

# BANJALUKA WATER UTILITY COMMITMENT TO BENCHMARKING AND DATA COLLECTION



Smart policies, strong utilities, sustainable services

Miodrag Babić, BSc in Civil Eng.

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- \* THE PROGRAM WAS ESTABLISHED WITHIN THE DWP (Danube Water Program in 2013/2014)
- \* PARTICIPANTS IN ESTABLISHING THE PROJECT
  - PROJECT LEADERS - IAWD AND WB
  - PROGRAM SUPPORT - GIZ AND SDC
  - FINANCIER - WB
- \* METHODOLOGIES
  - EBC-benchmarking platform - UBP
  - IBNET-DCM platform
  - REGIONAL LEVEL – 2014 (EX YU – Danube region)
  - NATIONAL LEVEL - 2015
- \* BASIC OBJECTIVE
  - DATA COLLECTION, IDENTIFICATION FOR IMPROVEMENT AND KNOWLEDGE TRANSFER



- \* Vodovod a.d. BANJALUKA joined launching the regional platform according to the EBC methodology in 2014 (now UBP) and the national platform according to the IBNET methodology in 2015;
- \* Regional Benchmarking program is focus on ensuring that the Utility could improve. Operated under D-LEAP. Utilities are able to improve the performance through knowledge exchange with peers;
- \* The National platform is supported by World Bank and Danube Water Program. This program collect more general data from Utilities to help assess the overall situation of Water Works in the Republic of Srpska. This platform allow easy collect, validate, manage, share and publish data.



- \* Since 2014, every year data on the water supply and sewerage network are collected and analyzed separately;
- \* A total of 550 variables (both technical and financial) are collected and analyzed annually;
- \* A database for a period from 2012 to 2019 was formed;
- \* Analysis and reports have been prepared for each year.



# BENCHMARKING DCM DATA

Years	2015,2016,2017,2018	Change	Choose Report	Standard	+ Add Utility
Currency	€ - Euro				
<b>Vodovod a.d. Banja Luka</b>			2017	2018	2019
1.1 - Water Coverage (%)	93.38%	93.38%	93.38%		
2.1 - Sewerage Coverage (%)	60.24%	60.24%	60.24%		
4.1 - Total Water Consumption (liters/person/day)	251.15	250.92	266.71		
4.7 - Residential Consumption (liters/person/day)	186.48	185.91	196.57		
12.3 - Staff Water/000 Water pop served (#/000 W pop served)	1.46	1.51	1.52		
6.1 - Non Revenue Water (%)	38.39%	37.72%	36.83%		
6.2 - Non Revenue Water (m3/km/day)	37.56	35.08	35.14		
8.1 - Water sold that is metered (%)	100.00%	100.00%	100.00%		
18.1 - Average Revenue W&WW (€/m3 water sold)	0.52	0.55	0.46		
11.1 - Unit Operational Cost Water and Wastewater (W&WW) (€/m3 sold)	0.39	0.41	0.35		
23.1 - Collection Period (days)	129.62	118.85	98.27		
23.2 - Collection ratio (%)	78.86%	83.10%	83.12%		
24.1 - Operating Cost Coverage (ratio)	1.34	1.35	1.31		





# BENCHMARKING UBP DATA

	2013	2014	2015	2016	2017	2018	2019
CI-026.a-MI - Average production per treatment plant in millions (m3 / plant)	28.73	27.70	27.68	27.35	28.66	28.49	5.89
CI-053 - Average mains age (years)	40.00	40.00	39.00	39.00	40.00	40.00	40.00
CI-061 - Service connection density (connection/km)	46.42	46.63	44.53	43.22	44.27	49.80	28.15
CI-065 - Residential percentage of sold drinking water volume (%)	77.65%	77.65%	77.08%	77.08%	76.44%	76.91%	77.20%
CI-066-068 - Non-residential percentage of sold drinking water volume (%)	22.35%	22.35%	22.93%	22.93%	23.56%	23.09%	22.80%
CI-067 - Institutions and others percentage of sold drinking water volume (%)	13.57%	13.57%	13.89%	13.89%	14.45%	14.30%	14.20%
CI-068+066 - Industrial and commercial percentage of sold drinking water volume (%)	13.57%	13.57%	13.89%	13.89%	14.45%	14.30%	14.20%
CI-069 - Bulk percentage of sold drinking water volume (%)	4.86%	4.86%	5.04%	5.04%	3.58%	2.48%	2.64%
CI-071 - Residential per capita consumption (liters/capita/day)		134.01	136.13	135.73	142.80	144.52	139.32
CI-071a - Residential per capita consumption through direct supplies (liters/capita/day)		134.20	135.94	135.24	142.87	144.82	139.54
CI-071b - Residential per capita consumption through public water points (liter/capita/day)		121.87	153.03	188.70	134.97	114.39	116.61
CIz-070 - Total per capita consumption (l/capita/day)				241	257	247	
CIz-071 - Average water charges per property (€/property)	83.20	80.62	77.02	82.94	80.07	78.18	69.74
CIz-071a - Average water charges per property for residential consumption (€/property)	53.54	55.52	52.24	59.06	56.29	55.53	53.66
CIz-071b - Average water charges per property for non-residential consumption (€/property)	544.70	537.76	480.85	541.83	512.52	505.39	537.66
CIz-072 - Average consumption per property (m3/property)	241.75	230.38	234.18	232.40	240.83	228.79	202.83
CIz-072a - Residential consumption per residential property (m3/property)	200.22	197.35	200.10	198.65	204.30	195.31	172.21
CIz-072b - Consumption per non-residential property (m3/property)	586.40	550.33	547.81	542.11	573.42	533.54	509.68
CIz-NB-008 - Property density (property/km)	90.41	95.44	90.51	87.43	88.09	91.47	56.46
CIz-NB-009 - Average production per treatment plant (m3 / plant)	28,733,214.00	27,704,598.00	27,675,109.00	27,353,449.00	28,664,507.00	28,490,210.00	5,892,374.00
CIz-NB-010 - Properties per service connection (properties/connection)	1.95	2.05	2.03	2.02	1.99	1.84	2.01

wOp-NB-022 - Sewer and connection blockages (blockages/km)	0.32	0.61	0.64	0.55	0.62	0.61	0.75
wPe-002 - Personnel working on SE per length of sewer (FTE/100 km)	0.15	0.15	0.15	0.15	0.16	0.03	0.03
wPe-017 - Total training (hours/FTE)	2.00	0.93	0.81	0.76	0.52	3.33	3.33
wPe-NB-001 - Personnel intensity (FTE/1000 properties)	1.31	1.23	1.29	1.28	1.33	0.23	0.22
wPe-NB-003 - Personnel per 1000 people served with sewerage (FTE/1000 capita)	0.46	0.47	0.49	0.49	0.52	0.10	0.10
wPez-001 - Personnel per connection (FTE/1000 connections)	2.57	2.72	2.84	2.82	2.93	0.51	0.52
wQS-001 - Resident population connected to sewer system (%)	60.24%	60.24%	60.24%	60.24%	60.24%	60.24%	60.24%
wQS-002 - Resident population served by WWTP (%)						0.00%	0.00%
wQS-019 - Total complaints (complaints/1000 inhabitants)	42.00	10.08	9.81	8.87	9.21	8.52	8.42
wQS-020 - Blockage complaints (complaints/1000 inhabitants)	0.64	1.25	1.12	1.09	1.02	1.08	1.03
wQS-021 - Flooding complaints (complaints/1000 inhabitants)	0.23	0.05	0.05	0.07	0.06	0.07	0.09
wQS-022 - Pollution incidents complaints (complaints/1000 inhabitants)	0.00	0.00	0.02	0.02	0.03	0.04	0.03
wQS-023 - Odour complaints (complaints/1000 inhabitants)	0.01	0.02	0.02	0.03	0.04	0.04	0.05
wQS-024 - Rodents related complaints (complaints/1000 inhabitants)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
wQS-025 - Customer account related complaints (complaints/1000 inhabitants)	0.24	0.19	0.82	0.22	0.25	0.10	0.09
wQS-026 - Other complaints (complaints/1000 inhabitants)	9.10	8.57	7.80	7.44	7.82	7.19	7.12
wQSz-003 - Household size (inhabitant/property)	3.10	3.08	3.04	3.03	3.01	2.63	2.47
WRz-001 - Inefficiency of use of water resources (%)	42.60%	40.95%	40.30%	39.50%	39.36%	39.36%	39.80%
WRz-001a - Inefficiency of use of water production (%)	0.00%	3.04%	4.49%	4.05%	4.00%	4.06%	4.38%
WRz-001b - Distribution losses (%)	43.82%	40.29%	38.72%	38.16%	37.68%	36.35%	37.04%
zwCI-NB-001 - Collected sewage per property (m3/property)	199.75	192.59	193.63	185.99	178.99	155.02	136.49
zwCI-NB-002 - Stormwater volume to WWTP (m3/property)						0	0



## RESULTS

- ✓ CENTRALIZED BASE
- ✓ CLEARER PICTURE OF PERFORMANCES
- ✓ QUALITY OF REPORTING
- ✓ BETTER PLANNING
- ✓ BETTER COMMUNICATION IN WATER UTILITY

## BENEFITS

- ✓ BUSINESS IMPROVEMENT
- ✓ NEW QUESTIONNAIRES
- ✓ LOW DATA COLLECTION COSTS
- ✓ OPENNESS TO CAPITAL
- ✓ TRANSPARENCY
- ✓ NEGOTIATION POTENTIAL
- ✓ MANAGERS MAKE DECISION MORE EASILY



## „Water Utility Association of RS“

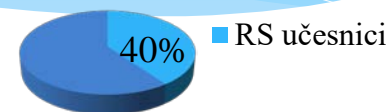
### \* DATA 2012-2014

PARTICIPATION OF 16 MEMBERS - 40%

Aquasan Network in BiH

Data collected  
for 2012-2014

16 water utilities from RS



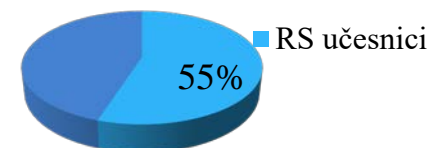
### \* DATA 2015-2017

PARTICIPATION OF 22 MEMBERS – 55%

„Water Utility Association of RS“

Data collected  
for 2012-2015

22 water utilities from RS



### \* DATA 2018

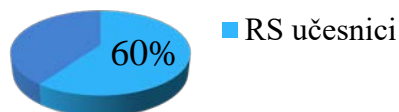
PARTICIPATION OF 24 MEMBERS – 60%

„Water Utility Association of RS“

APPLIED 27 MEMBERS – 67%

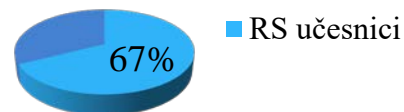
Data collected for 2018

24 members from RS



Applied in 2018

27 members from RS





## „Water Utility Association of RS“

### \* WORKSHOPS:

	DECEMBER 2017	42 PARTICIPANTS
	APRIL 2018	40 PARTICIPANTS
	DECEMBER 2018	46 PARTICIPANTS
	APRIL 2019	43 PARTICIPANTS
	NOVEMBER 2019	45 PARTICIPANTS
<b>TOTAL:</b>	<b>5 WORKSHOPS</b>	<b>216 PARTICIPANTS</b>

### \* PROJECT VALUE :

1 <sup>ST</sup> PHASE	19.946,85 Eur
2 <sup>ND</sup> PHASE	13.190,00 Eur
<b>TOTAL</b>	<b>33.136,85 Eur</b>

### \* FINANCIER:

THE WORLD BANK

### \* IMPLEMENTATION:

„WATER UTILITY ASSOCIATION OF RS“



## „Water Utility Association of RS“



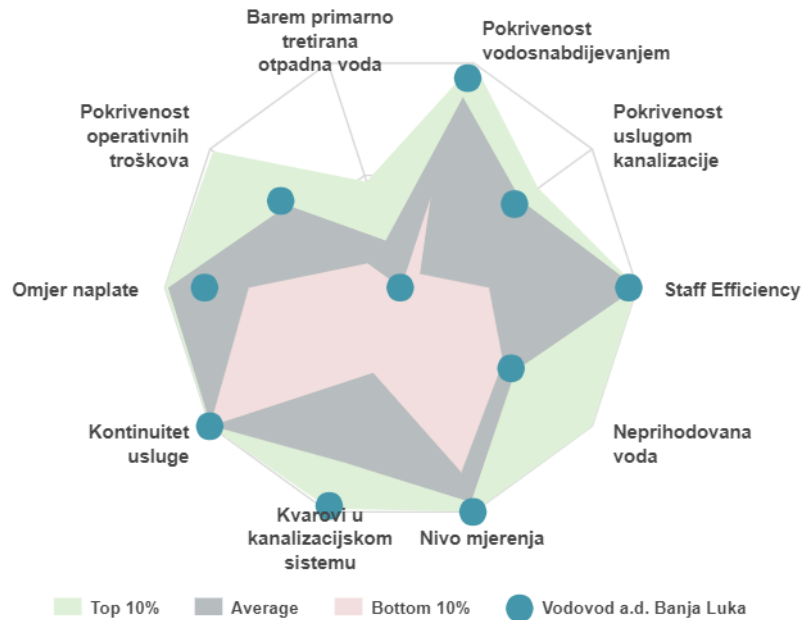
Years: 2015,2016,2017,2018 Change Choose Report: Standard + Add Country  
 Currency: € - Euro

### Water Wark RS

Indicator	2017	2018	2019
1.1 - Water Coverage (%)	81.47%	82.02%	77.53%
11.1 - Unit Operational Cost Water and Wastewater (W&WW) (€/m3 sold)	0.79	0.84	0.57
12.3 - Staff Water/000 Water pop served (#/000 W pop served)	1.61	1.6	1.94
18.1 - Average Revenue W&WW (€/m3 water sold)	0.84	0.88	0.79
2.1 - Sewerage Coverage (%)	52.67%	54.19%	43.90%
23.1 - Collection Period (days)	207.27	196.85	185.85
23.2 - Collection ratio (%)	220.34%	84.01%	85.03%
24.1 - Operating Cost Coverage (ratio)	1.06	1.05	1.38
4.1 - Total Water Consumption (liters/person/day)	156.56	154.35	154.32
4.7 - Residential Consumption (liters/person/day)	121.87	119.35	117.74
6.1 - Non Revenue Water (%)	60.57%	60.77%	50.69%
6.2 - Non Revenue Water (m3/km/day)	2.12	12.56	0.85
8.1 - Water sold that is metered % (%)	99.31%	95.10%	96.02%



# THANK YOU FOR YOUR ATTENTION



International Association  
of Water Service Companies  
in the Danube River  
Catchment Area



The Danube Learning Partnership is supported by



Smart policies, strong utilities, sustainable services

[www.iawd.at](http://www.iawd.at)

[www.d-leap.org](http://www.d-leap.org)

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