Co-creation of online living laboratory for water management design course

Alex Bolding & Pim van Scholl



https://wur.yuja.com/v/jordanvalleytour



What will we share with you?

- Brief demo (interactive map)
- The didactic concept
- The process (making of)
- Some lessons learnt
- How to translate a living case into a layered, interactive map?



A living lab in Jordan

Why add a living lab to the design course?

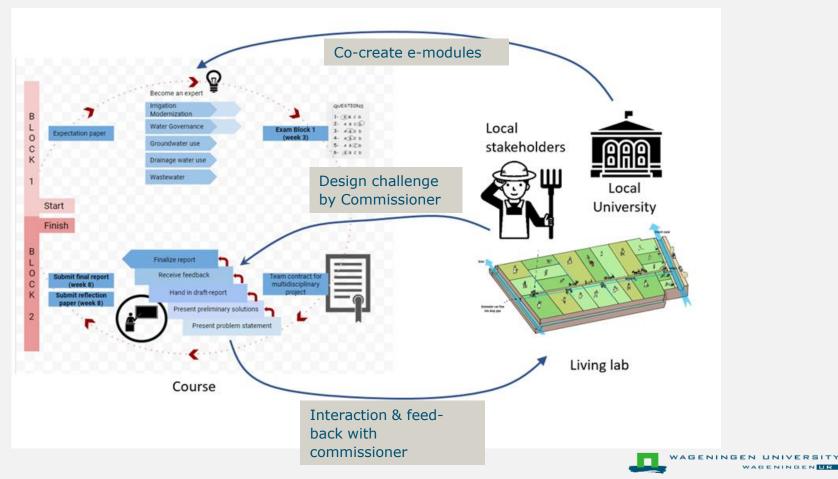
- Real life simulation of post-graduation job market
- Active case with problem owners (commissioners)
- Decolonize the way we teach science (Jordanian experts/stakeholders)

Let's have a look first at the interactive map!





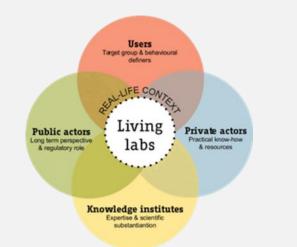
Course logic + living lab



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Overview Process

- How did we get here?
 - Course Redesign: New vision, new case (Aug-Sept 21)
 - SURF innovation proposal (Nov 21-Apr 22)
- Objectives of SURF innovation
- Five missions to Jordan
 - Scoping (May 2022)
 - Identifying partners (July 22)
 - Interviewing key actors in movies & curriculum development (Nov 22)
 - Securing permission (Feb 23)
 - Shooting mission (Mar 23)





Interactive three layered map – lessons learnt

- One key lesson how to sustain living lab?
 - Joint thesis student research
- The map introduces 7 stakeholders (4 farmers, 2 officials; 1 consultant)
- 3 layers reflect 3 dimensions of a design challenge:
 - Context (water resources/infrastructure)
 - Problem owners (7 profiles)
 - Design challenge experienced by problem-owner

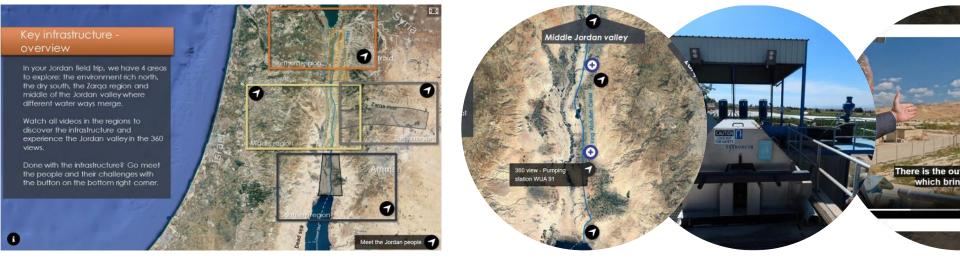




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Role of media in the Virtual tour

Making video fit the context: case study



Not a typical project



Requirements

 Achieve the active engagement from an actual field trip

Two typical scenario's

• XR for amerge experience

• Guided scene by scene

Challenge: finding structure

So? No: 1 map **Scripts** Goal> outcome> 3 "layers" activity **Distant** expert 7 "expert profiles"

Structure

- Context infrastructure
- Problem owner local interviews
- Focus challenges
- For video:
 - What who- where



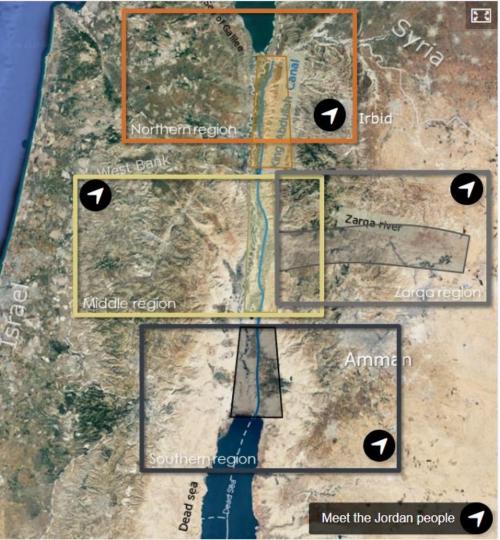
Project snippits

Key infrastructure overview

In your Jordan field trip, we have 4 areas to explore: the environment rich north, the dry south, the Zarqa region and middle of the Jordan valley where different water ways merge.

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Done with the infrastructure? Go meet the people and their challenges with the button on the bottom right corner.



← WRM34306 - Video Assets - March 2023

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WRM34306 - Video Assets - March 2023

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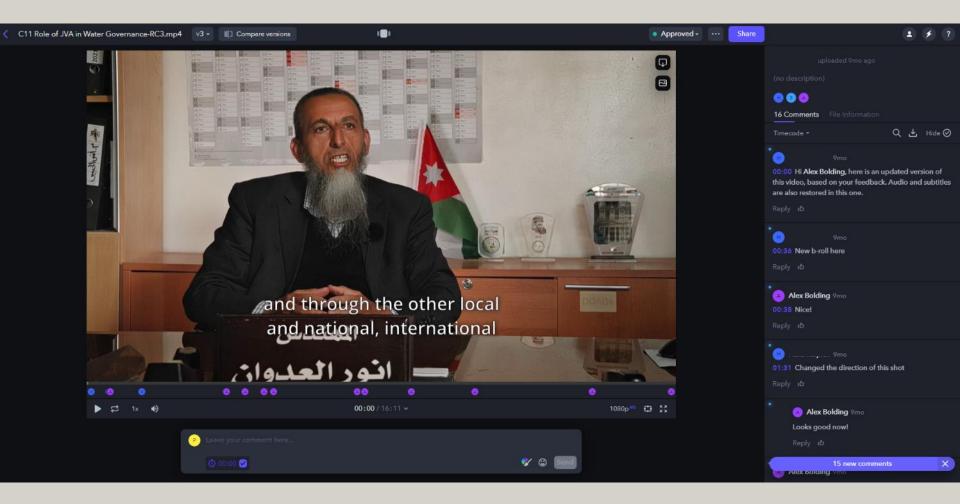
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	DW1 - Goals of drainage			https://wur.yuja.													
	DW2 - Options for reuse			https://wur.yuja.													
	DW3 - Example of water and salt balance			https://wur.yuja.													
tion videos	DW4 - Drainage in Jordan Valley						ves	nvt	nvt	ves	ves	yes	ves	-		292	2
le 5 - Governance (Alex)																	
io recordings:	WG1 – Introduction to water governance			https://wur.yuja.													
	WG4 – Main messages basic WG module plus topics advar	nced module		no date known	script by Alex - skippe	d?											
	WG7 - The role of patronage relations in WUAs			https://wur.yuja.													
tion videos	WG2 – Various stakeholders undertaking either water mar	• • •			script by Alex - skippe												
	WG3 – farmer telling about use of reverse osmosis pump (dule)		script by Alex -skipped												
	WG5 – Jordan basin closure – Anwar, Mohammed and Tha	ir explaining running out of water			script by Alex -skipped												
	WG6 – Anwar explaining mandate/history of JVA				script by Alex -skipped	1?											
ile 6 -Case study (Alex&Gerlo)																	
study - Key infrastructure		and Discharge point (material Ayoub)	Zarqa region		script clarifcation nee	ded by Kasia - in stu							-				
		Communal well + opinion farmer North + or		https://app.fram			yes	yes	yes	yes	yes	yes	yes			256	
1	C3: Confluence King Abdullah Canal and inflow from King 1	alal dam		/ahttps://app.fram			yes	yes	yes	yes	nvt	yes.	yes	nvt		257 258	
	C4: Direct Re-use from Zarqa river C5: Reverse osmosis (material Ayoub)		Southern Jorda	https://app.fram	Studio booked 18/10	Hana	yes	yes	yes	yes	nvt	yes	yes	nvt			_
	C6: Pump Station by Anwar			n https://app.fram	Studio booked 18/10	nans			ves	3	ves	ves.	ves	nvt		259	yes
	C6. Pump station by Anwar		Southern Jorda	nups.//app.tram			yes	yes	yes	yes	yes	yes.	yes	nvt		209	·
study - Interviews material	C7: Developments along the Zarga river	(Muhammad & Basil (first location)). How d	d History and dev	e https://app.fram			yes	yes	nvt	ves	ves	ves	ves	nvt		260	
		Basel and Al Salahar		https://app.fram			ves	yes	nvt	ves	yes	yes.	ves			261	
		Basel, Fadi, Yussef and Mohammad talk abo			4x Bestaande animati	es van farmers toev		ves	ves	ves	ves	ves.	Ves			262	
		Thair - water budget in wells, illegal wells, g					yes	yes	nvt	yes	yes	yes.	yes	-		263	
	C11: Water distribution & role of JVA	Anwar (https://app.fram			Yes	yes	nvt	Yes	yes	yes.	yes			264	4
	C12: Role of WUA in water distribution	Youssef		https://app.fram		Approved w comm	e yes	yes	nvt	yes		yes.				265	5
		tricky future for farmers: Export to local ma					yes	yes	yes	yes	yes	yes.	yes			266	
		Challenges students: come and see what we					yes	yes	yes	yes	yes	yes.	yes	nvt		267	
		simple desire: keeping afloat. Talks about th					yes	yes	yes	yes	yes	yes.	yes			268	
		sceptical, does what he does, but due to the					yes	yes	yes	yes	yes	yes.	yes			269	
		Focussed on solutions for waste water reuse		https://app.fram			yes	yes	yes	yes	yes	yes.	yes	absent	Does this		
		Talks about general challenges in Jordan reg		https://app.fram			yes	yes	yes	yes	yes	yes.	yes	nvt		271	
	P7 - Portret Basel (farmer)	Educated in America and long history and p	ers zarga region	https://app.fram			yes	yes	yes	yes	yes	yes.	yes	absent		272	
2200	Outflow point of WWTP Kherbit As-Samra		Zarga region														
	Confluence of Zarga river & effluent coming from Kherbit A	As-Samra	Zarga region														
	Basil Farm 1 & 2		Northern Jorda	n Vallev													
	Mountains looking towards King Talal Dam		Zarga region														
		2023-03-07-16:34:55	Northern Jorda	n Vallev													
	Farm northern Jordan Valley		Northern Jorda														
	River (below King Talal, where two streams come together)	Zarga region														
	Confluence King Abdulla & inflow from King Talal Dam (ne		Middle Jordan	/allev													



To the product

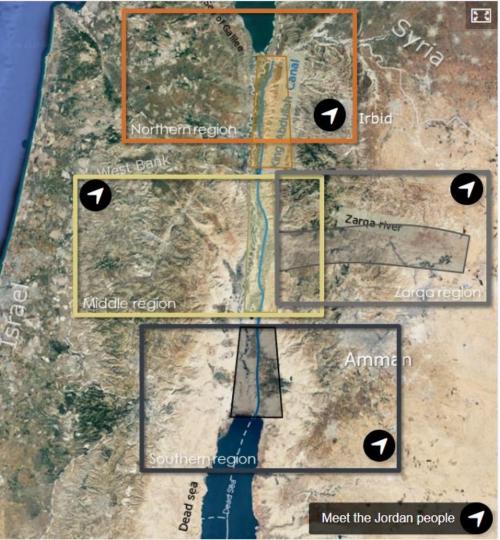


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People in Jordan – Farmers & experts

First, get to know the farmers and experts in the Jordan valley on the right, then discover their challenges. Don't forget the people in governance via the button on the right bottom corner.



Challenges: History along the Zarqa river

Challenges: Water quality & quantity across the valley

Challenges: Crops in different regions Mohammad Salahat, farmer Fadi Al-Sari, farmer

Dead sea

Zarqa river

Basil Al-Wir, large scale farmer

Mohammad Duqqah, local consultant

Amman

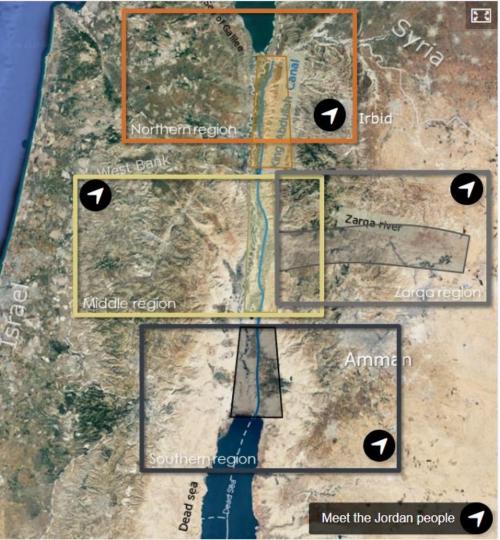
To the people in governance

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Jorda

Middle

Key infrastructure – Zarqa region

The Zarqa region is important in the water distribution of the Jordan Valley. Check out the King Talal dam and see how water is being reused from the Zarqa river.

Explore the waste water treatment plant As-Samra with the video and 360 view.

King Talal Dam

Amman

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Middle Jord

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Video - Direct re-use from Zarqa river

King Talal Dam

Amman



Wanna know more?

- Watch our 'the making of' movie (9.30 min) presenting 7 lessons learnt
 - <u>https://wur.yuja.com/V/Video?v=7</u>
 <u>26849&node=3567023&a=986316</u>
 <u>22</u>
- Questions about the use of living lab in design courses:
 - <u>Alex.bolding@wur.nl</u>
- Questions about the audio-visual aspects:
 - Pim.vanscholl@wur.nl

THANK YOU FOR YOUR ATTENTION!

