

**WATER USE EFFICIENCY  
EXPERTS MEETING  
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**Water Use Efficiency in Bosnia and Herzegovina**

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# Constrains regarding calculation of Water Use Efficiency Index

- Extreme lack of relevant data caused by lack of water strategies, programs, plans and demand management policy in the country;
- Absence of national system of Indicators of the country;
- Lack of metering devices;
- Weak mechanism for data reporting in the past periods;



# Data collection

- Data on water volumes are available in the following institutions in B&H:
  - Statistical Agency B&H;
  - Statistical Institutes in F B&H and RS;
    - collect only data on volumes of water abstracted and water delivered and only from Water Utilities. Data on water from local water supply systems, irrigation systems and industries which use their own sources (self-irrigation, self-industry) are not available in B&H Statistics.
  - Water Agencies for Danube and Adriatic basin (in F B&H and RS);
    - collect data from Water Utilities on water abstraction and water consumption. Unlike Statistic Institutes, they collect some data (water abstraction and consumption) from local water supply systems, irrigation systems and industries which use their own sources (self water supply, self-irrigation, self-industry)



# Drinking water efficiency

V1 = drinking water volume invoiced and paid by consumer in km<sup>3</sup>/year

- Data available only for water invoiced by the Public Water Companies and not for the self-supply

V2 = total drinking water volume produced and distributed in km<sup>3</sup>/year (drinking water demand)

- Data available only for water invoiced by the Public Water Companies and not for the self-supply
- Water volume produced is not available separately as “drinking water volume”; data are collected only in total volumes for all consumer categories: households, industry, agriculture.



# Irrigation water efficiency

E1- efficiency of water transport and distribution network  
V3 - (Water volumes actually distributed to plots) and V4 -  
(Total volume of water for irrigation, upstream of  
networks)

- The only available data are from Public Water Companies on water volumes distributed to agriculture
- Total water abstracted for irrigation is not available

E2 – plot irrigation efficiency

Sm - Data on irrigated surface according to mode of irrigation do not exist in any Institution.

S – Data on total surfaces irrigated in the country is available in some planning documentation, as estimation.



# Irrigation water efficiency

E2 - Plot irrigation efficiency - for the 1990 year (%)

- Surface irrigation = 3,200 ha
- Sprinkler irrigation = 3,820 ha
- Drop by drop irrigation = 10 ha
- Total surface irrigated by all modes = 7,030 ha

$$(3.2 \times 0.5 + 3.82 \times 0.6 + 0.01 \times 0.85) / 7.03 = 55 \%$$



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# Industrial water efficiency

## V5- Recycled water volumes

- This type of data is not available in any institution, but some of the industries might have this data in their own accountings

## V6 - Gross volume consumed for industrial processes

- Only available data are from Public Water Companies on water volumes delivered to industry, but not for the self-supply



# Total water efficiency Index

<b>Total Water Efficiency Index ( %) = total water delivered (invoiced) / total water abstracted (produced)</b>		
<b>Year</b>	<b>Value (km3 / year)</b>	<b>Source</b>
<b>2006</b>	<b>184,485 / 345,983 = 53</b>	<b>Agency for Statistic B&amp;H</b>
<b>2005</b>	<b>166,368 / 334,143= 49</b>	<b>Agency for Statistic B&amp;H</b>
<b>2004</b>	<b>167,568 / 338,068 = 49</b>	<b>Agency for Statistic B&amp;H</b>



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**THANK YOU**



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