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Implementation of economic instruments: Combine objectives of efficiency, fairness and cost recovery

Joint Stakeholder Conference Transboundary water issues in a macro-regional context: the Danube basin

Budapest,11-12.09.2013

Gábor Ungvári – BCE-REKK

Topics of the presentation

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- What the water-resource is?
- Why do we need economic instruments?
- An example how it can work – the EPI-Water researh experiment on excess water
- Conclusions

Do we need economics in water policy?

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- Thinking in economic terms about water is controversial
- It is the basis of life for all living creatures - the access should be free.
- It is a resource because fulfils specific production needs along the water cycle and there is rivalry.
- Without economic terms the access for all would result in a collapse for all
- It is unpopular, but essential

What is the scarce resource?

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- Not necessarily the liquid is scarce:
  - But a given quantity of a specific quality at a definit location along a time schedule
  - Or the predictable condition of land against naturally volatile water regimes
- Markets reflect scarcity – the price of land both agricultural and urban clearly reflect how scarce a water-resource really is at a given site.
- Land market judges the performance of the water infrastructure

The water resource

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- Water resource =
  - The liquid
  - The infrastructure
  - The ecosystem

- Land use development and the development and maintenance of the different water related infrastructure constrain the ecosystem's performance to secure water resource itself.
- The financial arrangements of the maintenance of an infrastructure is a distribution issue among the beneficiaries of conflicting services.

Economic Instruments' role to play

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- Reveal prices – a signal
- Widespread along multi-sector stakeholders,
- Provide gradual adaptation of livelihoods,
- Integrate local land specific knowledge
- Open up possibilities for innovation.

- Among certain circumstances!

The EPI-Water research experiment

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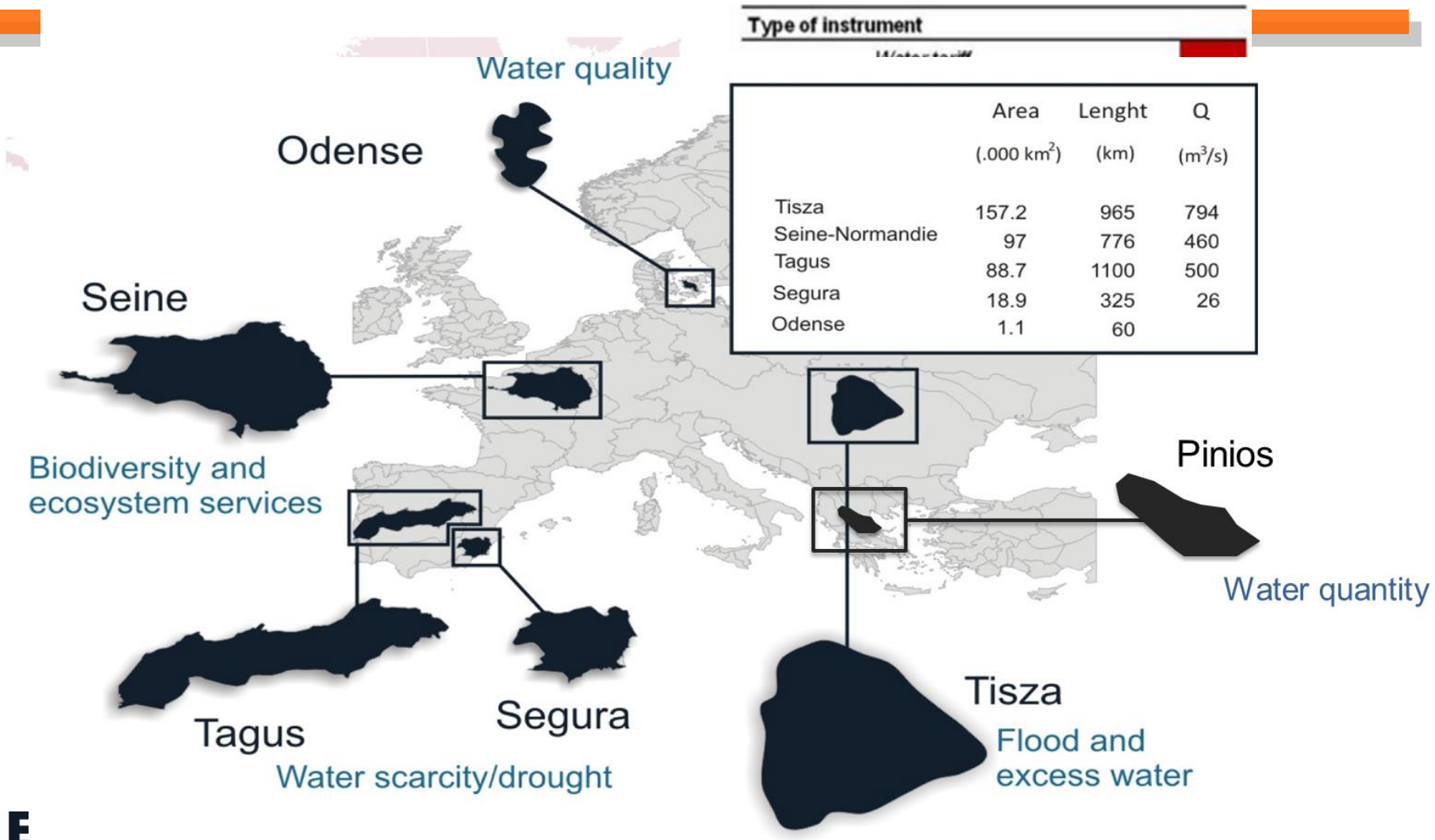

	Area (.000 km^2)	Lenght (km)	Q (m^3/s)
Tisza	157.2	965	794
Seine-Normandie	97	776	460
Tagus	88.7	1100	500
Segura	18.9	325	26
Odense	1.1	60	

E-WATER

Case study: Floods and Excess Water

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Multi-disciplinary approach:

- Economists
- Engineers (hydrological modelling)
- Ecologists/botanists
- Mediators

Selection of sites: possibility for a real economic context of land use adaptation, cooperative local partners

Bids for ecosystem services provided by the farmers to assess the viability of the proposed EPI

Cooperation with:

- Local farmers
- Water management associations
- Water directorates
- National policy makers

Assess the economic position of land owners and government and changes as a result of different water regimes and EPIs

Excess water – a deadlock to breake

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- Status of the landscape
  - Growing frequencies of water extremities (surplus and shortage)
  - Disturbed agricultural production, threatened settlements
  - Diffuse nutriend overload in water-courses
  - Lack of habitat diversity
- Layers of the problem
  - Over-expanded drainage networks – Central planning
  - Fragmented ownership - Transition
  - Lack of transparent responsibilities and finance – Policy failure
- Land use adaptation is the key

EPI WATER

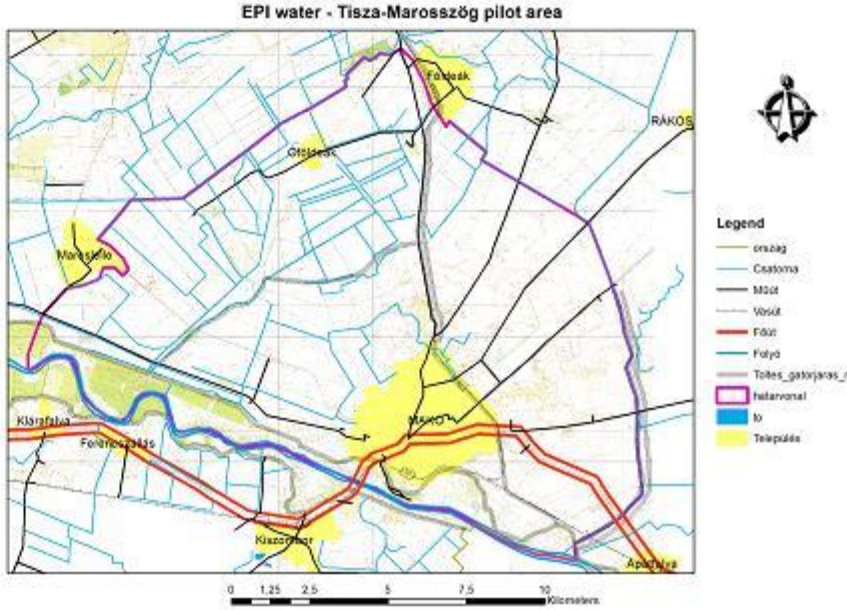
Counter incentives of change

- Agricultural land use doesn't adapt to landscape endowments
- Cost of maintenance is not feeded back to users
- By the common sence the state is responsible to arrange favourable production conditions / to mitigate risks
- There is a shared knowledge about the rational land-use, but it is overwrote by
  - The agricultural subsidies and
  - The dis-belief of the possibility of co-ordinated local action (waiting for the state to step in)
- Among the recent economic conditions squeezing the arable production is rational.
- The ever changing regulation discredits raising any long term considerations

Marosszög case study site

- Focus area is the 1300 km^2 operation district of the Tisza-Marosszög Water Management Association

- The modelled EPI test area itself is 120 km^2
- Good quality agricultural area, traditionally vegetable production, centrally planned industry development, industry declined, thermal water resources
- Makó region tradition of vegetable production – onion, garlic



Using CAP as communication platform

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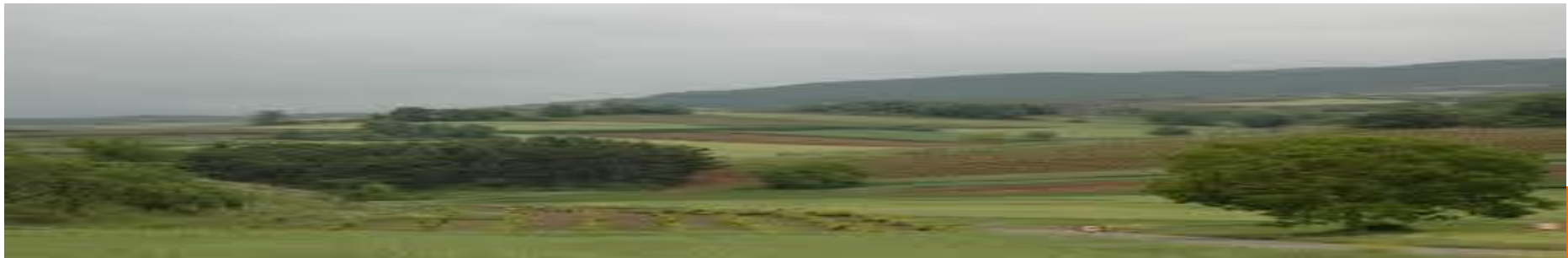
Common Agricultural Policy beyond 2014

- Pillar I payments will include a green payment, with specific requirements.
- One option is the implementation of ecological focus areas (EFA)
  - Minimum 7% of the area
  - Field margins, terracing, trees, fallow land, landscape features, biotopes, buffer strips, afforested areas

- What we offered is a solution to minimize the adaptation cost to the new regulations. And by the way solve local persistent problems.



Co-operative fulfilment is cheaper

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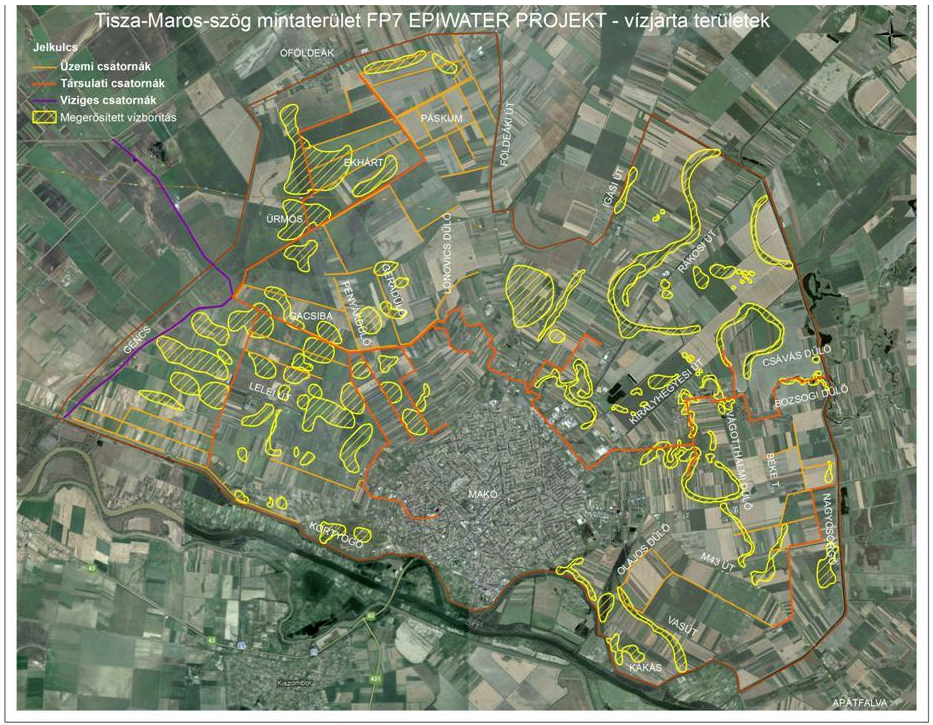
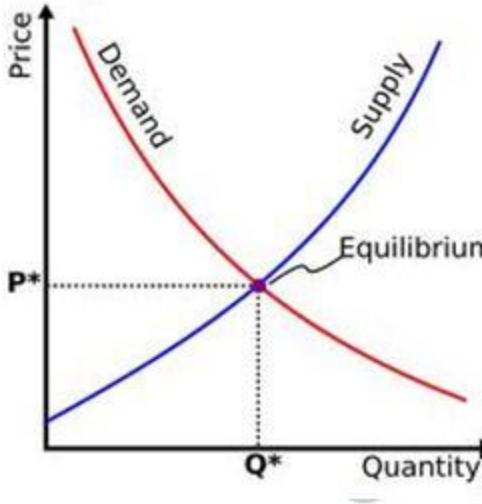
- Each one worst parcel or the area's worst parcels to convert?
- Which pieces to convert? How much to pay for each other?
- Auction driven tradable „ecological focus area" licence market
- A bubble:
  - For the Common adaptation
  - Analogue to air quality, CO2



EPI WATER

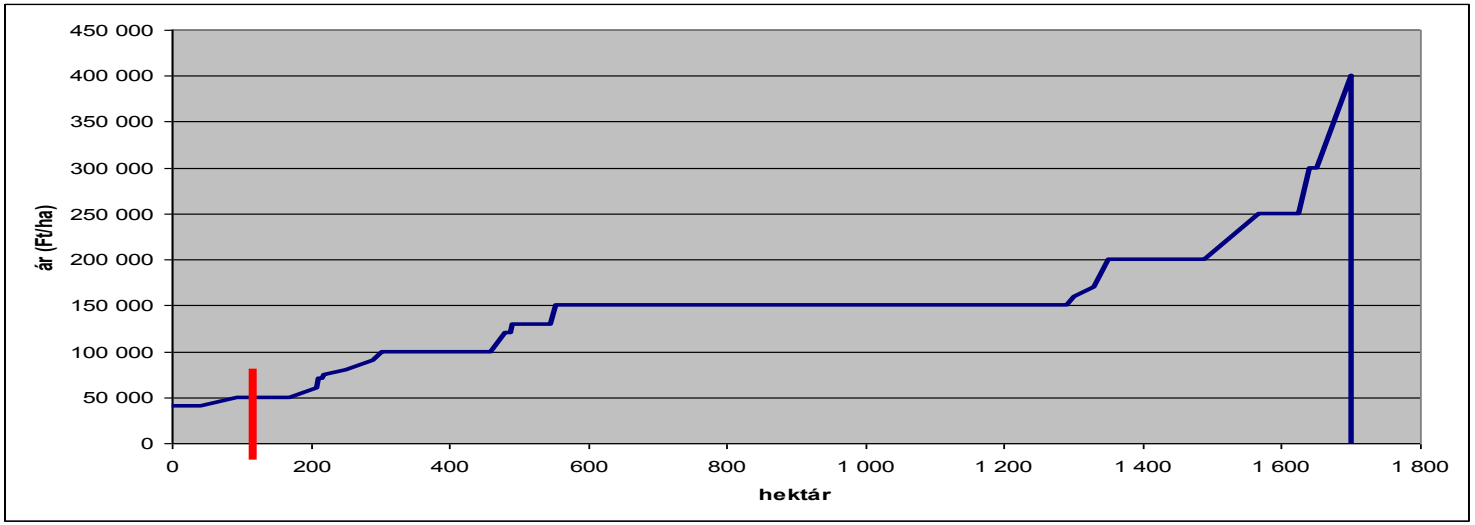
Pilot auction exercise

- 22 participating farmers with total land of 1778 hectares
- 2 of them with 76 hectares want to make land use on their own land
- 20 farmers with 1702 hectares made bids
- 7% targeted land use change – 119 hectares
- Farmers were asked to bid
  - How much money he wants to get if he makes the land use change for someone else in exchange for a payment)
  - Farmers were asked to make separate bids, for each part of their land – 55 bid elements
  - Each bid in HUF/hectare/year



Results of the auction

- The basic concept was quickly endorsed.
- Equilibrium price of 180€/hectare/year paid to a farmer who makes land use change for someone else
- 14€/hectare/year to be paid after each exempted hectare



- Annual cost if everyone converted on its own: 32,200 €
- Annual cost if farmers cooperate via auction: 20,100 €
- 38% reduction of adaptation costs,

The triggering effect

- The auction generated a mutually accepted value for the land conversion as a service for the fellow farmers.
- A credible piece of information.
- Discussion about the results revealed:
  - The interest in converting less favourable parcels
  - The shared knowledge that the recent practice is unsustainable, differentation should be in their own interest.

Results about the drainage network

- The core of the network (57 km), maintained by the water management association delivers a profit to the farmers,
- The mostly abandoned small scale channels (67 km) would generate a loss even if they were properly maintained.
  - Not the lack of money is the problem.
  - Cost recovery would help to break a deadlock that prevents adaptation
- The main user is not agriculture, but the settlements – cost recovery / pricing approach would mean higher share of public sources to maintain the core of the network.
- Shielding farmers from the changes on taxpayers money prevents them to tailor the services to their needs.

Conlclusions

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- Economic instruments' main role: change behaviour in the softest way
- The genuine role of the WFD is to rethink the way we spent money on infrastructure to provide water services, water uses.
- Getting straight with the costs would trigger adaptation that benefits all, including the farmers and water policy goals.
- Economic instruments is not instead of political decisions and stakeholder reconciliation
- But can deliver their goals



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EPI WATER

Thanks for your attention

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