



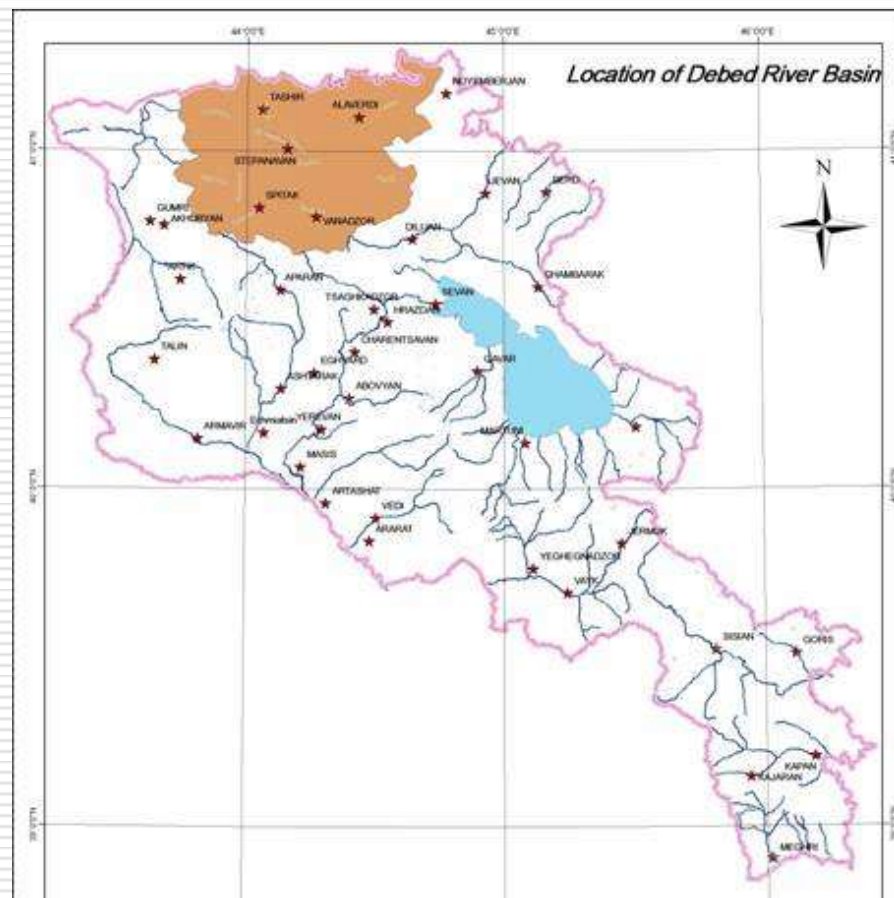
# Innovative economic instruments for water management: what did we learn?

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Eight Meeting of the Steering  
Committee of the National  
Policy Dialogue on IWRM in  
Armenia

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# The presentation in a nutshell

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- Which economic instruments did we consider?
  - How did we “look” at them? (the assessment framework)
  - What are lessons from these initial assessments?
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# Which economic instruments did we consider?

<b>Name of the instrument</b>
<b>Extending the abstraction tax to the hydropower sector</b>
<b>Direct investment of local communities/water companies into irrigation system modernization</b>
<b>Extra charge on hydropower energy paid by consumers for supporting ecological restoration</b>
<b>Increase in land tax for houses nearby valuable water bodies (e.g. Lake Sevan)</b>
<b>Creation and allocation of the tourism tax to water protection</b>
<b>Entry fee to users of sites of natural water importance</b>
<b>“Innovative Pollution” fund</b>
<b>Payments for ecosystem services</b>
<b>Specific tax on the sale of a product (e.g. mobile phones, cigarette...) for supporting environmental protection</b>
<b>Adaptation in the existing structure and level of the water abstraction tax/pollution tax</b>
<b>Seasonal water abstraction rates</b>
<b>New (import or sale) tax on polluting substances</b>
<b>Reduced (VAT) tax on water saving technologies</b>

# How did we “look” at them? (assessment framework)



**Requests  
from the 8th  
meeting of  
the NPD ,  
december  
2011**

# Illustrating the assessment framework with the “Abstraction tax to hydropower sector”? (1)

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## Description

The proposed instrument consists in widening the basis of the existing abstraction tax by **including the hydropower sector**. Taking into account the fact that hydropower uses water in a non-consumptive way, it could for example be proposed that:

1. Plants who do not divert water from rivers pay the low water **abstraction fee of 0.025 AMD/m<sup>3</sup>** which is also paid for surface water used for fish production.
2. **Plants who divert water from rivers** and significantly reduce water flows in some river reaches pay a higher rate of **0.1 AMD/m<sup>3</sup>**, which is still 10 times less than water abstraction for other purposes.

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# Illustrating the assessment framework with the “Abstraction tax to hydropower sector”? (2)

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## Legal feasibility

Need to change Government Decision No. 864 on Rates of Nature Use Fees, of December 30, 1988 to include the hydropower sector in abstraction fees

## Organisational & administrative implementability

Tax to be paid linked to a) the actual abstraction or b) the permit - requiring a change in the Water Code

## Enforceability

To be seen in light of the Protocol Session Decision of the Government of Armenian on Promoting Development of Hydropower Generation Sector.

## Acceptability

Resistance expected from supporters of renewable energy sources, the hydropower sector and eventually more generally from electricity consumers, if the higher production costs are transferred to the electricity prices.

# Illustrating the assessment framework with the “Abstraction tax to hydropower sector”? (3)

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## Expected revenue generation

Multiplying the permitted quantity of water abstraction for hydropower (which do not divert water) in the Debed river basin of 772,512,930 m<sup>3</sup> with the proposed abstraction tax (0.025 AMD/m<sup>3</sup>) leads to a **potential revenue of about 19,313,000 AMD.**

The plants that diver water annually abstract 453,698,070 m<sup>3</sup> of water, so with the proposed rate of 0.1 AMD/m<sup>3</sup> they have to pay annually about **45,370,000 AMD.**

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# Illustrating the assessment framework with the “Abstraction tax to hydropower sector”? (4)

<b>Potential environmental impact on water resources</b>	Water abstraction for hydropower purposes is responsible for 91 % of the total water use in the Debed River basin (consumptive and non-consumptive use).
<b>Potential impact on economic sectors</b>	Currently, one cubic meter of water produces a total annual revenue generated by hydropower plants of 4.8 AMD/m <sup>3</sup> (Defrance et al., 2011). Applying the same abstraction tax rate as for fish production (0.025 AMD/m <sup>3</sup> ) this would correspond to 0.5 % of the hydro-electricity revenue generated per m <sup>3</sup> . One quick observation - Different companies get different income from using 1m <sup>3</sup> of water
<b>Affordability &amp; social impact</b>	As the proposed tax represents only a minor share in the total income, no problem of affordability should be encountered.



# What are general lessons? (1)

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- There is a **wide diversity of innovative economic instruments** that can be proposed in Armenia...
  - ...with many of them being **applied and illustrated elsewhere** (*source of inspiration*)
  - They can help.....
    - **Diversifying the “financial resource base”** (following key principles: polluter-pays, beneficiary pays – including for ecosystem services)
    - Mobilising **different sections of society** around water management
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# What are general lessons? (2)

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- Some of these economic instruments can be developed as **part of the current “regulatory framework”....**
    - Changes in abstraction/pollution charges, abstraction tax extended to the hydropower sector
  
  - .... while others need a **revision of the existing “regulatory framework”**
    - Tourism tax, pollution fund...
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# What are general lessons? (3)

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- They can generate financial revenues (“virtual calculations” - Not to be used!)
    - Extending the abstraction tax to hydropower: 65 Million AMD/year
    - Applying a tourism entry tax at 100 AMD/tourist: 68 Million AMD/year
    - ....
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# What are general lessons? (4)

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- Selected instruments **target “non water issues”**, and might need further justification and mobilisation of “water stakeholders”
    - Land tax, tourism tax, product tax
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# What are general lessons? (5)

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- A key component of “acceptability” and “effectiveness” is the “**earmarking**” of financial resources
    - Ensuring financial revenues are re-allocated to “water improvement” projects and initiatives
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# What are general lessons? (6)

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- Prior moving any further to policy, it is essential that....
    - The **political acceptance** of new instruments is assessed (to build a strong political support)
    - **Robust ex-ante assessments** (assessing social, economic and environmental impacts) are performed
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# Presenting selected illustrations from “elsewhere”

Name of the instrument	Verena Mattheiss		
Extending the abstraction tax to the hydropower sector	Verena Mattheiss		
Direct investment of local communities/water companies into irrigation system modernization		Verena Mattheiss	
Extra charge on hydropower energy paid by consumers for supporting ecological restoration			Verena Mattheiss
Increase in land tax for houses nearby valuable water bodies (e.g. Lake Sevan)			
Creation and allocation of the tourism tax to water protection	Verena Mattheiss		
Entry fee to users of sites of natural water importance		Verena Mattheiss	
“Innovative Pollution” fund			Verena Mattheiss
Payments for ecosystem services			
Specific tax on the sale of a product (e.g. mobile phones, cigarette...) for supporting environmental protection	Verena Mattheiss		
Adaptation in the existing structure and level of the water abstraction tax/pollution tax		Verena Mattheiss	
Seasonal water abstraction rates			Verena Mattheiss
New (import or sale) tax on polluting substances			
Reduced (VAT) tax on water saving technologies	Verena Mattheiss		
Payments for ecosystem services		Pierre Defrance	



# Thanks for your attention!

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