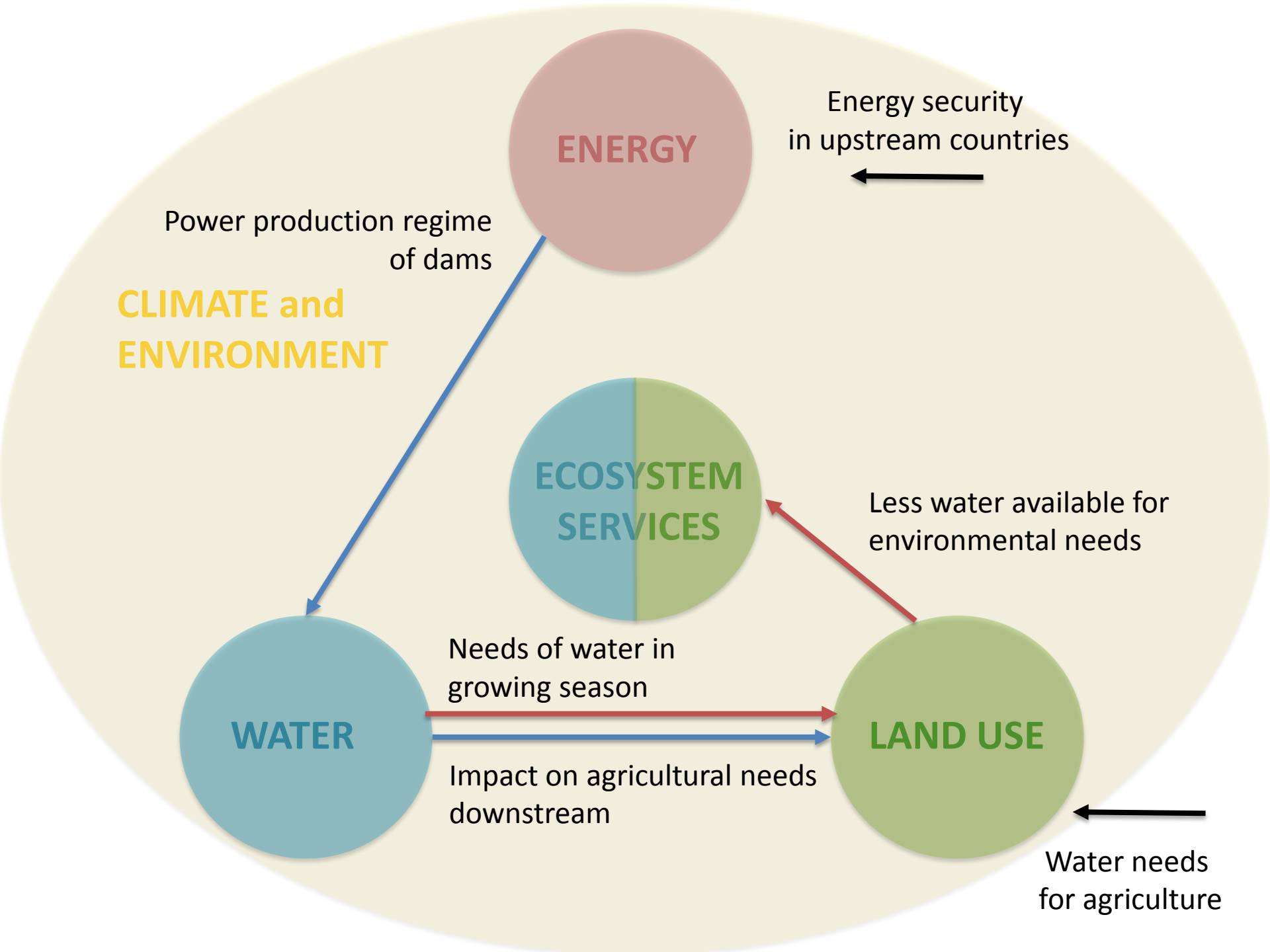
Current situation: everyone agrees on

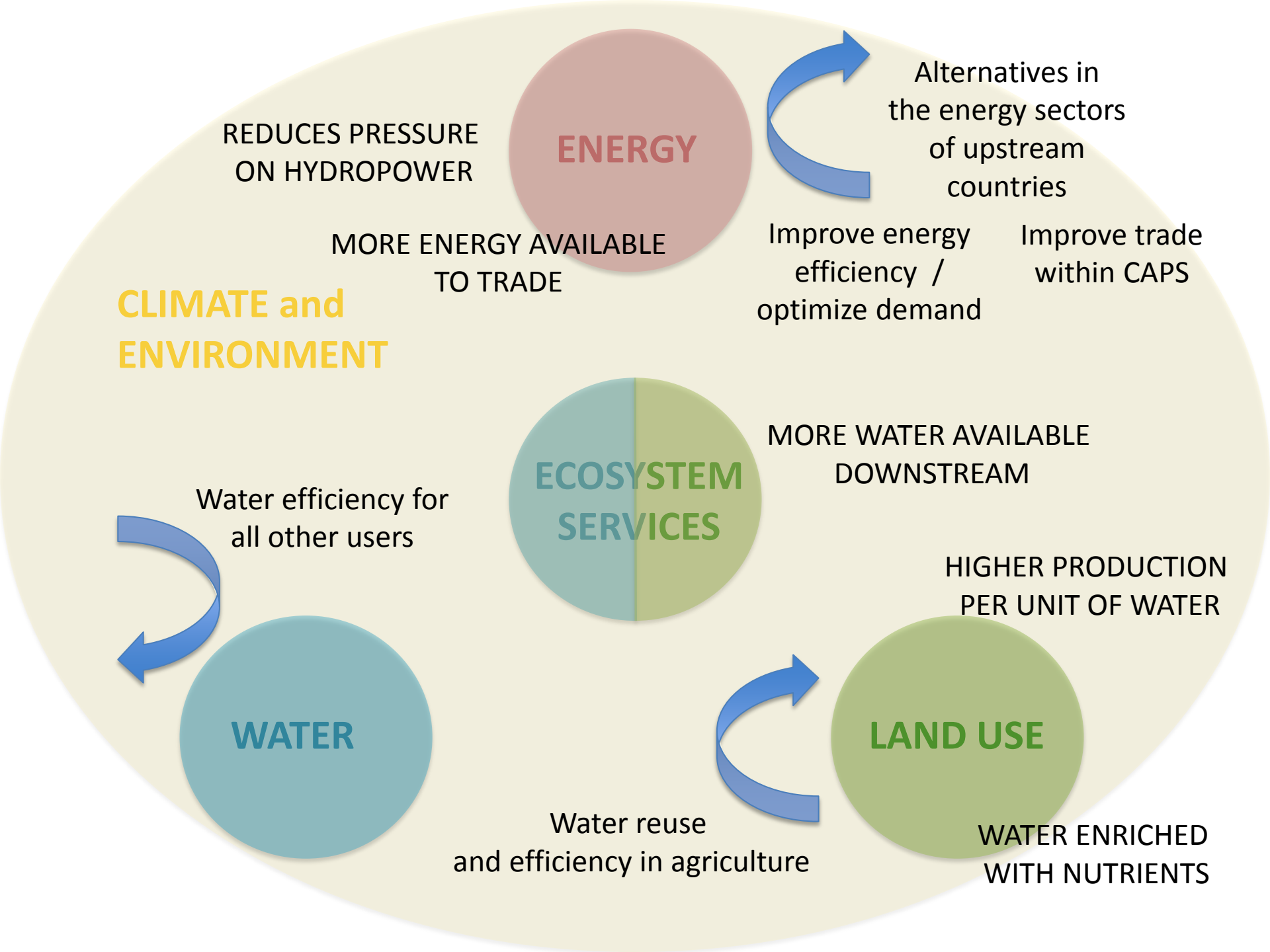
- -the fact that agricultural inputs should be intensified > efficiency of resources use in agriculture is needed!
- -crop yields are already being affected by water shortages > need to ensure abailability for agriculture but also less water requiring crops!
- -dams are already multipurpose > it is a matter of agreeing on operation
- -the environment should receive more attention from the government
- -there are many socio-economic challenges that the population living in the basin is facing/will face
- Energy security is a concern
- -energy related activities affect the basin, both in terms of quality of water and water flow alteration

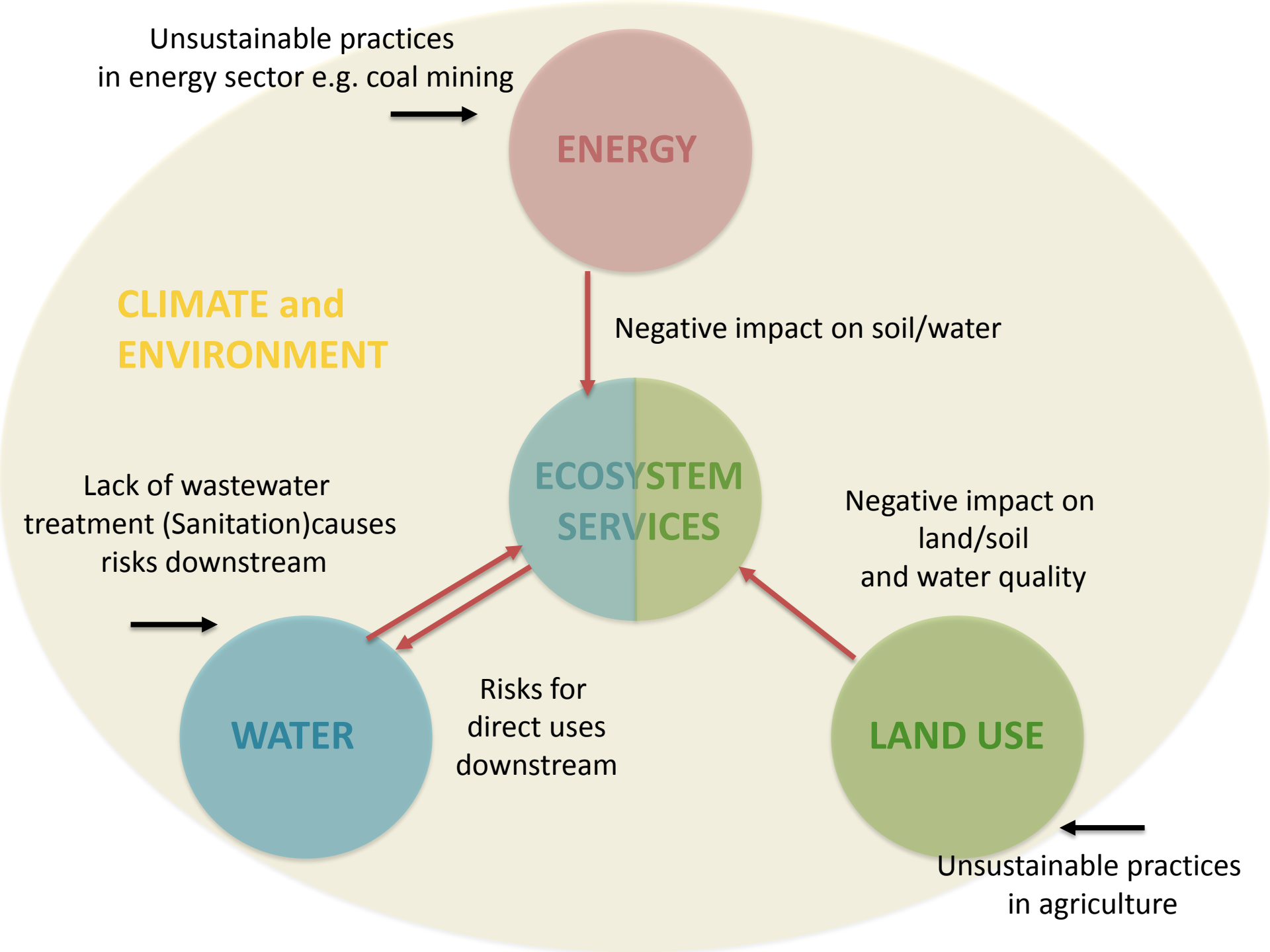
(from the questionnaire)

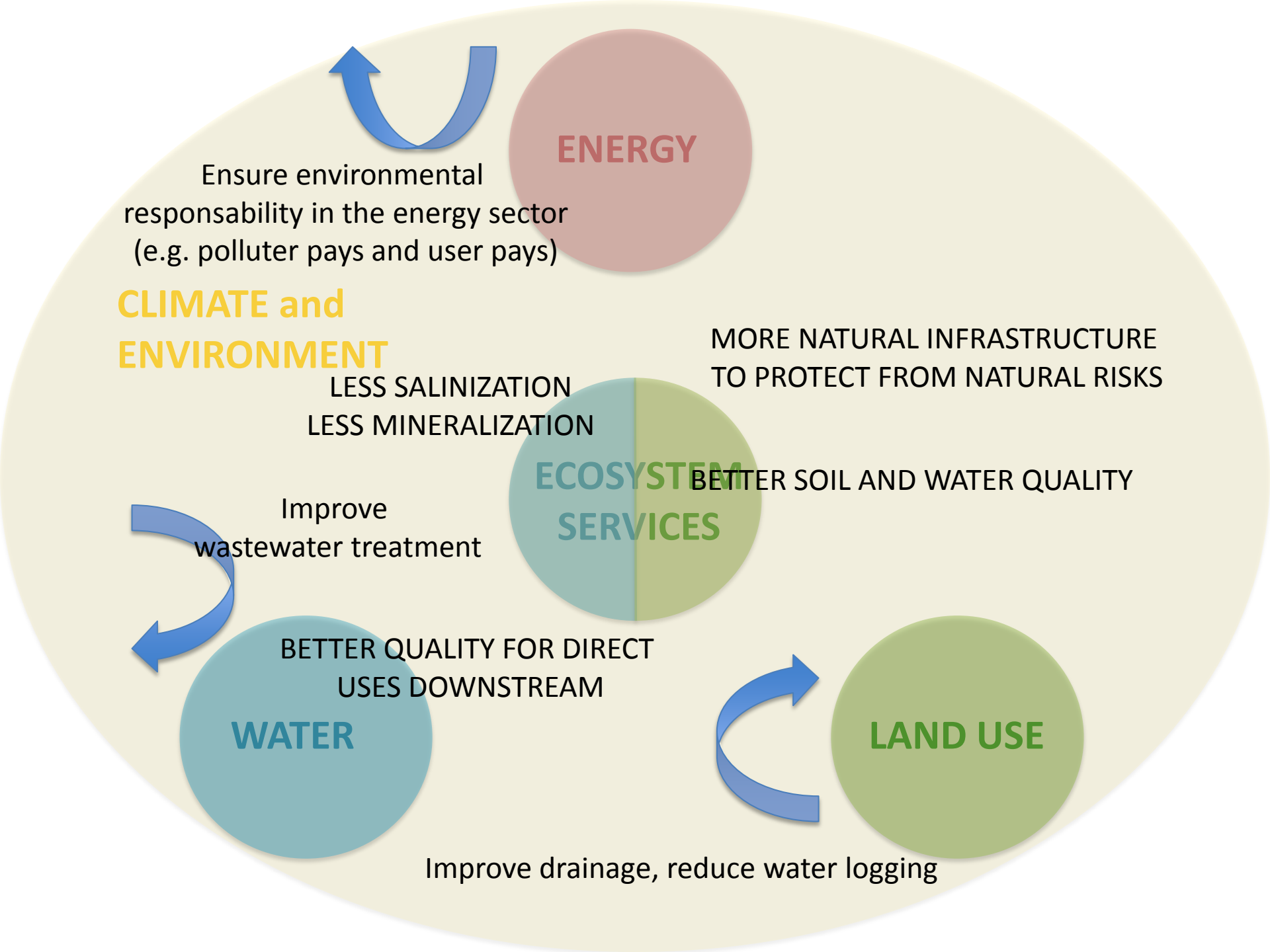
2 big issues

- Water quantity: seasonal need and availability different for different sectors – availability for downstream ecosystems
- Water quality: all economic sectors contribute to pollution


ENERGY
Energy security
in upstream countries
Power production regime
of dams
CLIMATE and
ENVIRONMENT
ECOSYSTEM
SERVICES
Less water available for
environmental needs
Needs of water in
growing season
WATER
LAND USE
Impact on agricultural needs
downstream
Water needs
for agriculture


ENERGY
REDUCES PRESSURE ON HYDROPOWER
MORE ENERGY AVAILABLE TO TRADE
Alternatives in the energy sectors of upstream countries
Improve energy efficiency / optimize demand
Improve trade within CAPS
CLIMATE and ENVIRONMENT
ECOSYSTEM SERVICES
MORE WATER AVAILABLE DOWNSTREAM
Water efficiency for all other users
WATER
HIGHER PRODUCTION PER UNIT OF WATER
LAND USE
Water reuse and efficiency in agriculture
WATER ENRICHED WITH NUTRIENTS


Unsustainable practices
in energy sector e.g. coal mining
ENERGY
CLIMATE and
ENVIRONMENT
Negative impact on soil/water
ECOSYSTEM
SERVICES
Lack of wastewater
treatment (Sanitation)causes
risks downstream
Negative impact on
land/soil
and water quality
WATER
Risks for
direct uses
downstream
LAND USE
Unsustainable practices
in agriculture

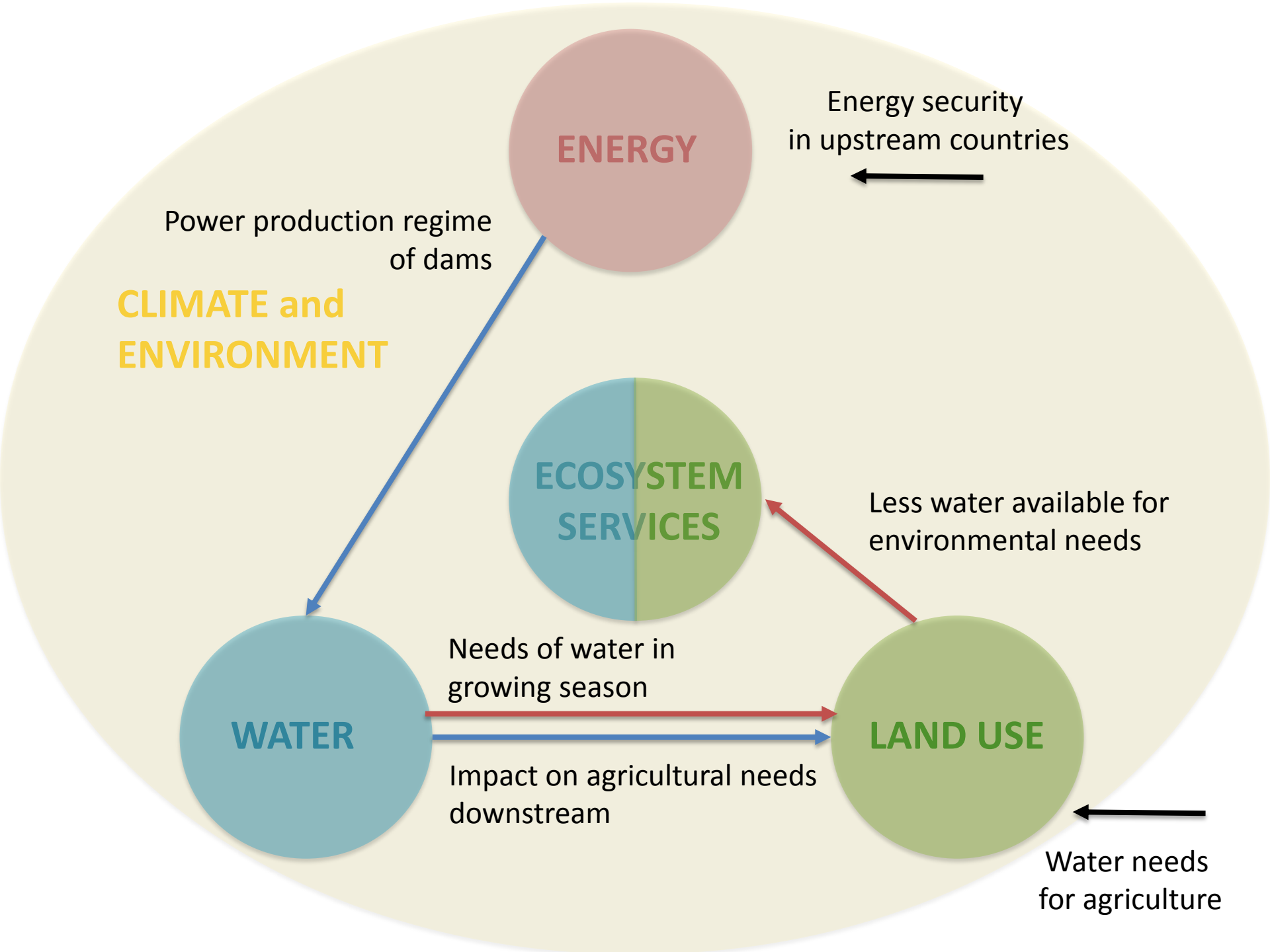

ENERGY
Ensure environmental responsability in the energy sector (e.g. polluter pays and user pays)
CLIMATE and ENVIRONMENT
MORE NATURAL INFRASTRUCTURE TO PROTECT FROM NATURAL RISKS
LESS SALINIZATION
LESS MINERALIZATION
ECOSYSTEM SERVICES
BETTER SOIL AND WATER QUALITY
Improve wastewater treatment
BETTER QUALITY FOR DIRECT USES DOWNSTREAM
WATER
LAND USE
Improve drainage, reduce water logging

How will these interlinkages evolve in the future according to commonly agreed trends?

Trends that everyone agrees on

- -agriculture is vulnerable to natural extreme events > it is important to improve resilience / capacity to cope with extreme events!
- -energy demand will increase significantly > demand needs to be better managed and trade should be improved (review inter-state agreements)

(from the questionnaire)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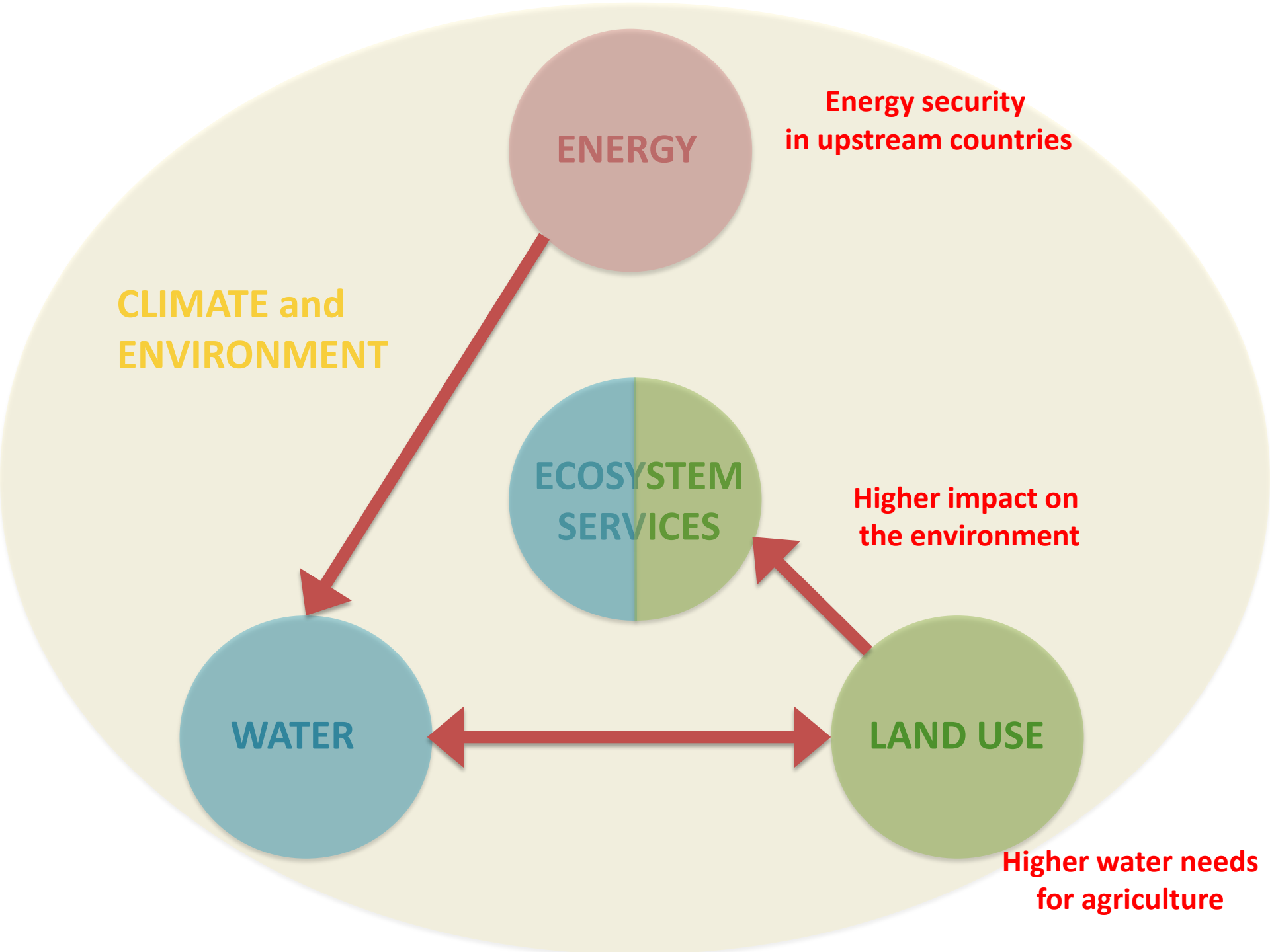
ENERGY
Energy security
in upstream countries
CLIMATE and
ENVIRONMENT
ECOSYSTEM
SERVICES
Higher impact on
the environment
WATER
LAND USE
Higher water needs
for agriculture

Potential solutions/measures to limit trade-offs associated with the interlinkages

Farmers

Water Use Efficiency

- Support/incentives for the use of water-saving technologies
  - Tax exemption
  - Free provision of technology/ training
  - Investment in research and development
- Promotion of wastewater reuse in agriculture*
  - Infrastructure investments
  - Training/ capacity building
- Tariffs and pricing of water
- Metering of water consumption
- Crop substitution (less water-intensive crops)

*provides farmer with nutrient-rich water as well as the opportunity to produce bioenergy ; requires rigorous quality control

Farmers

Energy Use Efficiency

- Support/incentives for the use of energy-saving technologies
  - Tax exemption
  - Free provision of technology/ training
  - Investment in research and development
- Update machinery with high fuel consumption
- Promotion and training on the optimisation of fertilizer use
- Energy audits

Farmers

Soil and Water Quality Improvements

- Change of agricultural practices
  - Improve drainage, reduce water logging
  - Crop rotation and diversification to build up soil matter
  - Conservation tillage
  - Contour farming
- Capture and treat wastewater
- Reduce fertilizer and pesticide input and hence, agricultural run-off

Industry, Commercial Users and Households

Water Use Efficiency

- Support/incentives for the use of water-effic technologies
  - Tax exemption
  - Free provision of technology/ training
  - Investment in research and development
- Support wastewater treatment and reuse in industries
- Phased water pricing (according to income groups)
- Volumetric tariffs
- Awareness raising for behavioural change

Industry, Commercial Users and Households

Energy Use Efficiency

- Support/incentives for the use of energy-saving technologies
  - Tax exemption
  - Free provision of technology/ training
  - Investment in research and development
- Review subsidies for energy
- Different tariffs for different users; all contribute towards costs
- Incentivize energy consumption at non-peak times
- Awareness raising for behavioural change

Energy sector

- Incentives to invest in improving infrastructure
  - Tariff reforms to make energy production more profitable
  - Long term tax exemption
- Incentives to invest in off grid solutions /renewables
  - Feed-in tariffs
- Improve trade of electricity and fossil fuels
  - Invest in better connections / reducing losses in the grid
  - New Cooperation Agreement

Intersectoral

- Strengthening the legal basis for cooperation
- Investments into modernising infrastructure
- Facilitating resource trade and exchange
- sustainable financing for operating and financing multi-purpose water systems/infrastructure
- Improving planning processes and monitoring
- Strengthening intersectoral coordination e.g. through existing national strategies on green economy, sustainable development etc.; promoting multi sector participation in regional bodies
- Awareness-raising and capacity building
- Promoting SEA & EIA

Questions to the plenary

- What is already in place?
- Does it work? What good and bad experiences to share?
- Who can do what?