

Appendix 6: Key Informant Interview Questionnaire

Description:

Key informant interviews carried out in Amman during the period May 22 - June 08, 2015 aimed at:

- (1) Identifying institutional and physical challenges to the resilience of Amman's water supply sector and potential solutions;
- (2) Gaining insights into barriers to resilient responses to shocks and investigate perceived options for overcoming those barriers, as well as investigating the potential for a transition towards integrated urban services management and planning;
- (3) Better understanding interactions between stakeholders across sectors, influencing decision-making, management planning and implementation in the water sector.

Data collection:

Participants of this study were chosen based on the representation of their respective sector. Sectors were chosen based on information found in the literature indicating the need for coordination of urban water infrastructure with other sectors (Hagan and USAID, 2008; OECD, 2014). Study participants from these sectors were chosen based on recommendation from the key contact person in the Ministry for Water and Irrigation, Eng. Ali Subah, SGA for Strategic Planning, as well as recommendations from other key stakeholders (snowball-sampling). Of the 20 key informants interviewed, 14 were local stakeholders, and 6 represented international organizations working on issues related to the city's water sector. Among the 14 local stakeholders, 11 represented the water sector, and one each the municipality, the universities and the planning ministry. Water sector representatives came from the following entities: the Ministry of Water and Irrigation (three levels: decision-making, strategic administration, consulting), the Water Authority, the Jordan Valley Authority, the water utility (Miyahuna Jordan Water Company; decision-making and operations level), the Ministry of Planning and International Cooperation, and Consulting.

Public sector institutions - key informant interview questionnaire

Interdependent Infrastructure and Institutions for Water Security and Equity in Transforming Urban Societies - the Case of Amman

Introduction: This project is conducted as part of my PhD thesis, in collaboration among UFZ (Germany), Purdue University (USA) and with support from the Ministry of Water and Irrigation of Jordan (MWI). The project aims to understand Amman's water services system, i.e., water distribution and sanitary sewer services provided to Ulaanbaatar's citizens. We are interested in understanding how these water systems are managed in terms of their operation and maintenance, and how decisions on the expansion of the systems are made. We would like to bring to awareness the water sector's interactions with other urban sectors, such as energy, roads, ICT, etc., and how interdependences across sectors are planned, coordinated and implemented. By identifying vulnerabilities and bottlenecks for optimal system functioning, as well as the need for change processes, we hope to be able to support urban planning and efficient concepts for rehabilitating old and building new water distribution and sanitary sewer systems. Through this interview, your contribution to this project will help finding options for Amman's long-term adaption to change processes, as well as making Amman's society and economy more water-resilient.

Part A: Interviewee's role in Amman's water sector

1. How would you describe the water resources and water supply situation in Amman?
 - Past, Present, Future
 - What are the main concerns?
 - How are they being tackled?
2. Could you please describe your role in terms of Amman's water supply and sanitary sewer system?
3. For how long have you been in this position?
4. Were you involved in Amman's water sector before you took this position? What was your role before?
5. When you first started working in your role in the water sector, what information did you have about it (e.g., including information through personal communication with colleagues/superiors, written documents, maps, etc.)?
6. Who provided you with that information?

Part B: Stakeholder networks

7. Please make a list of all stakeholders, who are involved in decision-making, planning and implementation of Amman's water supply system. Please include stakeholders, who do not belong to the water sector, but are involved in water-related issues, such as the City Government, other sectors, or organizations funding the water sector/projects:

Name	organization	position	please select role of person			level of influence: 1: decisive 2: strong 3: weak 4: none
			decision-making	management planning	implementation	
....						

8. Please list other stakeholders, who are not involved in decision-making/planning/implementation of water-sector decisions, but who are, in your opinion, influenced by decisions made and implemented in the water sector (e.g., other sectors, such as energy, transportation, industry/mining, health, environment, agriculture, finance, NGOs, domestic water users, etc.):

Stakeholder group	organization	level of impact: 1: strong 2: some 3: weak
....		

9. Please make a list of all persons, whom you interact with related to water supply or sanitation issues in Amman:

Name	organization	position	role of person in relation to you & Amman's water sector	frequency of interaction: 1: daily 2: weekly 3: monthly 4: yearly 5: less than yearly
...				

a) Do these people interact with one another on water issues (y/n)? What is the purpose of their interaction (e.g. consultation, data exchange, permission, funding-related)?						
name (from Q8)	1	2	3	4	5	6
1		(y/n)	(y/n)	(y/n)	(y/n)	(y/n)
2			(y/n)	(y/n)	(y/n)	(y/n)
3				(y/n)	(y/n)	(y/n)
4					(y/n)	(y/n)
5						(y/n)
6						

Part C: Challenges to Amman's water sector

10. Do you think safe-to-drink and reliable water supply in Amman will become a problem in the future? If yes, why?

11. What is the price people in Amman pay for water?

Fresh water:

JD per liter in apartments areas

JD per liter in ger areas

Waste water:

JD per liter in apartments areas

JD per liter in ger areas

12. What do you think are the greatest challenges to the long-term, reliable water supply in Amman? In the list below, please answer 'yes', if you agree this is a problem, and 'no' if you think it is not a problem:	
Issue	Problem?
leakages in the supply network	<input type="checkbox"/> yes <input type="checkbox"/> no
contamination from pit latrines / lacking sanitary systems	<input type="checkbox"/> yes <input type="checkbox"/> no
other water quality issues	<input type="checkbox"/> yes <input type="checkbox"/> no
insufficient water supply in ger settlements	<input type="checkbox"/> yes <input type="checkbox"/> no
wasteful domestic water use	<input type="checkbox"/> yes <input type="checkbox"/> no
inequality of water supply to consumers within UB (apartments versus ger/ domestic versus industrial/ within different gers or apartment areas)	<input type="checkbox"/> yes <input type="checkbox"/> no
scarcity of water resources in Jordan	<input type="checkbox"/> yes <input type="checkbox"/> no
agricultural water use	<input type="checkbox"/> yes <input type="checkbox"/> no
illegal water abstractions	<input type="checkbox"/> yes <input type="checkbox"/> no
illegal water abstractions and illegal water market (re-selling legally abstracted water)	<input type="checkbox"/> yes <input type="checkbox"/> no
wasteful management of water resources and non-revenue water	<input type="checkbox"/> yes <input type="checkbox"/> no
increasing demand due to population growth and urbanization	<input type="checkbox"/> yes <input type="checkbox"/> no

industrial and mining water use	<input type="checkbox"/> yes	<input type="checkbox"/> no
Are prices for piped water too high in Amman?	<input type="checkbox"/> yes	<input type="checkbox"/> no
Do you think the price of water covers the cost of the service (operation and maintenance)?	<input type="checkbox"/> yes	<input type="checkbox"/> no
Should water and energy be jointly managed, and if so, do you think there is a lack of coordination?	<input type="checkbox"/> yes	<input type="checkbox"/> no
Other problems:		

13. Do you think - rainwater harvesting, - grey water reuse, or - decentralized waste water treatment and reuse are potential solutions for Amman's water future?	<input type="checkbox"/> yes	<input type="checkbox"/> no
	<input type="checkbox"/> yes	<input type="checkbox"/> no
	<input type="checkbox"/> yes	<input type="checkbox"/> no
Do you have a rainwater harvesting device in your home?	<input type="checkbox"/> yes	<input type="checkbox"/> no
Do you recycle water in your home?	<input type="checkbox"/> yes	<input type="checkbox"/> no

14. Are energy resources or is the reliable supply of energy an issue in Amman? Please explain.

15. What do you think are the main difficulties in the decision-making/management planning/implementation of water-related issues in Amman?

16. What or who causes these problems?

17. How can these problems be overcome?

18. Are there any feedback loops from the management to the decision-making level and from the implementation to the management level? If yes, please explain how these feedback loops work.

19. When new water projects are implemented, is there usually any follow-up after the completion of the project? If yes, how?

20. Is the state (functioning, quality, etc.) of the water system in Amman monitored? If yes, how?

21. Do the water customers in Amman have the possibility to provide feedback to the service provider? If yes, how?

If yes, is the feedback taken into consideration? If yes, can you give an example?

22. What would you say has been the main change in Amman, when it comes to water services and the functioning of the service sector?

23. What is your opinion of the expansion of water system to include water resources from the Red Sea-Dead Sea project? Do you think this can be a sustainable solution? Explain.

24. Please list three things that would improve Amman's situation in terms of water supply reliability and/or quality	
Change / action for improvement	Who would be responsible for making this change?