



Ministry of Water and Irrigation Utilities Performance Monitoring Unit (UPMU)

Status of UPMU
5th February 2021

*Presented by
UPMU Team*



Ministry of Water and Irrigation
Utilities Performance Monitoring Unit (UPMU)





UPMU Vision & Mission



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VISION



الرؤيا

Enhancing the capabilities of Jordanian water utilities to provide the best services to customers in an effective and efficient manner

تعزيز قدرات شركات المياه لتقديم الخدمات الفضلى للمستهلكين بكفاءة وفاعلية

MISSION



الرسالة

Monitoring the Jordanian water utilities on agreed set of indicators, setting performance targets to evaluate, compare, recommend incentives and penalties accordingly taking into consideration enhancing the financial sustainability of the utilities

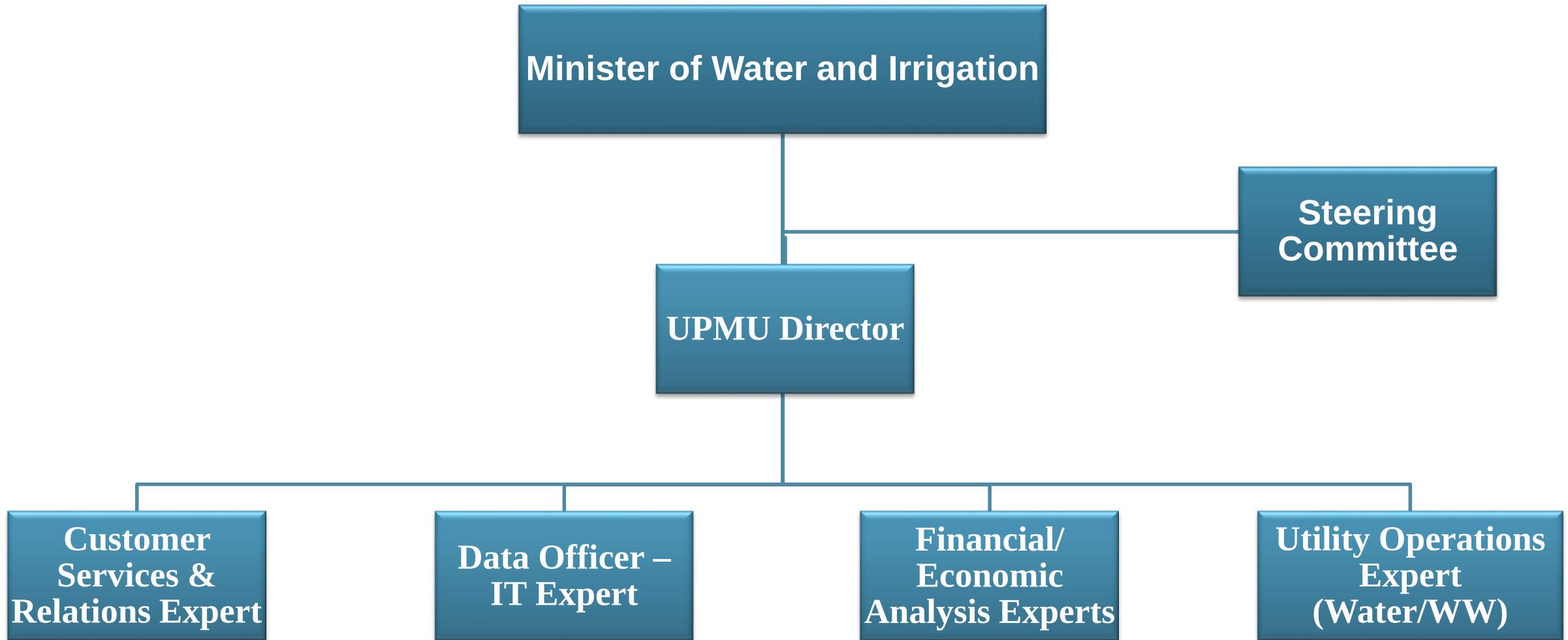
مراقبة اداء شركات المياه الاردنية بناء على المؤشرات المتفق عليها ووضع اهداف محددة للشركات ليصار الى (التقييم، المقارنة والتنسيب بمنح الحوافز او العقوبات) حسب المقتضى مع الاخذ بعين الاعتبار تعزيز الملاءة المالية للشركات



UPMU Structure



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Steering Committee

- Steering committee was established early 2019 to supervise the UPMU, chaired by H.E the Minister of Water and Irrigation, with the following members
 - H.E. Secretary General of WAJ
 - H.E. Secretary General of MWI
 - H.E. Secretary General of JVA
 - Director of Legal Affairs in MWI
 - Assistant Secretary General for Financial Affairs – WAJ
 - Donors Representative
 - King Abdullah II Centre of Excellence Representative



Tasks and responsibilities of the UPMU

- Monitor the performance of the utilities and issue performance reports
- Set and develop KPI targets and mechanisms for their calculation, compare and evaluate the utilities' performances on their basis
- Develop and review the necessary documentation to establish the utilities and develop their tasks/duties
- Issue the basis and general evidence which describe the frameworks for developing internal working guidelines and procedures, such as staff and financial guidelines

Planned Tasks for 2021:

- Recommend updates on laws, legislation and regulations (review assignment agreements)
- Review and recommend tariff (includes review of cost, tariffs, required subsidies options analysis for the Cabinet)
- Incentive/penalties on service delivery with the approval of general assembly of WAJ
- Review and accredit Companies Business Plans and set targets

Performance Indicators (10 KPI's)
8 KPIs quarterly and annual
2 annually

Lower Level Performance Indicators (33 PI's)
15 quarterly and annual
18 annually

The UPMU has also developed a set of 11 indicators to monitor progress in the implementation of the National Water Strategy 2016 – 2025 and related policies



Utilities key data - 2019

	Square area km ²	Water subscribers	Sewer subscribers	Employees	Water distributed [MCM]	Authorized consumption [MCM]	Billed – Residential Subscribers Lcd	Amount billed in period [Mio JOD]
Miyahuna- Amman	7,584	731,858	544,018	1,583	244.993	150.223	64.8	134.438
AW	6,905	43,651	37,349	361	27.114	17.307	79.5	21.902
YWC	28,990	350,974	148,957	1,460	100.694	54.552	56.7	47.532



The report divided into four categories



Service Quality



Operational Efficiency



Water Resources Efficiency



Financial Performance



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Service Quality

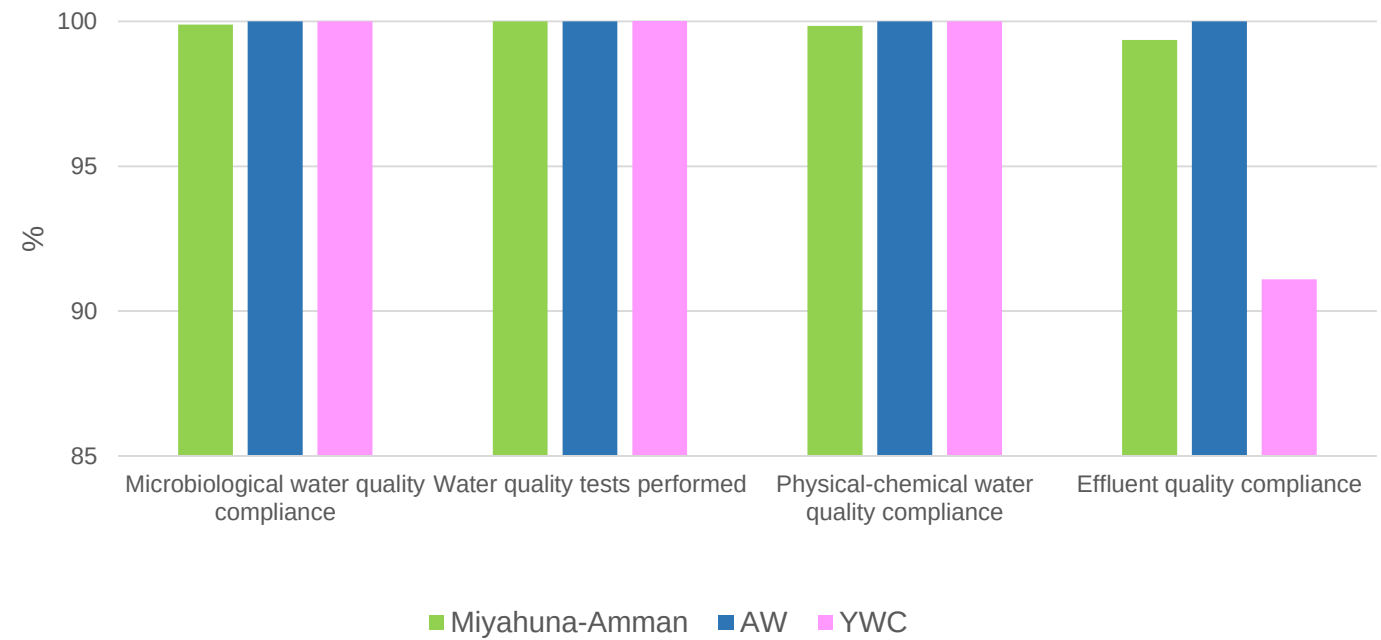


Quality Assurance & Control



- The three utilities are rated as excellent for water quality tests performed and physical-chemical water quality compliance.

Quality Assurance & Control





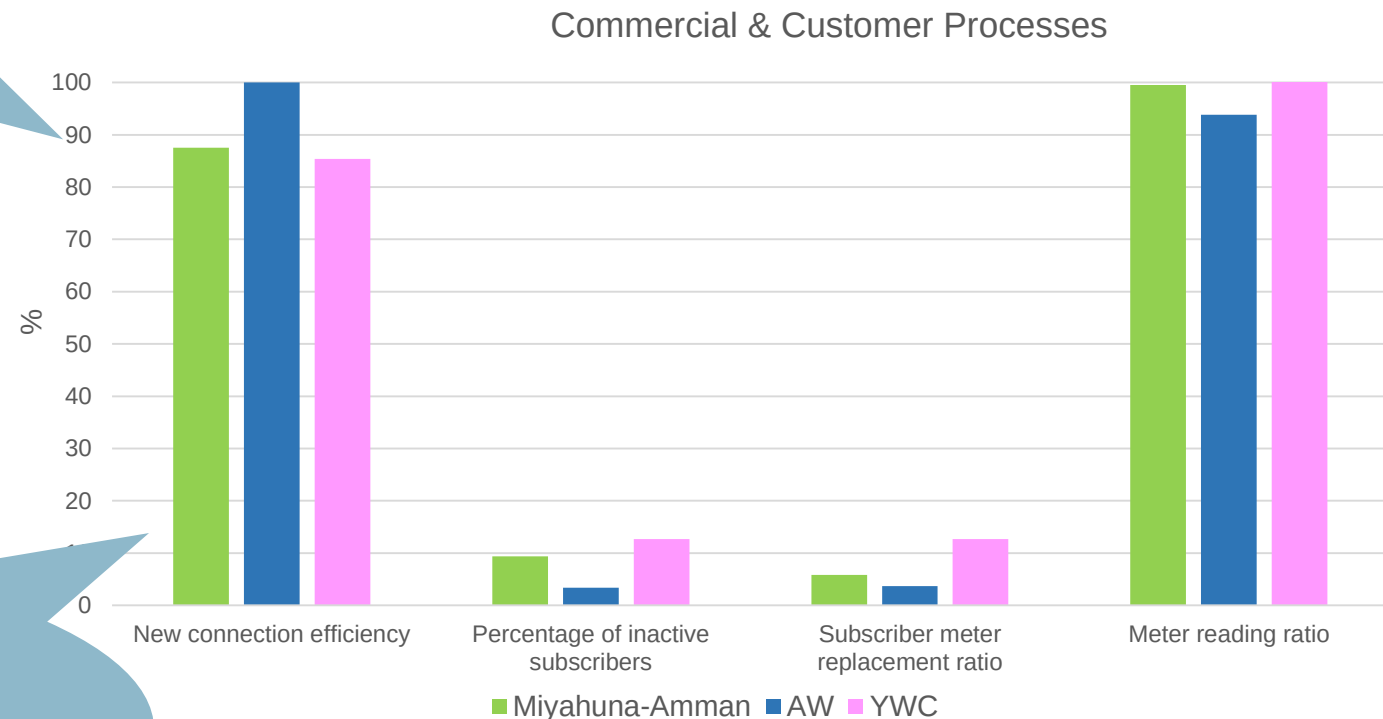
Commercial & Customer Processes



Recommendation 1: YWC does not have smart water meters, Miyahuna and AW could share their experiences of smart meters with YWC

- AW has the highest level of service efficiency for new connections within target time.
- Miyahuna-Amman is close to 90%, while YWC's new connection efficiency is 85%
- The three utilities have been engaged in water meter replacement

Recommendation 2: YWC is to compile the manual registers and spreadsheets which manage new connection documentation from its 10 regional operating units



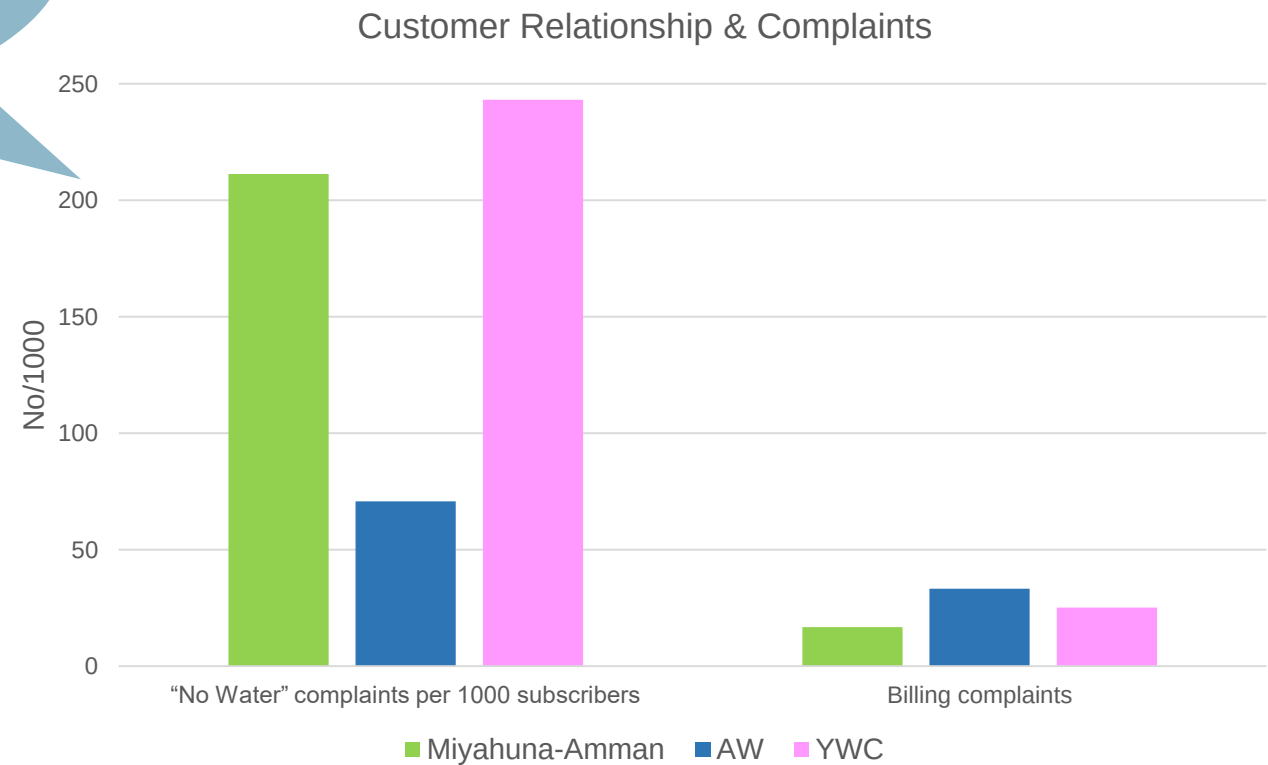


Customer Relationship & Complaints



Recommendation 3: Repeated “no water” complaints needs to identified and quantified to arrive at a more transparent picture

- The percentages of billing complaints are relatively small compared to no water complaints





Operational Efficiency



Staff Utilization & Efficiency



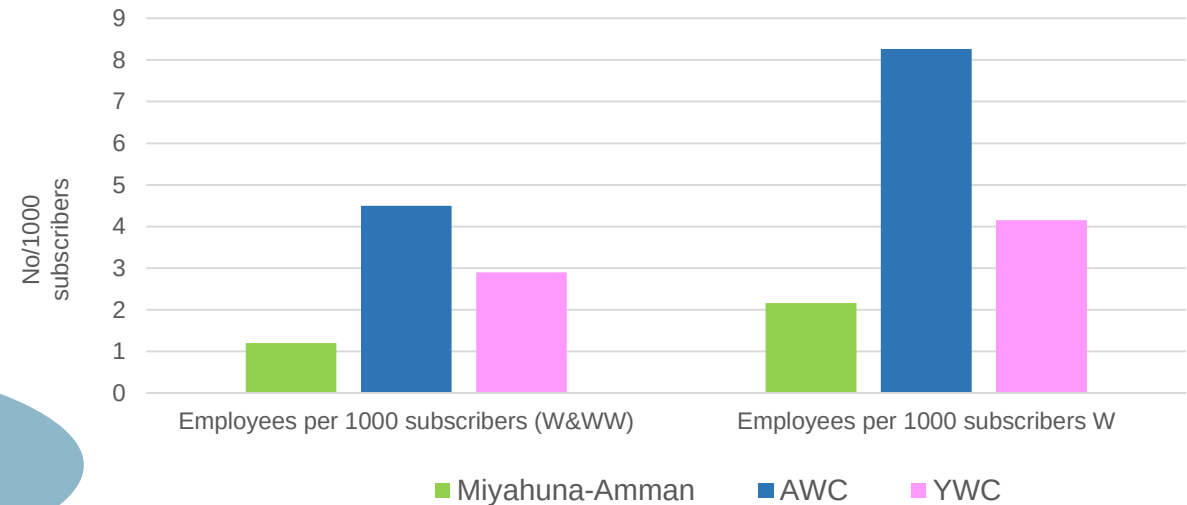
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- Staff efficiency, expressed in employees per 1,000 subscribers, is generally good in Jordan. In Miyahuna-Amman, economies of scale are expected to result in larger utilities which need less staff per 1,000 subscribers

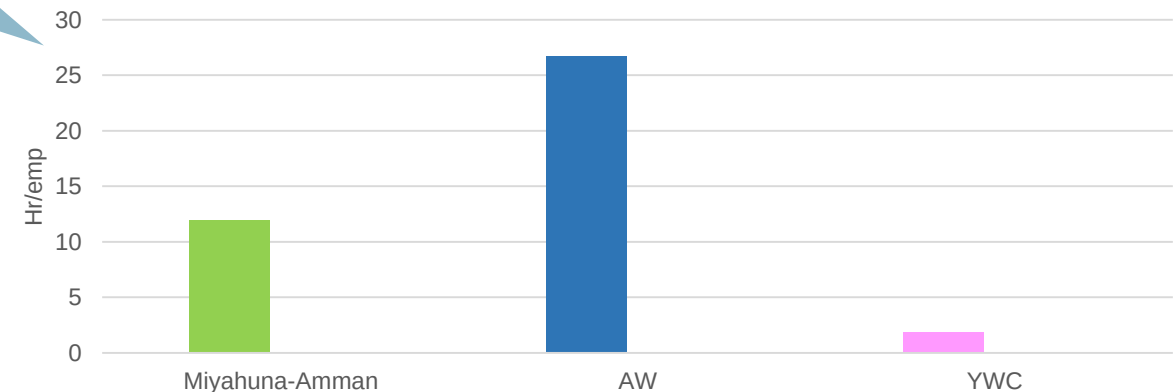
Recommendation 4: YWC to intensify training programs for the staff

- There is a huge difference in training per employee between AW and YWC, and YWC is encouraged to review its staff training needs
- YWC has the lowest percentage of staff trained

Employees per 1000 subscribers



Training per Employee





Energy Efficiency and Bulk Metering



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Recommendation 5: Support
Utilities to look for new energy
efficiency projects

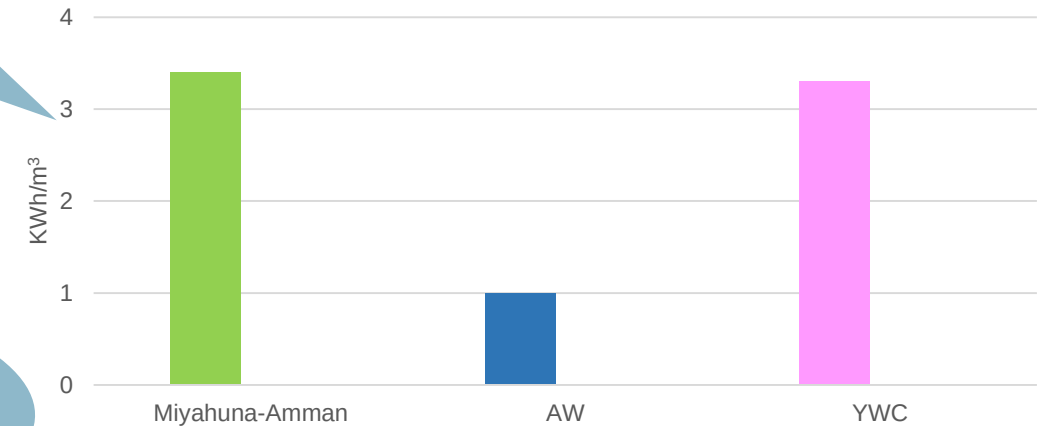
The huge differences in average unit energy
consumption is due to:

- Jordan's geography
- Utilities modes of operation

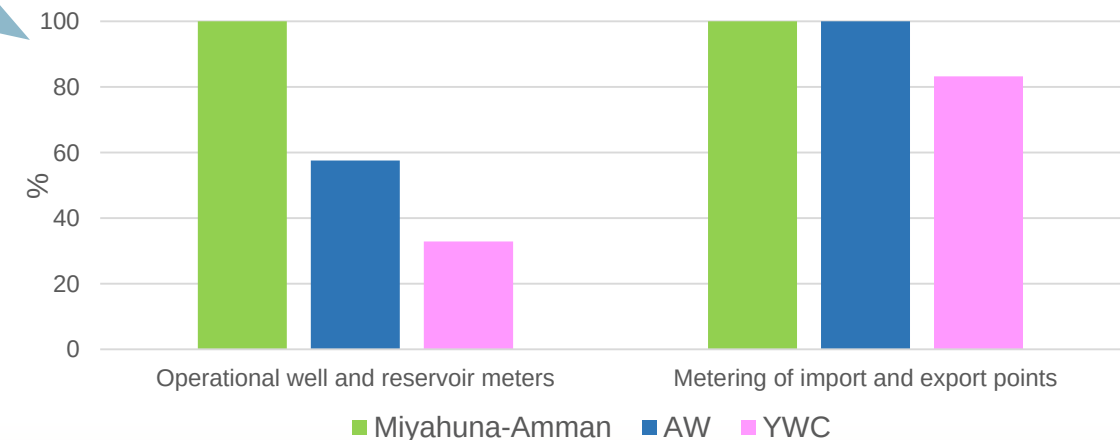
Recommendation 6: Assist AWC
and YWC to install bulk water
meters to all import/export
points and reservoirs

- Operational and calibrated bulk water meters for wells, reservoirs and import/export points is a fundamental prerequisite for reliable NRW calculation
- YWC needs to implement procedures to ensure that all its import and export points are metered.

Average Unit Energy Consumption



Bulk Metering





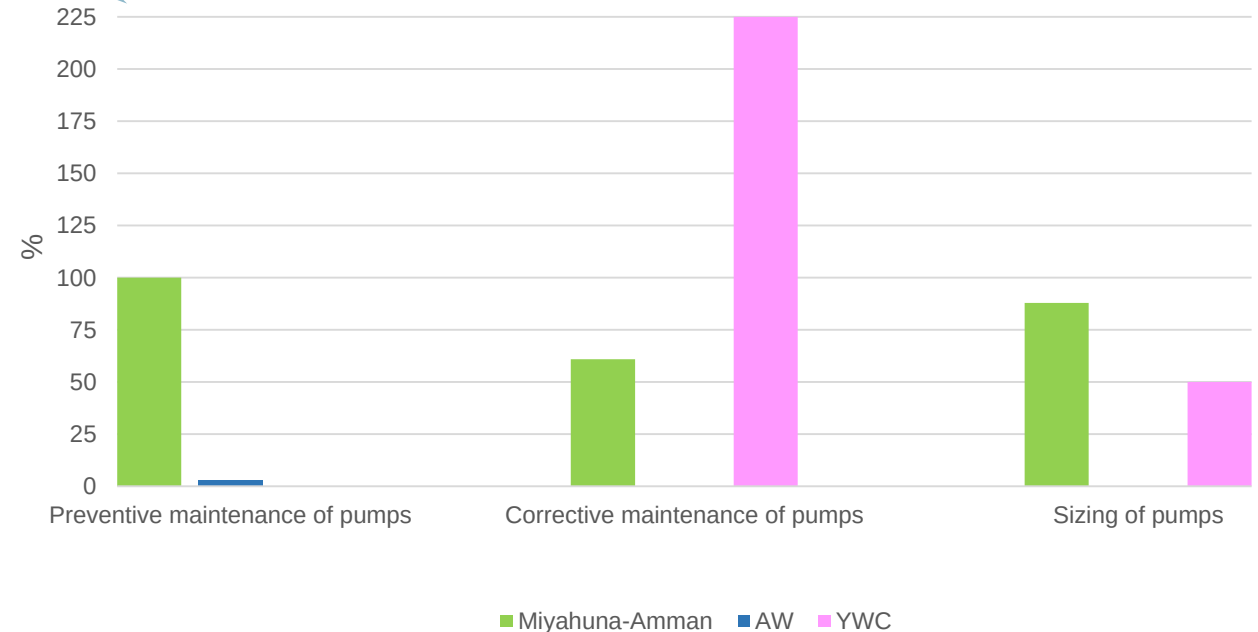
Maintenance Efficiency



Recommendation 7: AW & YWC needs to develop and implement preventive maintenance programmes

- Miyahuna-Amman is implementing a program of preventive pump maintenance within the prevailing resource limitations. AW reported that while preventive maintenance is being carried out it is not recorded in its (CMMS). YWC is not carrying out preventive measures, and no recording system exists
- YWC's pumps are repaired 2.25 times a year. Comparing this figure with Miyahuna-Amman demonstrates the negative effect on corrective maintenance of having limited or no preventative maintenance
- Pump size directly impacts optimal energy consumption, and its effect on electricity expense

Maintenance Efficiency





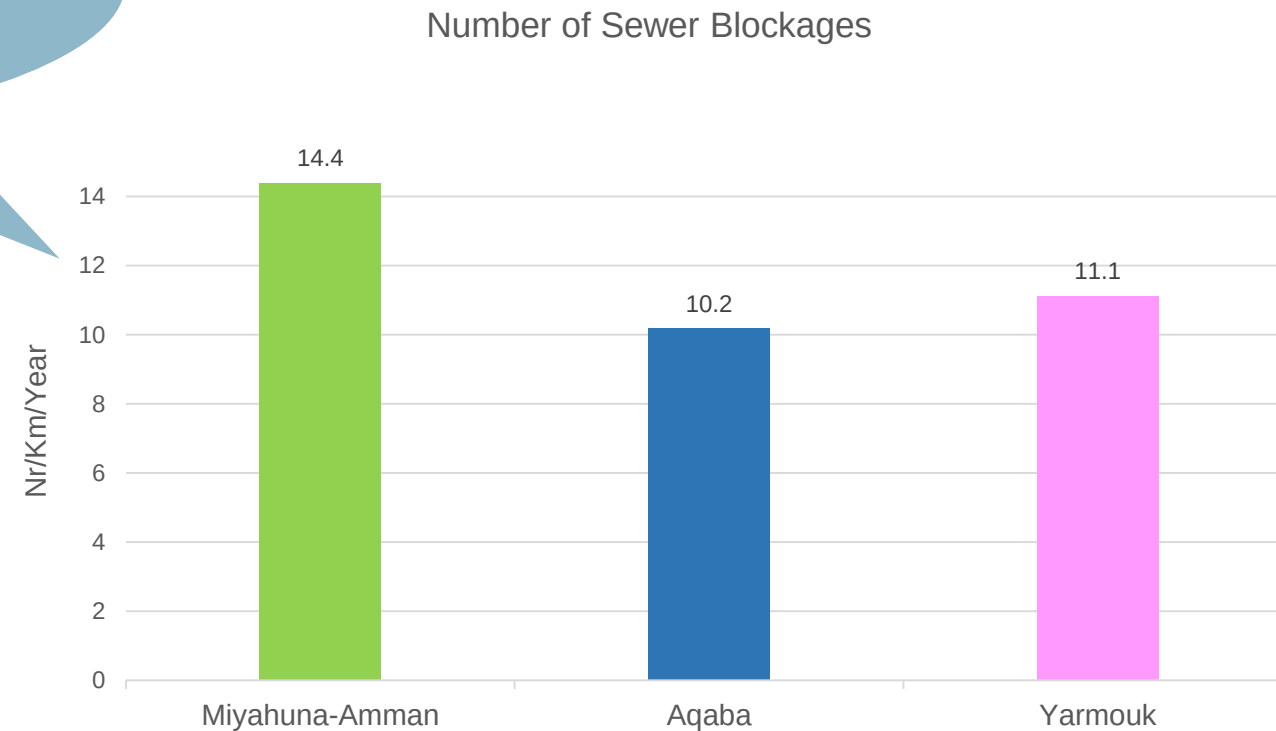
Number of Sewer Blockages [Nr/Km length/Year]



Recommendation 8: Hydraulic study for networks is recommended to be carried out

Number of Sewer Blockages :

- The number of sewer blockages per km of length per year is very high in all three utilities





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Water Resources Efficiency

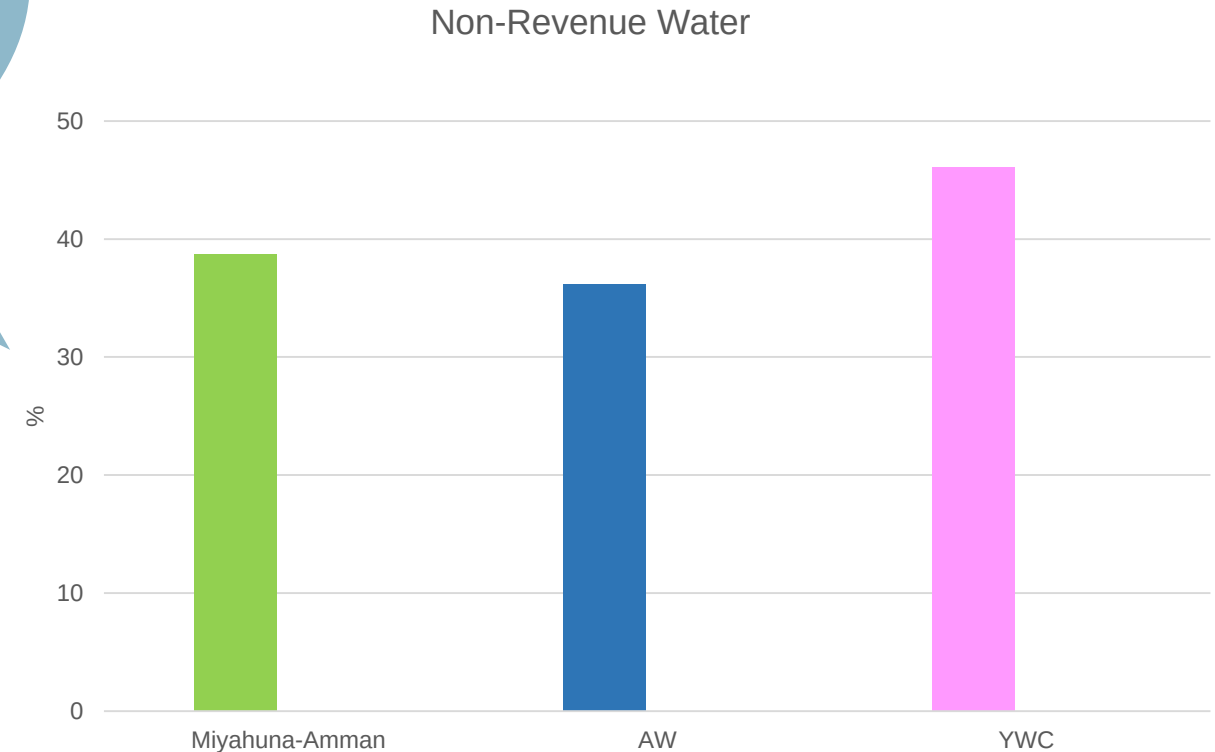


Non-Revenue Water



Recommendation 9: UPMU plans to facilitate a semi-annually round table discussion where technical and commercial managers from all utilities and local NRW experts can meet and exchange their experiences

Water losses remain high according to international standards, with NRW values above 35%. This is of particular concern for a water-scarce country such as Jordan.





Network Efficiency



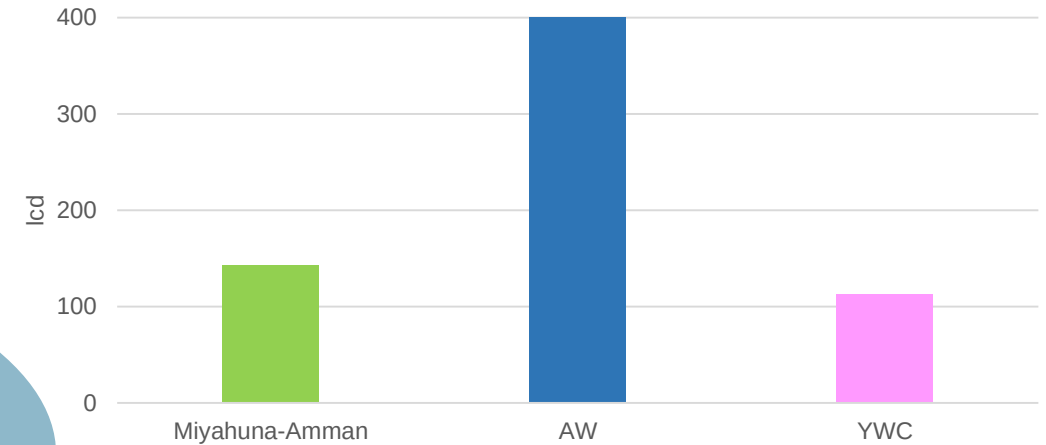
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- Per-capita consumption of water resources is by far the highest for AW, probably due to the influence of commercial and large customers

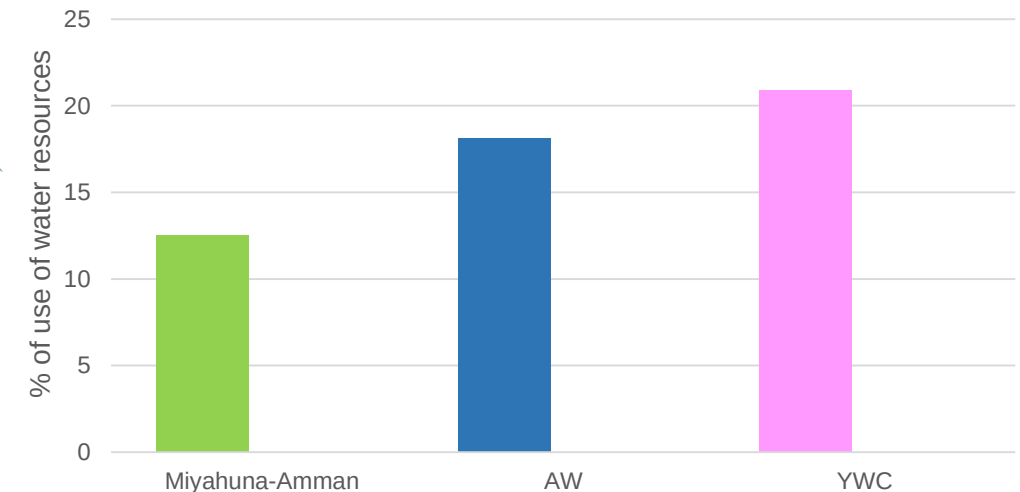
Recommendation 10: UPMU is encouraging/supporting the utilities to develop a better understanding of the Network efficiency and to provide estimates that are based on some further analysis

- The inefficiency of use of water resource
- Usage is calculated by multiplying NRW volumes by an estimated real losses ratio. The utilities currently estimate this ratio at about 50%

Water Resources Use per Capita/Day



Inefficiency of Use of Water Resources





Water Balance



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System Input Volume	Authorized Consumption	Billed Authorized Consumption	Billed Metered Consumption	Revenue Water
			Billed Unmetered Consumption	
	Water Losses	Unbilled Authorized consumption	Unbilled Metered Consumption	Non- Revenue water
			Unbilled Unmetered Consumption	
		Apparent Losses	Unauthorized Consumption	
			Metering Inaccuracies	
		Real Losses	Leakage on Transmission and/or Distribution Mains	
			Leakage and Overflows at Utility's Strong Tank	
			Leakage on Service Connections up to point of Customer Metering	



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Financial Performance



Financial Efficiency



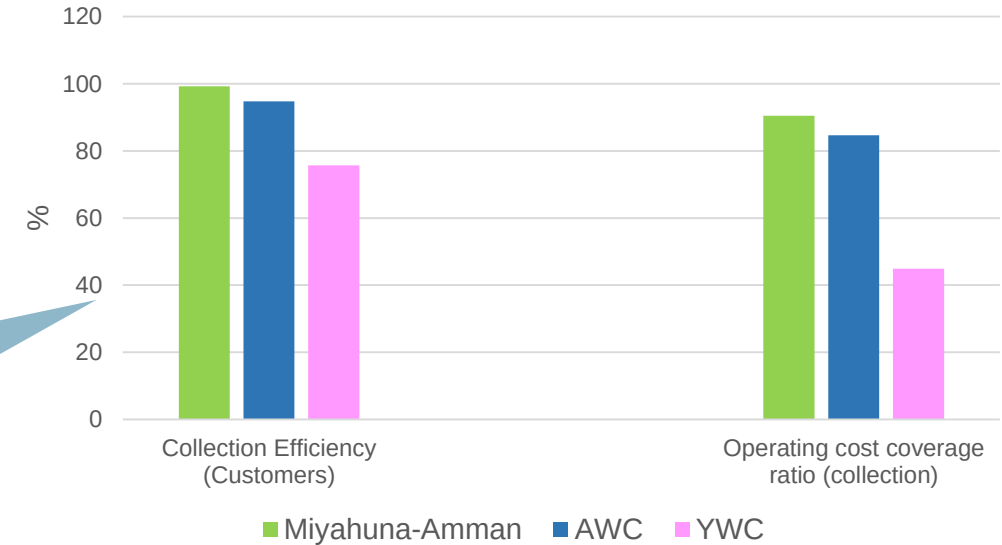
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- Collection efficiency from customers in AW and Miyahuna-Amman are above 90% while collection for YWC is around 75% of issued bills

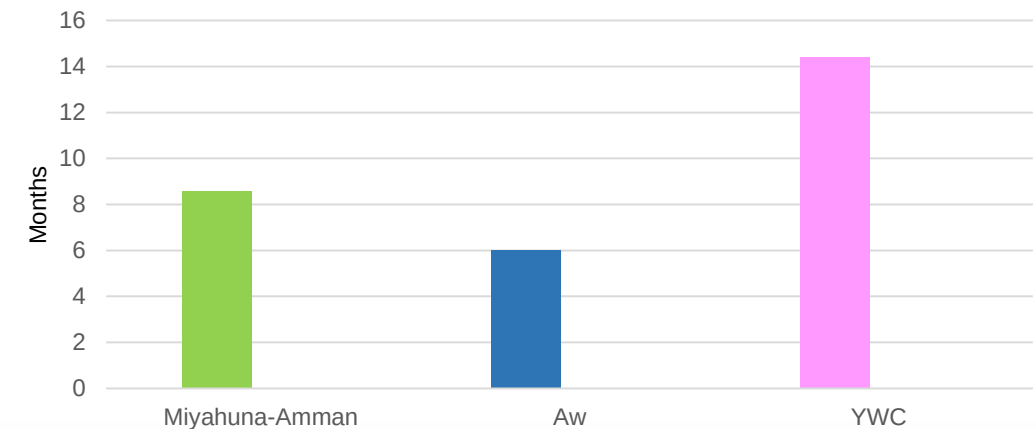
Recommendation 11: Utilities Management should present to the Board of Directors approved plan on how utilities intend to increase collection ratios and reduce outstanding receivables

- All utilities have long collection periods(duration), this has an impact on liquidity and meeting financial obligations

Liquidity and Cost Coverage



Delay in accounts receivable



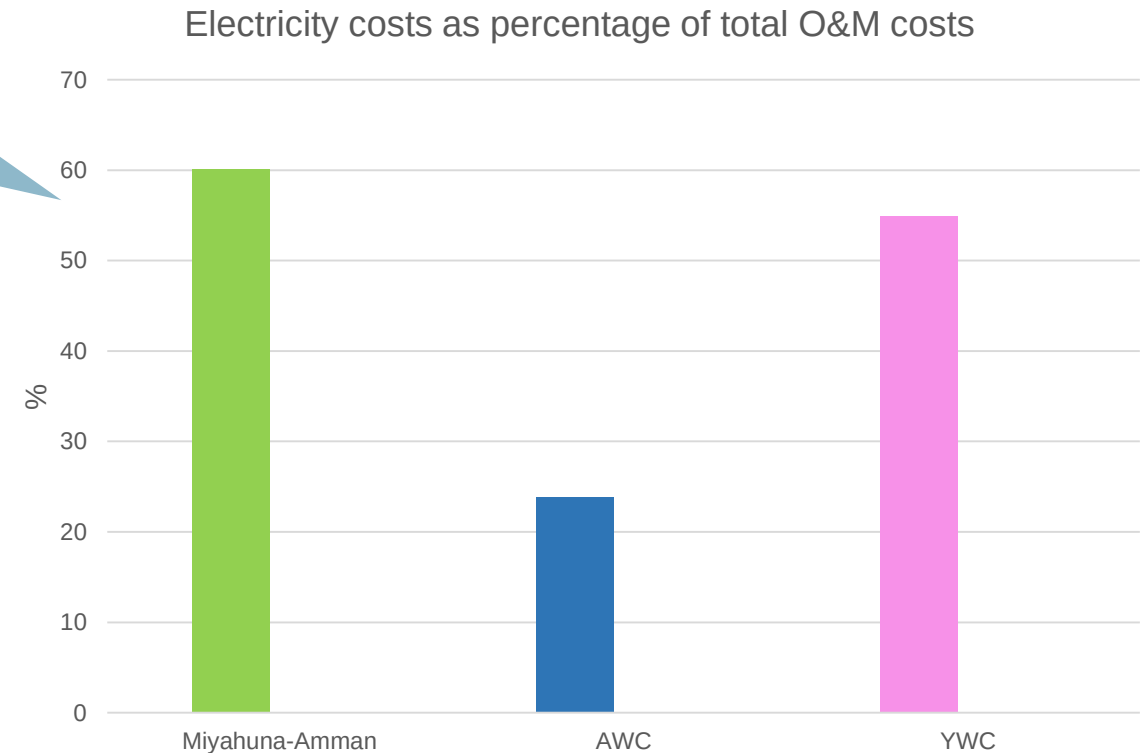


Electricity costs as percentage of total O&M costs



Recommendation 12: Searching for effective and cost saving sources of renewable energy becomes more important/demanded

- Cost of electricity is highly influenced by the geographic conditions and Electricity Tariff
- Electricity is the highest part of O&M costs





Financial Sustainability

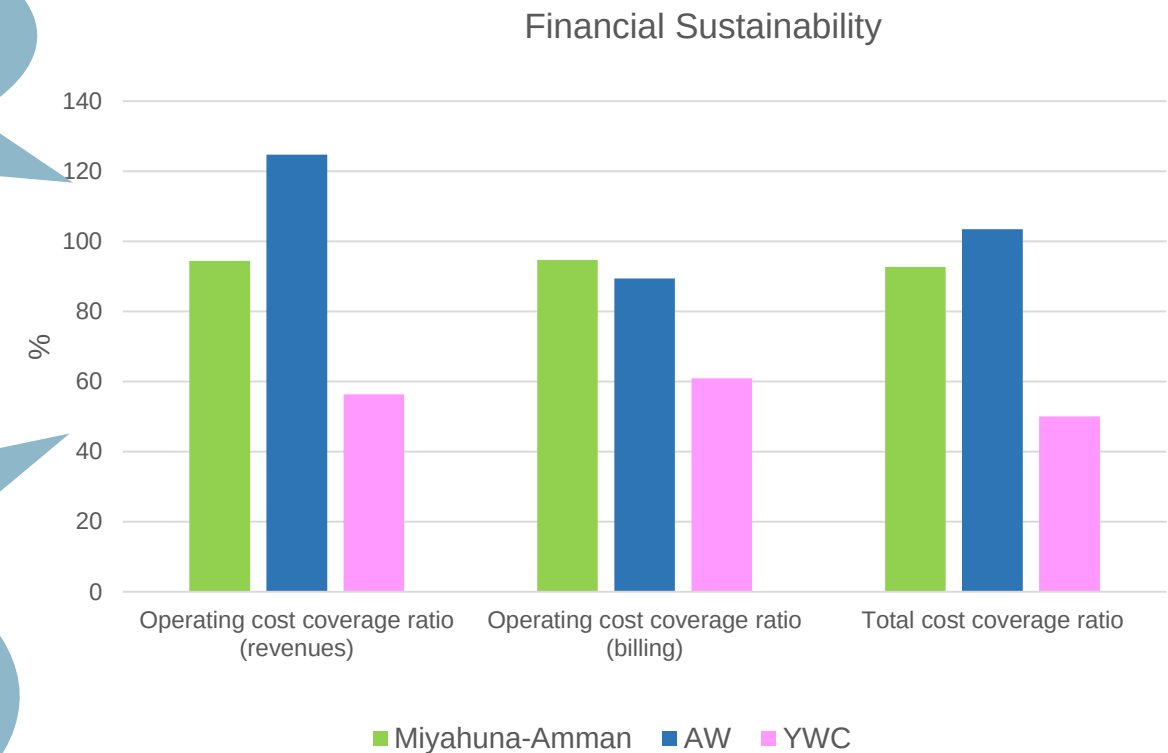


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Recommendation 13: YWC needs to improve its budgetary procedures to increase control over expenditures

- YWC has the lowest cost coverage and a dramatic increase of JD 4.4 million in O&M compared to 2018

Recommendation 14: Utilities need to work on improving Financial Suitability through improving water resources efficiency, reducing non-revenue water, and trigger potential revenue as example additional floors and sewerage annual agreement etc...





Thematic/Strategic deep dives



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The magnitude and the unknowns of NRW

- UPMU plans to facilitate a semi-annually round table discussion where technical and commercial managers from all utilities and local NRW experts can meet and exchange their experiences



The financial status of utilities

- The water utilities face the key challenge of improving their financial performance and cash management to cover O&M expenditures in the short term, reduce long-term dependency on governmental subsidies, and finance their capital costs
- The increase in accounts receivables for all three utilities indicate their deteriorating liquidity status



Next Steps/Road Map for UPMU



Set performance targets in combination with business planning (Benchmarking system)

Update utilities assignment agreements

Develop an Inspection Protocol to validate data

Prepare a financial concept for the utilities with external stakeholders

Ensure that utilities have emergency plans in place, which are aligned to the water sector plan

Set target times for measuring the speed of repairs and solving all types of complaints

Develop a concept for an incentive and penalty scheme and enforce implementation

Recommendation 1	Recommendation 2	Recommendation 3	Recommendation 4
YWC does not have smart water meters, Miyahuna and AW could share their experiences of smart meters with YWC	YWC is to compile the manual registers and spreadsheets which manage new connection documentation from its 10 regional operating units	Repeated “no water” complaints needs to identified and quantified to arrive at a more transparent picture	YWC to intensify training programs for the staff
Recommendation 5	Recommendation 6	Recommendation 7	Recommendation 8
Support Utilities to look for new energy efficiency projects	Assist AWC and YWC to install bulk water meters to all import/export points and reservoirs	AW & YWC needs to develop and implement preventive maintenance programmes	Hydraulic study for networks is recommended to be carried out

Recommendation 9	Recommendation 10	Recommendation 11	Recommendation 12
UPMU plans to facilitate a semi-annually round table discussion where technical and commercial managers from all utilities and local NRW experts can meet and exchange their experiences	UPMU is encouraging/supporting the utilities to develop a better understanding of the network efficiency and to provide estimates that are based on some further analysis	Utilities Management should present to the Board of Directors approved plan on how utilities intend to increase collection ratios and reduce outstanding receivables	Searching for effective and cost saving sources of renewable energy becomes more important/demanded
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Thank you