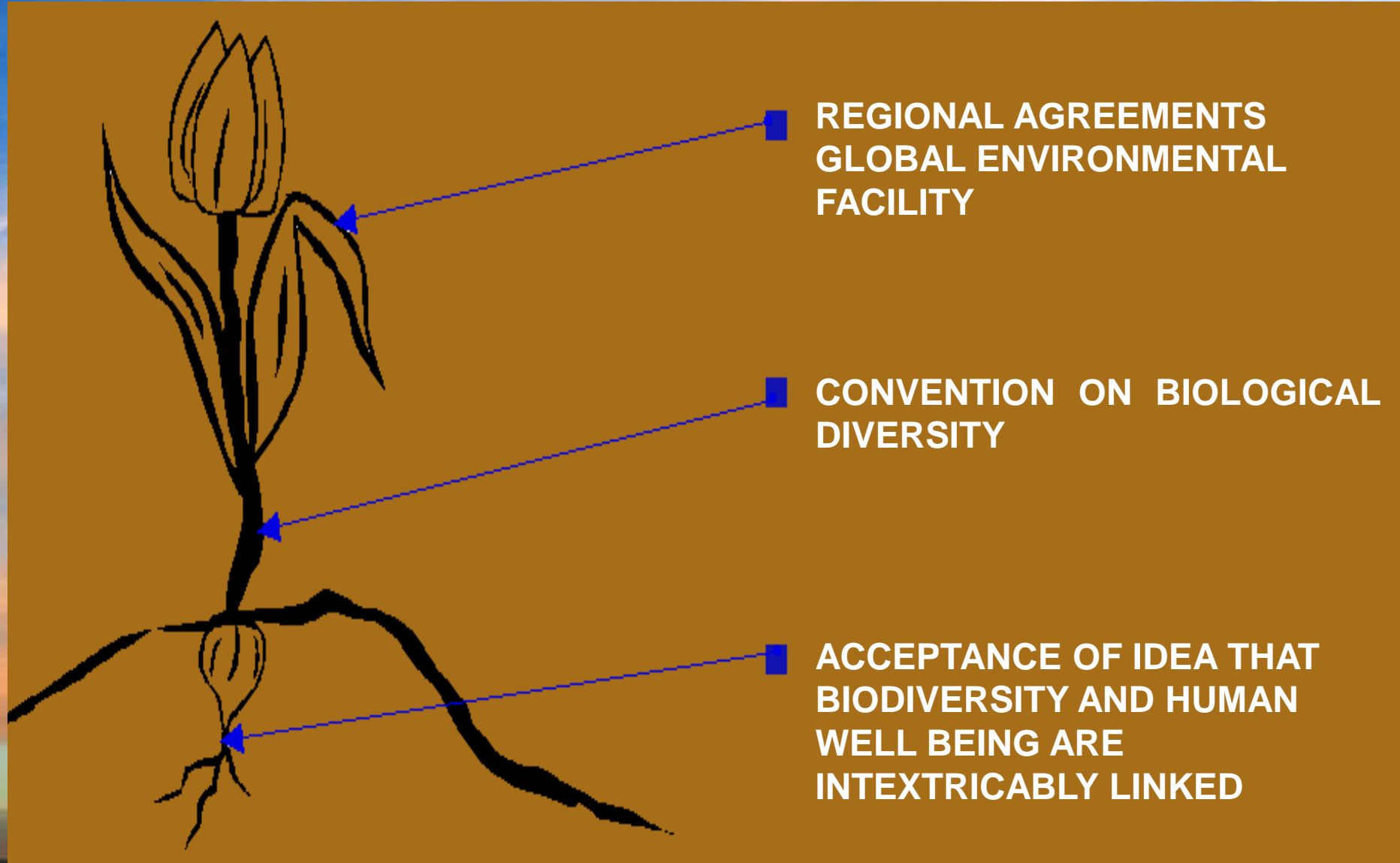
Loss of ecosystems

Introduction of disease and invasive species  
via smuggling

# MAJOR CAUSES



# INTERNATIONAL ACTION



# NATIONAL MEASURES

**NATIONAL PLANNING**

**PROTECTED AREAS AND SPECIES**

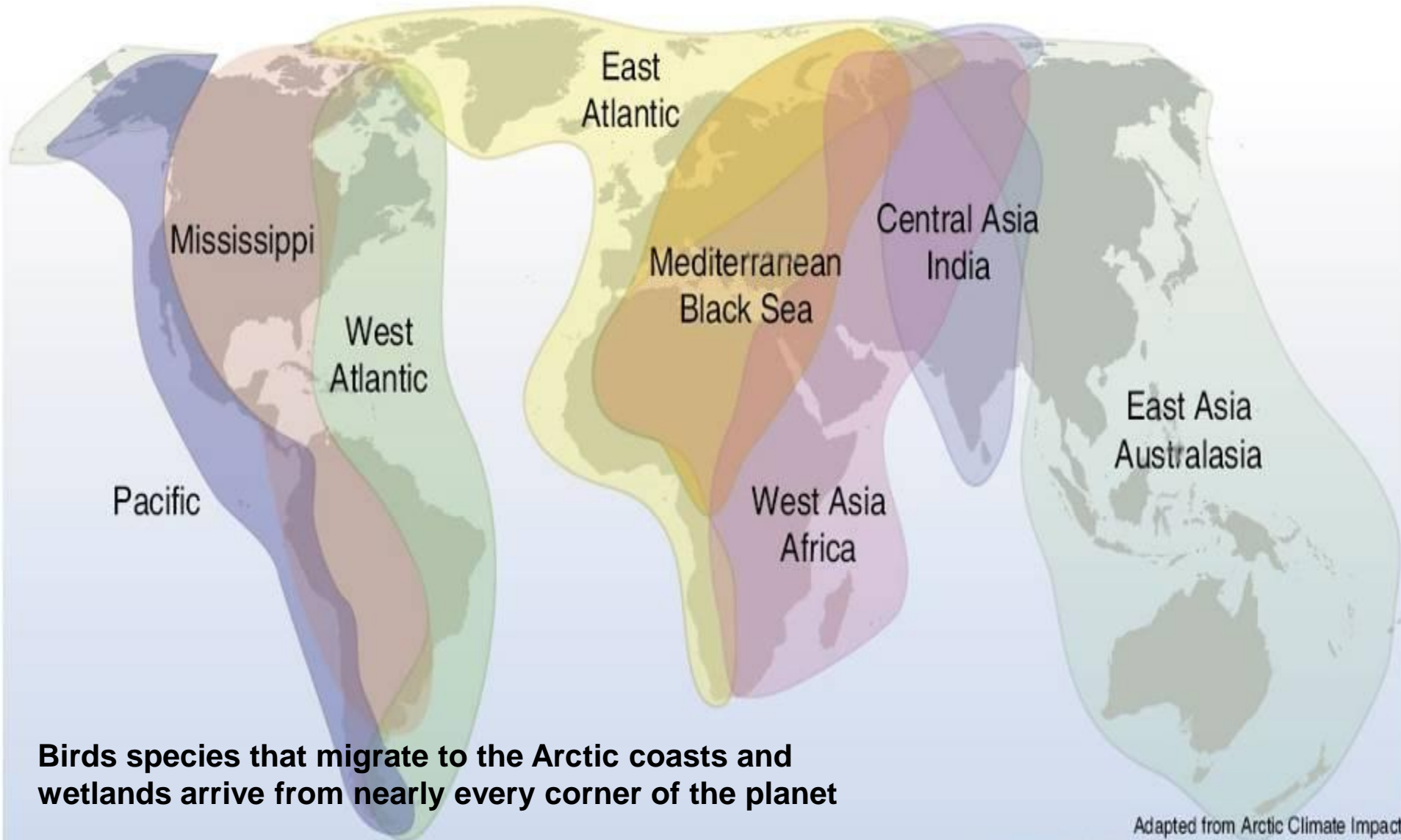
**SUSTAINABLE USE OF RESOURCES**

**NATIONAL OWNERSHIP OF GENETIC RESOURCES**

**ACCESS AND BENEFIT SHARING**

**IMPLEMENTING LAWS AND REGULATIONS**

# MAJOR BIRD MIGRATION FLYWAYS



**Birds species that migrate to the Arctic coasts and wetlands arrive from nearly every corner of the planet**

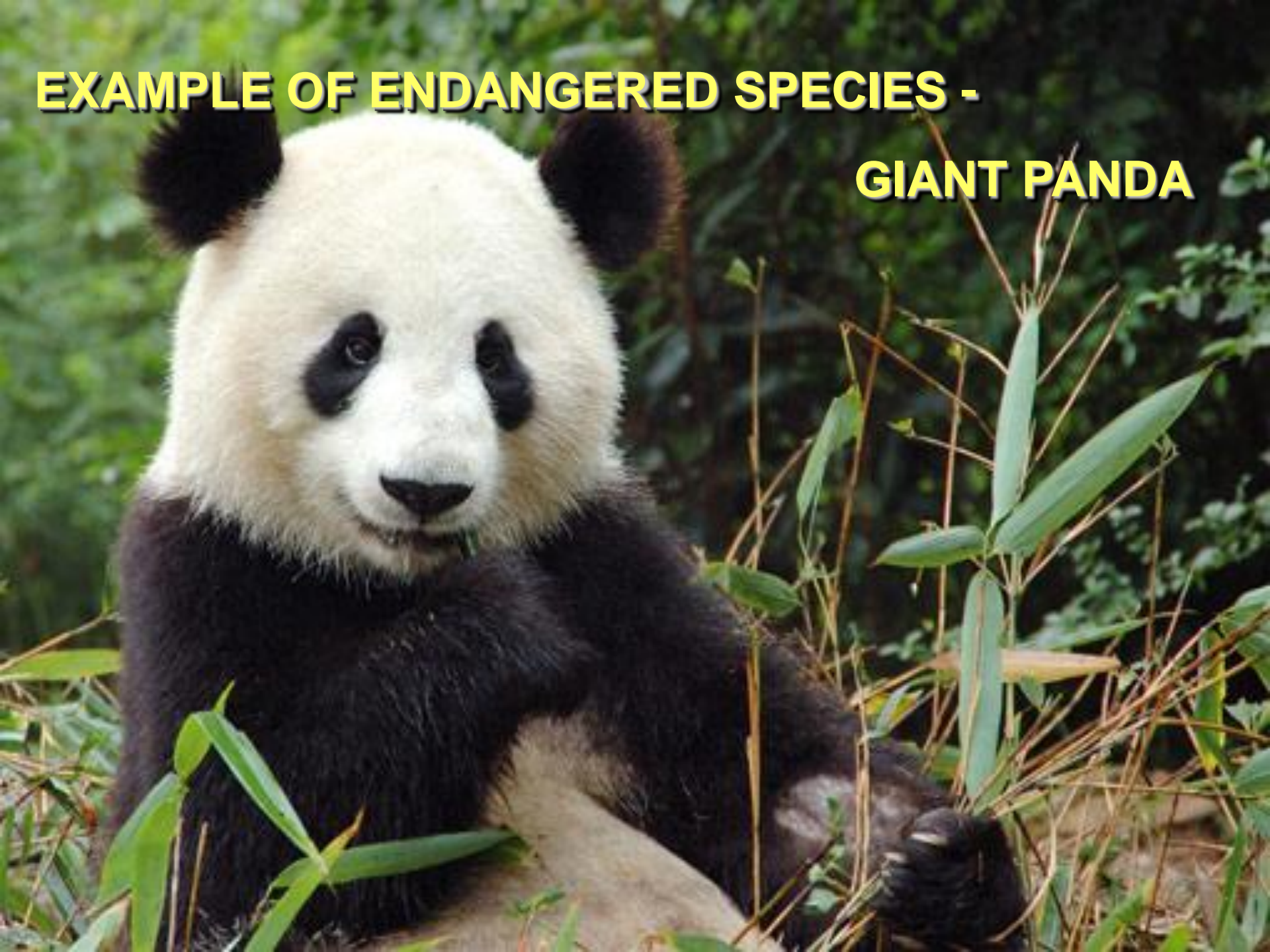


**EXAMPLE OF ENDANGERED SPECIES –  
MARINE TURTLE**



**EXAMPLE OF ENDANGERED SPECIES -**

**GIANT PANDA**

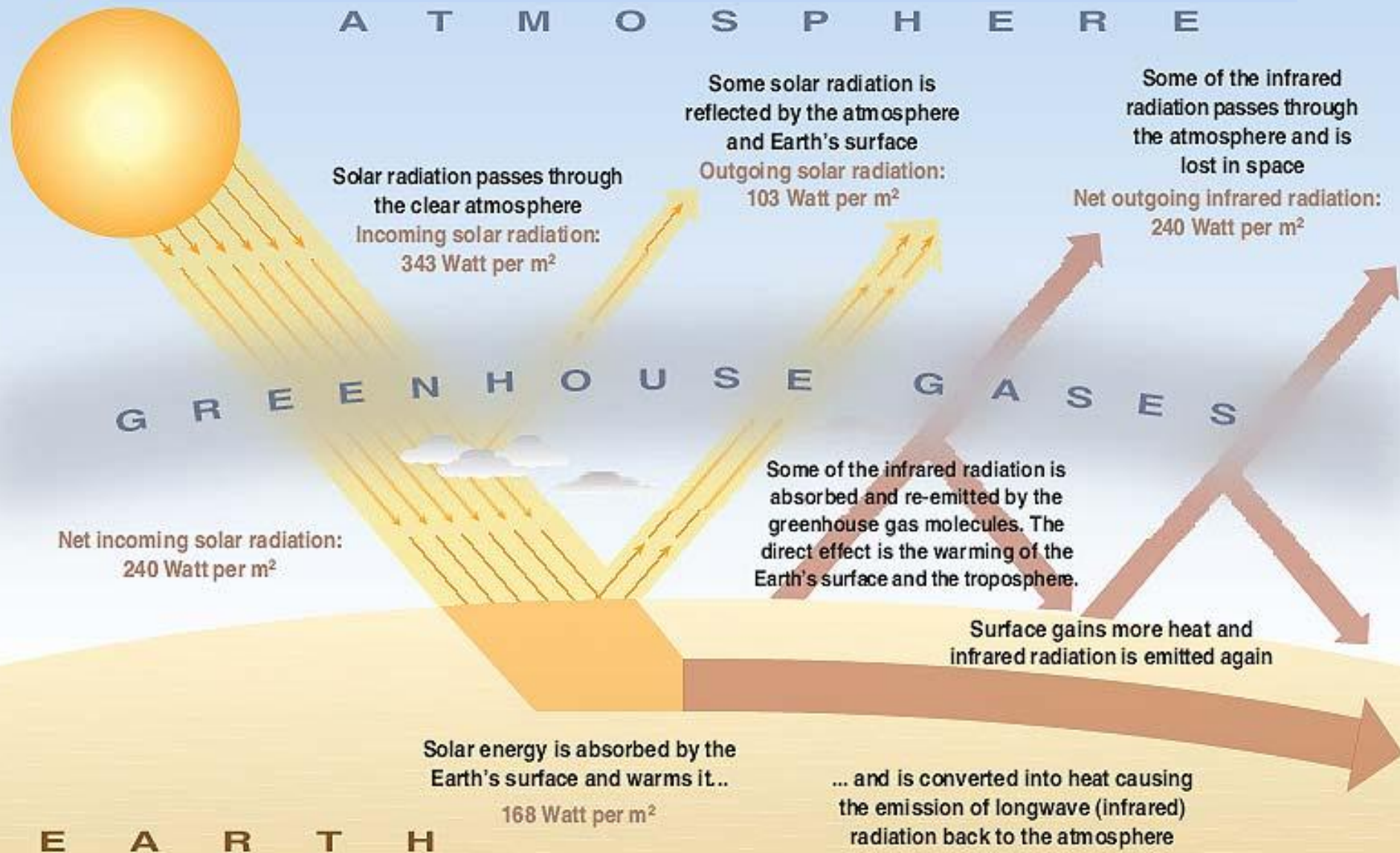


# GLOBAL CLIMATE CHANGE

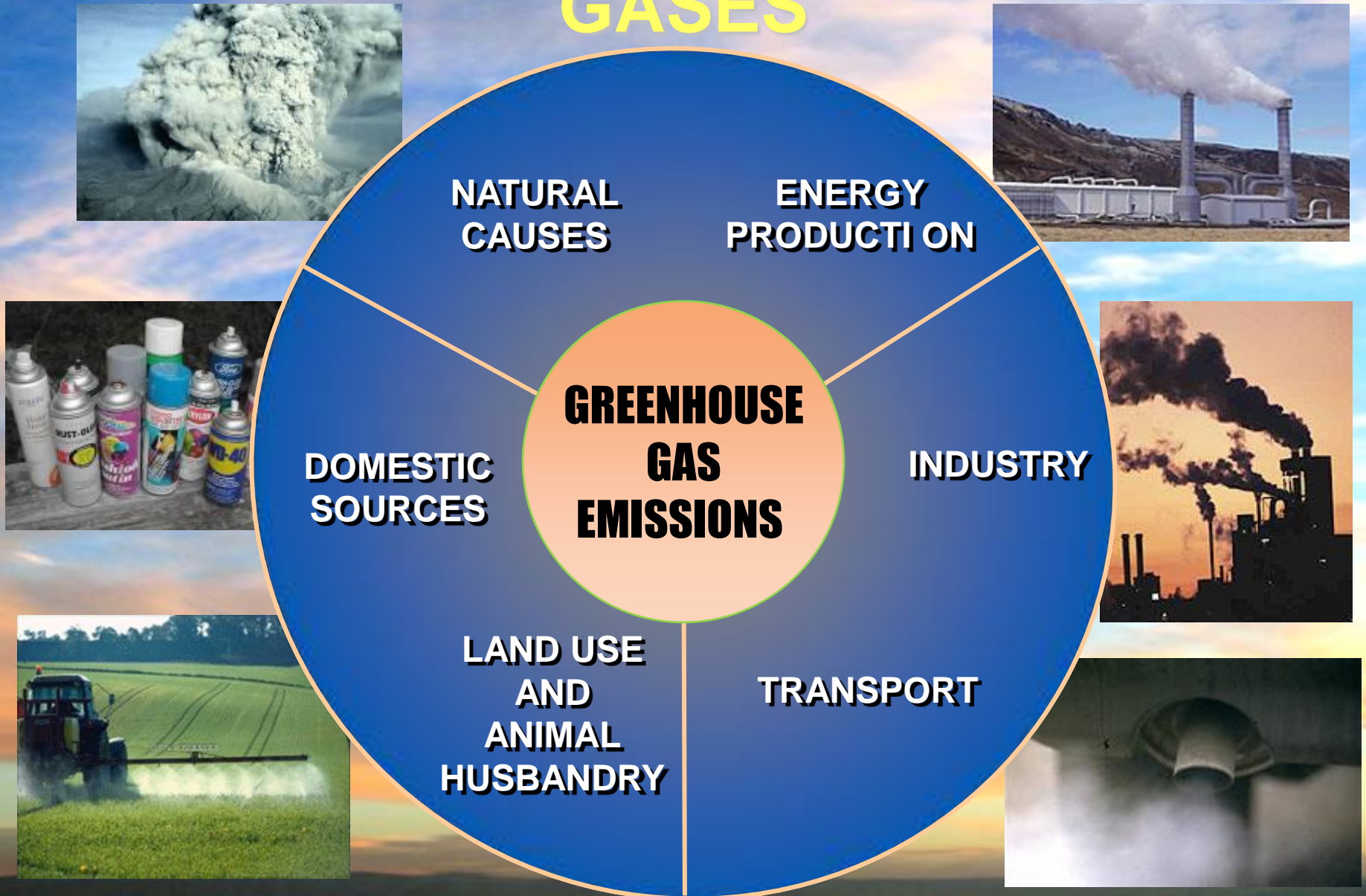
- 🌍 Climate change as a natural phenomenon
- 🌍 Human contributions



# THE GREENHOUSE EFFECT

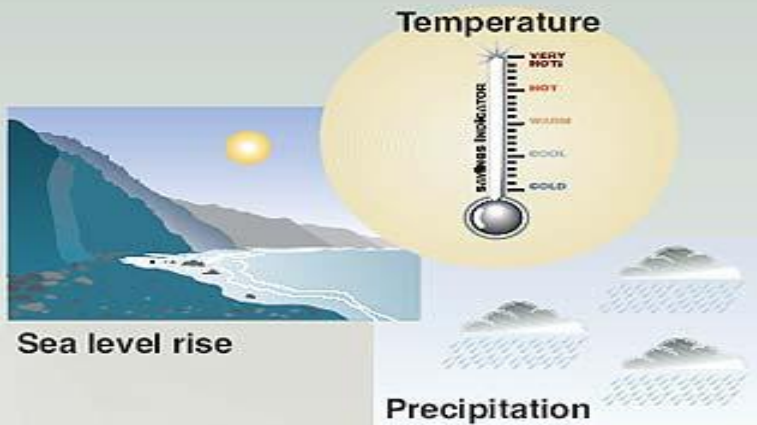


# MAJOR SOURCES OF GREENHOUSE GASES



# CLIMATE CHANGE IMPACTS

Potential climate changes impact according to IPCC 92 scenarios



## Impacts on...

### Health



Weather-related mortality  
Infectious diseases  
Air-quality respiratory illnesses

### Agriculture



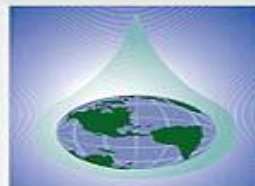
Crop yields  
Irrigation demands

### Forest



Forest composition  
Geographic range of forest  
Forest health and productivity

### Water resources



Water supply  
Water quality  
Competition for water

### coastal areas



Erosion of beaches  
Inundation of coastal lands  
additional costs to protect coastal communities

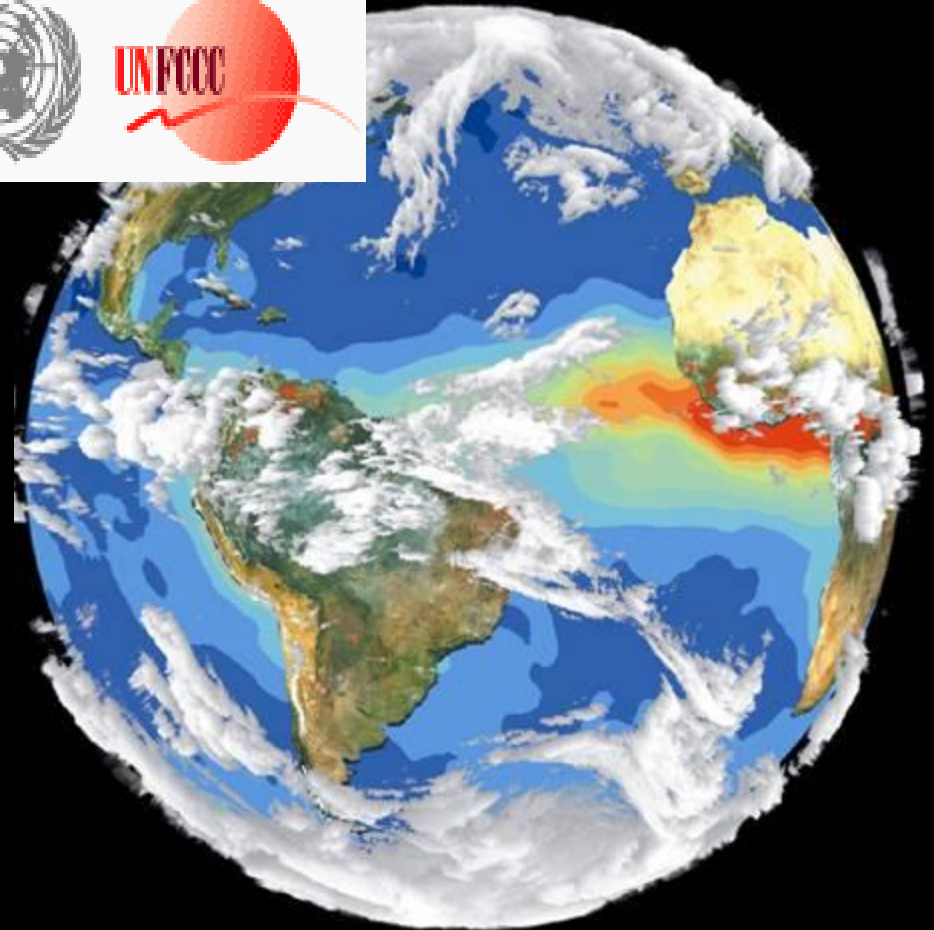
### Species and natural areas



Loss of habitat and species

# INTERNATIONAL ACTION RELATING TO CLIMATE CHANGE

- 1992 Framework Convention on Climate Change
- 1997 Kyoto Protocol to Climate Change Convention



# REMEDIAL MEASURES GENERALLY

INTERNATIONAL COOPERATION

REDUCTION OF EMISSION OF GHGs

UNFCCC AND ITS KYOTO PROTOCOL

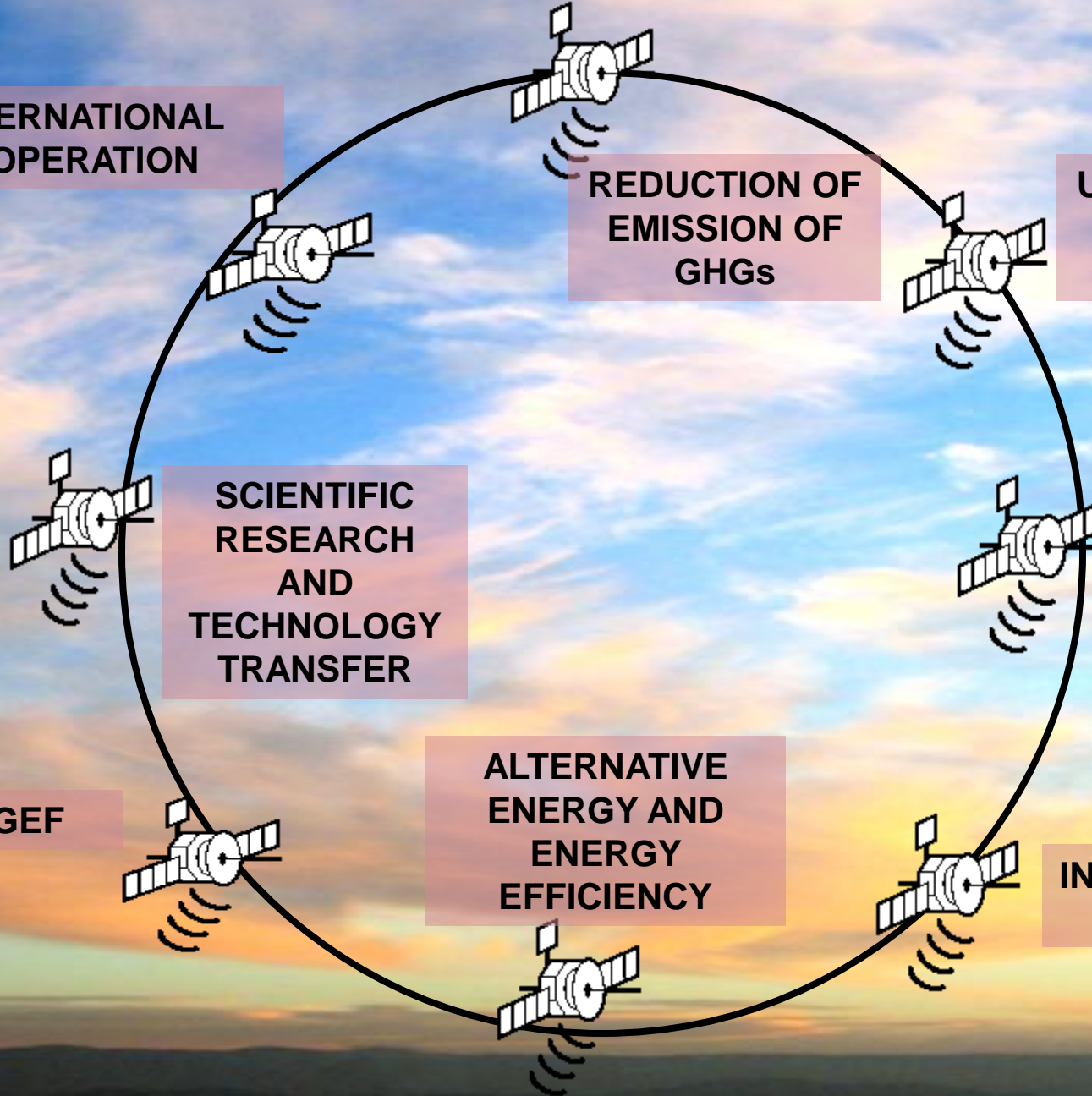
OTHER MEASURES (USA/AUSTRALIA)

SCIENTIFIC RESEARCH AND TECHNOLOGY TRANSFER

INCREASE IN SINKS

ALTERNATIVE ENERGY AND ENERGY EFFICIENCY

GEF





# AIR POLLUTION – CLIMATE CHANGE IMPACTS

## Climate Changes



Temperature



Precipitation

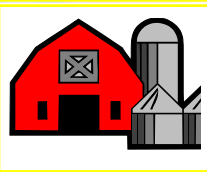


Sea Level  
Rise



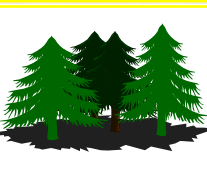
## Health Impacts

Weather-related Mortality  
Infectious Diseases  
Air Quality-Respiratory Illnesses



## Agriculture Impacts

Crop yields  
Irrigation demands



## Forest Impacts

Change in forest composition  
Shift geographic range of forests  
Forest Health and Productivity



## Water Resource Impacts

Changes in water supply  
Water quality  
Increased competition for water



## Impacts on Coastal Areas

Erosion of beaches  
Inundate coastal lands  
Costs to defend coastal communities



## Species and Natural Areas

Shift in ecological zones  
Loss of habitat and species

# NATIONAL MEASURES

**CLEAN DEVELOPMENT  
MECHANISM**

**CLEANER  
TECHNOLOGY**

**MITIGATION  
POLICIES AND  
MEASURES**

**INVENTORY  
OF SOURCES AND  
SINKS**

**ENHANCE SINKS  
AND REDUCTION  
OF SOURCES**

**ADAPTATION  
MEASURES**

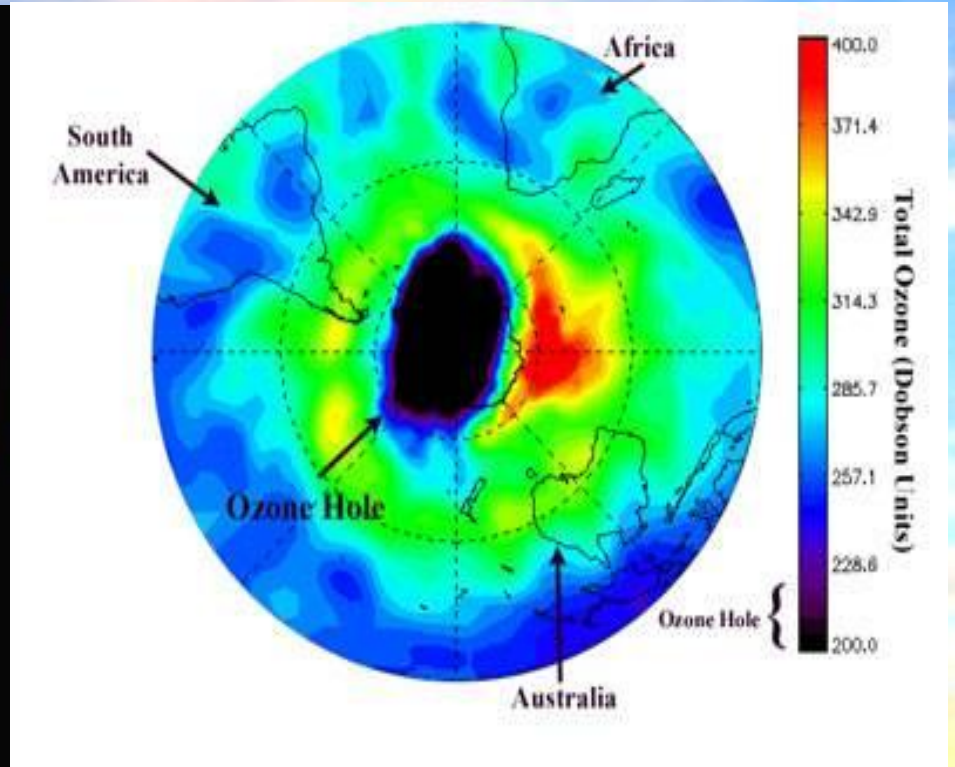
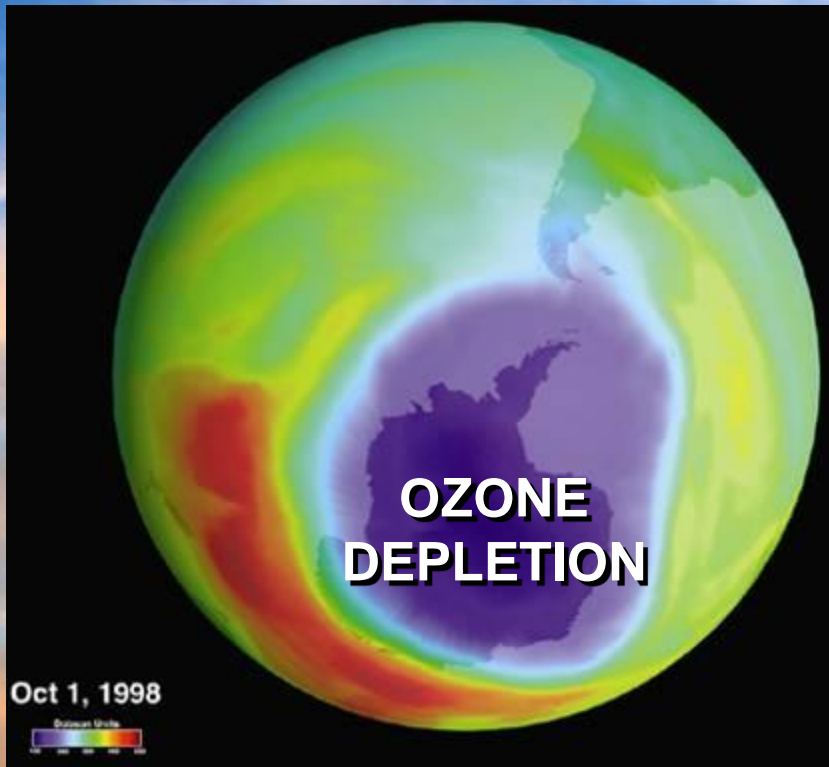
**IMPLEMENTATION  
OF  
RELEVANT LEGISLATION**

**CARBON TRADING**

**EMISSIONS TRADING**

**EMISSION CAPS**

# OZONE DEPLETION

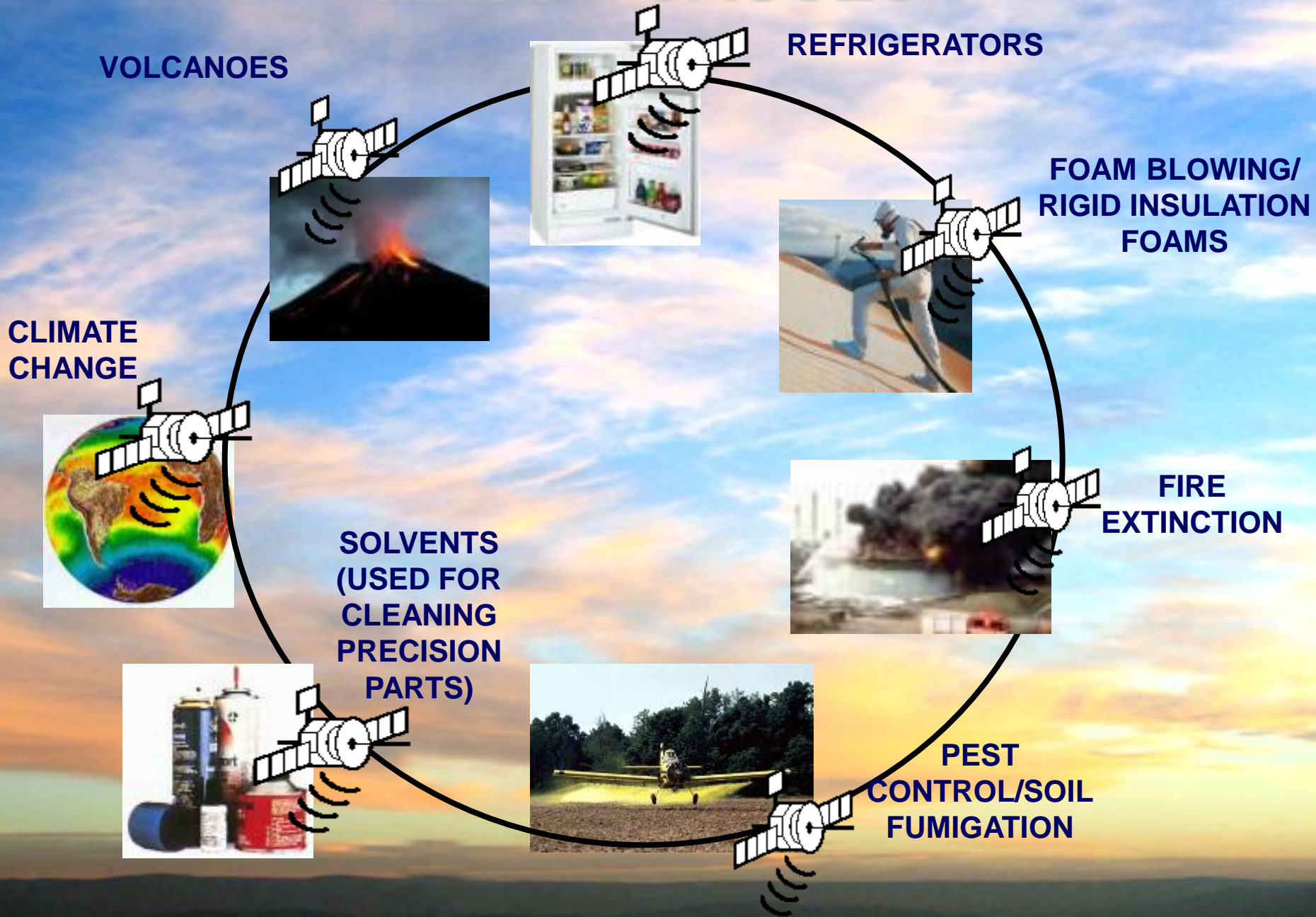


# MAJOR CONCERNS

- EXPOSURE TO SOLAR UV RAYS
- EFFECTS ON:
  - HUMAN HEALTH
    - ~ CANCER
    - ~ CATARACTS
    - ~ IMPAIRED IMMUNE SYSTEMS
  - CROPS
  - ECOSYSTEMS
  - BIOGEOCHEMICAL CYCLES
  - AIR QUALITY
  - PLASTICS, WOOD, COTTON



# MAJOR CAUSES



# INTERNATIONAL ACTION

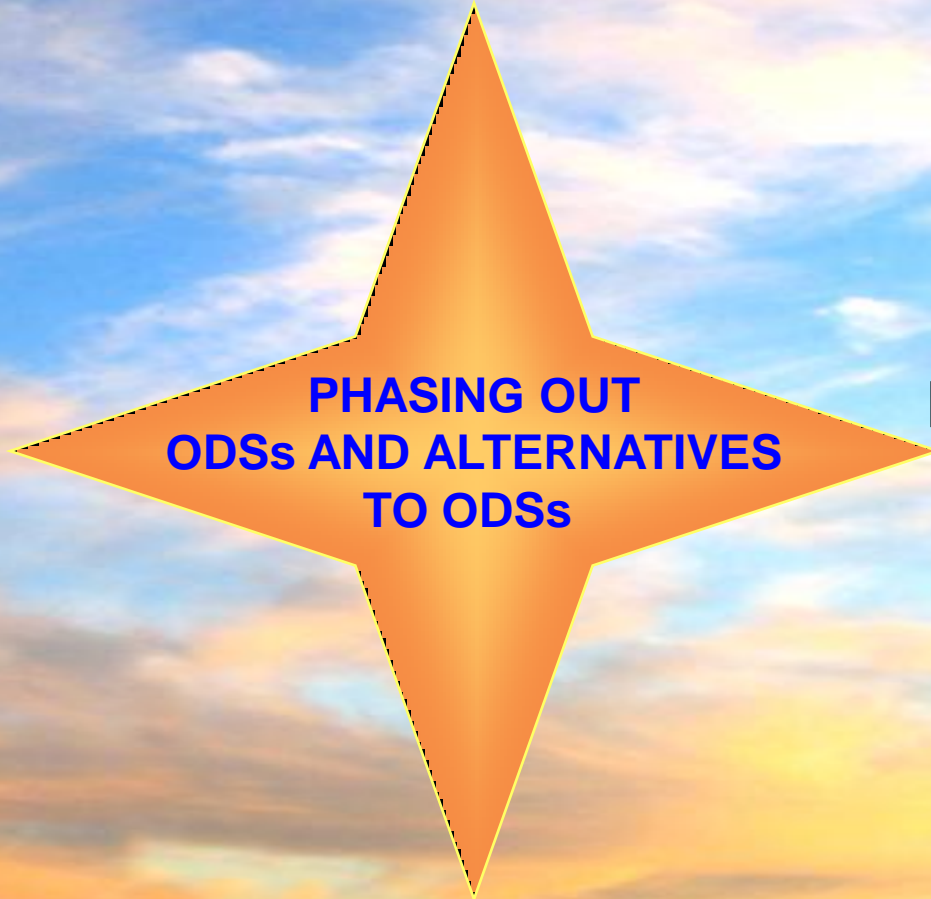
**VIENNA  
CONVENTION**

**MONTREAL  
PROTOCOL**

**PHASING OUT  
ODSs AND ALTERNATIVES  
TO ODSs**

**MULTILATERAL  
FUND**

**GEF**



# NATIONAL MEASURES

**(1)**

**Phasing out the production  
and use of ODS**

**(2)**

**Rights of developing countries  
for continued production  
and use and importation**

**(3)**

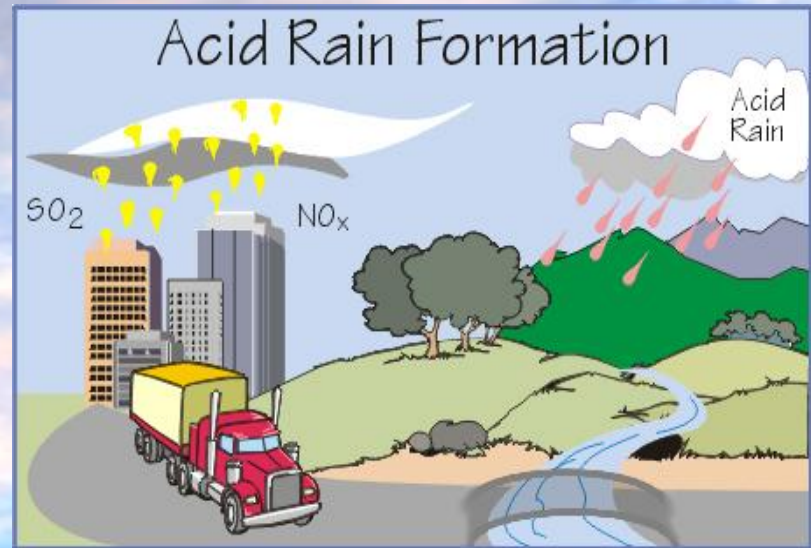
**Increased use of  
alternate technology**

**(4)**

**Implement production  
and trade control legislation**

# ACID RAIN

Acid rain results primarily from emission of sulphur dioxide ( $\text{SO}_2$ ) and nitrogen oxides ( $\text{NO}_x$ ) into the air



Main sources: coal burning, and other fossil fuel use



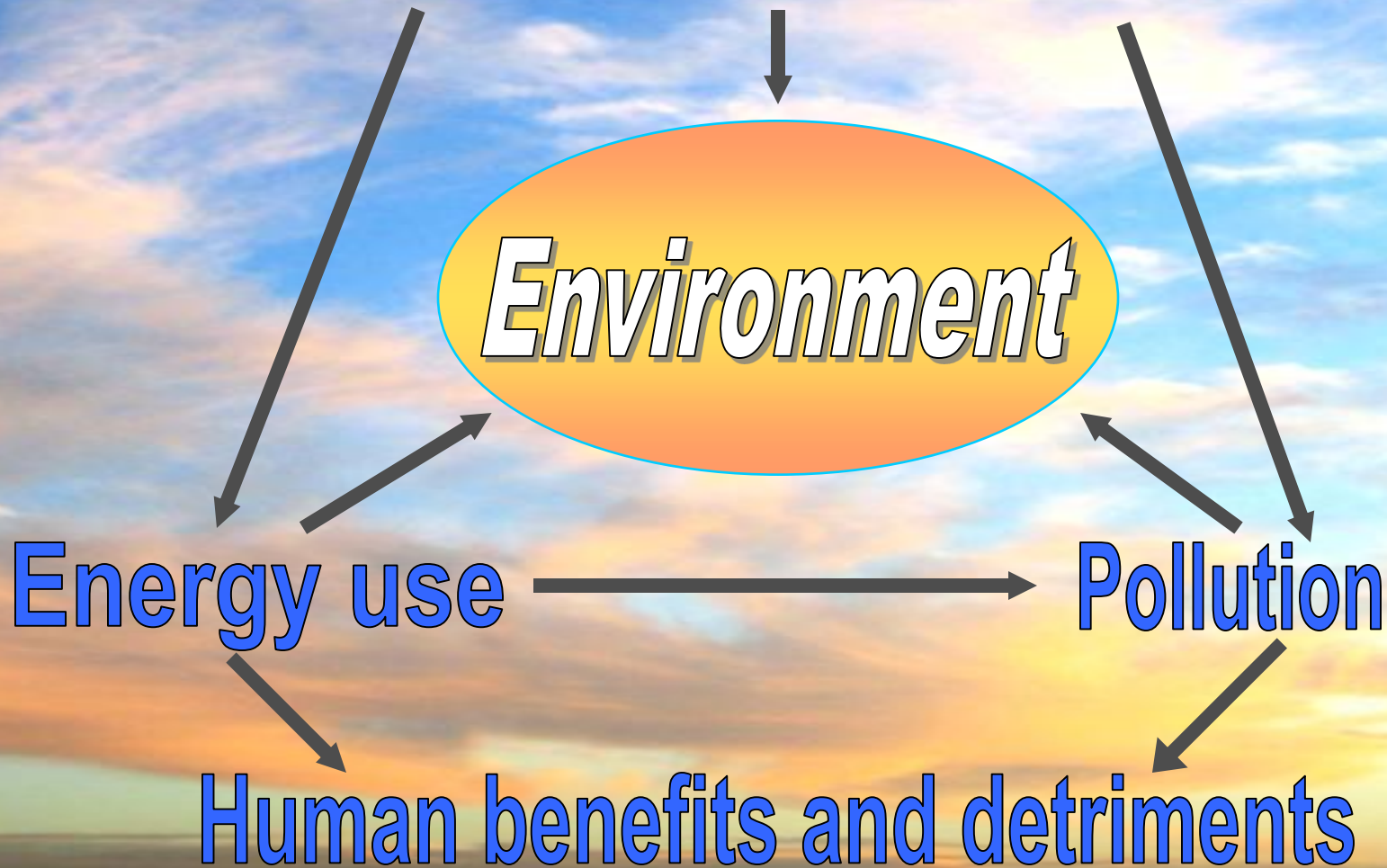


# LOSS OF NATURAL RESOURCES

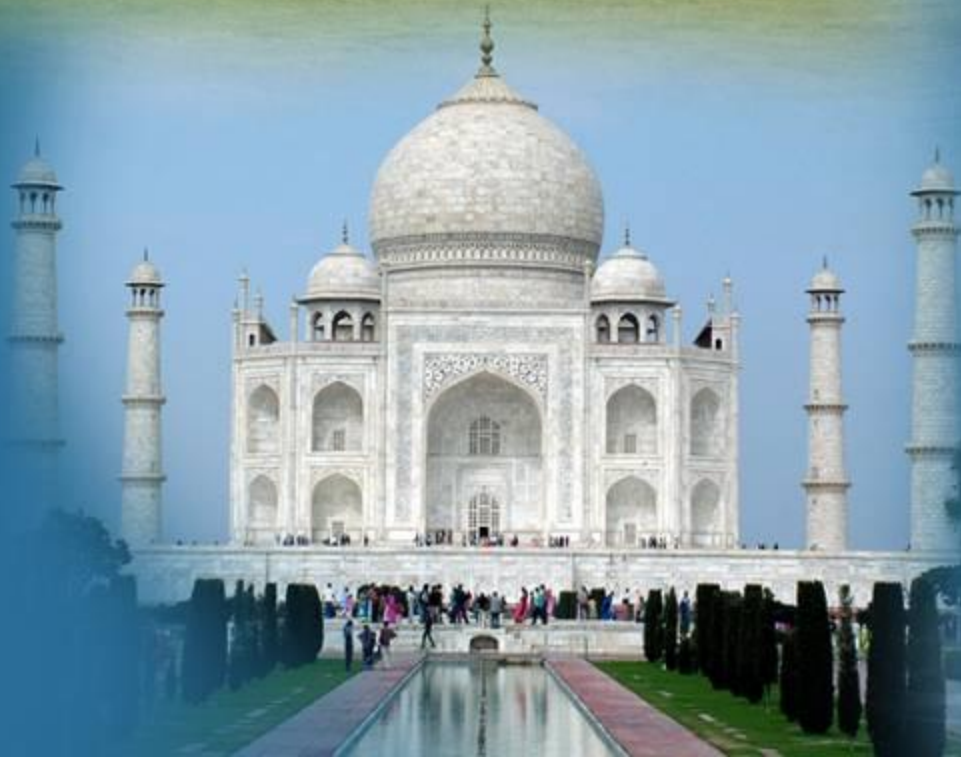
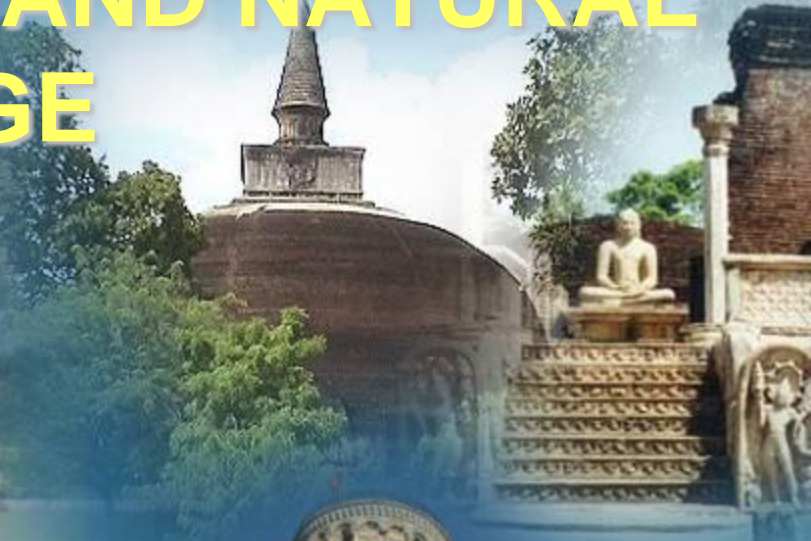


# ENVIRONMENTAL DIMENSIONS OF NATURAL RESOURCES USE

Use of a natural resource



# LOSS OF CULTURAL AND NATURAL HERITAGE



# CONCLUSIONS

