ASIAN EVALUATION WEEK 2024

Innovations for Influential Evaluation

2–5 September | Conrad Hotel Shanghai, People's Republic of China

#AsianEvaluationWeek #AEW2024

Independent Evaluation ADB

亚太财经与发展学院
Asia Pacific Finance and Development Institute

Water, Climate, and Communities: Generating Impact Evidence for Climate Solutions in Vulnerable Contexts at the Regional Level

Speakers/Panelists:

Andreas Reumann, Head of the Independent Evaluation Unit, GCF

Jeehyun Yoon, Evaluation Specialist, Independent Evaluation Unit, GCF

Cristiano Rossignoli, Monitoring, Evaluation and Learning (MEL) and Impact Assessment Research Leader, WorldFish

Moderator:

Prashanth Kotturi, Principal Evaluation Officer a.i., Independent Evaluation Unit, GCF

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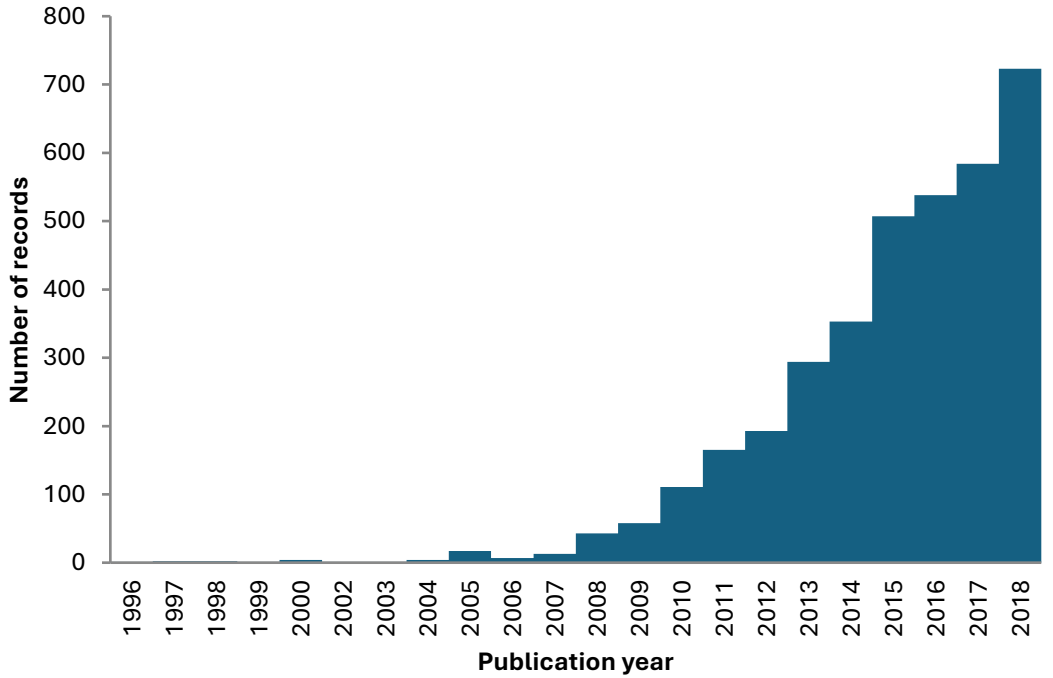
An Evidence Gap Map on Climate Change Adaptation in Low- and Middle-income Countries

- Emphasis of climate change adaptation in international development cooperation is rising.
- Important to evaluate which adaptation measures, actions and interventions have proved to be effective
- Evidence is often scattered
- Implementation of adaption projects and peer-reviewed adaptation literature increased substantially from 2010.

Web of Science results for « climate change adaptation » records per year



Evidence Gap and Intervention Heat Maps of Climate Change Adaptation in Low- and Middle-Income Countries, DEval Discussion Paper 2/2020 (greenclimate.fund)

Co-authors: Sanchez Torrente, L., Reumann, A., Moull, K., Köngeter, A., Fernández de Velasco, G. & Puri, J.

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Where is evidences on…

- What is the state of the evidence base regarding the ability of adaptation interventions to help people in low to middle income countries adapt to the impacts of climate change?

Interventions	Outcomes
(1) Water,	(1) Uptake
(2)Forestry, Fishing and Agriculture,	(2) Harm moderation from stressor
(3) Land-use and built environment	(3) Increased adaptive capacity
(4) Society, Economy and Health.	(4) Enhanced enabling environments

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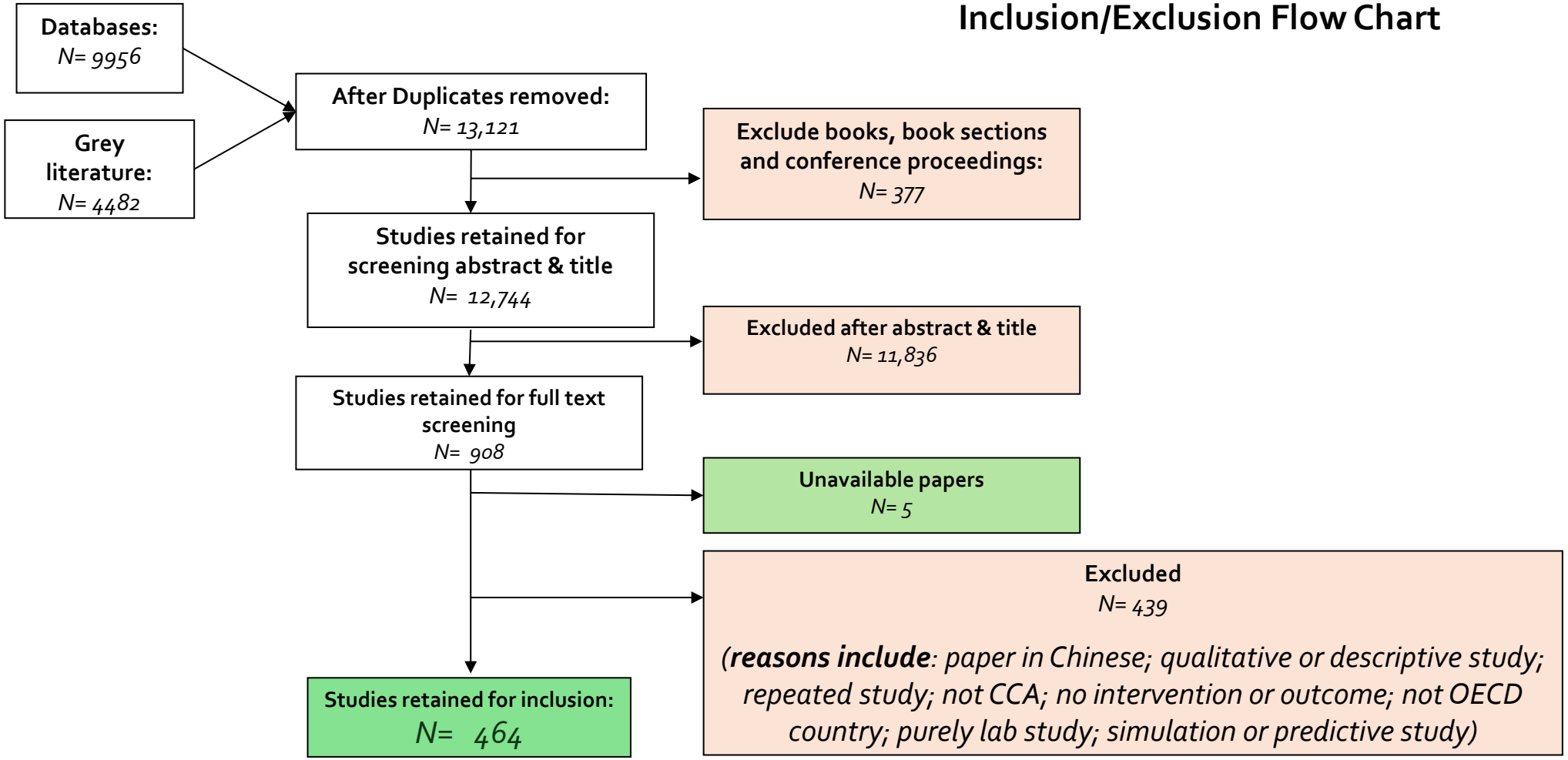
464 Studies were included.

Inclusion/Exclusion Flow Chart



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EVIDENCE GAP MAP		Uptake				Shocks and Stressors								Adaptive Capacity								Enabling Environment											
SECTORS	Intervention type/outcome category	Adoption				Decreased exposure				Decreased Impacts/risks				Social benefits				Environmental benefits				Environmental systems				Socieconomic systems				Institutional systems			
	Study Design	Ex	QE	NE	SR	Ex	QE	NE	SR	Ex	QE	NE	SR	Ex	QE	NE	SR	Ex	QE	NE	SR	Ex	QE	NE	SR	Ex	QE	NE	SR	Ex	QE	NE	SR
Water	Nature-Based Options														1				2	1		2	1										
	Built Infrastructure / Structural			1				1			2	8			2				4	5		1	1	1		1		1					
	Technological Options										1							1						1									
	Informational/ Educational			2						1	1		1							1		1											
	Institutional/ Planning/ Policy/ Laws/ Regulations			1							1		2		1				2													
	Financial/ Market Mechanisms			1								1											2										
	Social/Behavioural			1									1			1			1			1											
Land-use and Built Environment	Nature-Based Options		1			4	1	4	5		1	2	1		1				2		1		1		1		1					
	Built Infrastructure / Structural			2	1	2		1	1		1	3						1		4			1	1	1			1					
	Technological Options											1										2	1										
	Informational/ Educational			3							1	3			1									3									
	Institutional/ Planning/ Policy/ Laws/ Regulations			1	1		2	1				2				1			2	2			2	1	1			1	1			2
	Financial/ Market Mechanisms			1	1							2			1									2								
	Social/Behavioural		1					1			1	4			1	2				2				2			1					
Forestry, Fishing and Agriculture	Nature-Based Options		1	2			1	1		1	13	13	2			2		35	33	29	9	20	4	6	4		3	4	1				
	Built Infrastructure / Structural		3	8							2	2	1			1		2	2	4	1	1										
	Technological Options		3	4			1	1		1	8	9	1			2		33	29	34	4	12	4		1		3	2					
	Informational/ Educational		17	59	1		1			2	1	4			2	7		1	10	7	1	1	1	2	1		2	2	1				
	Institutional/ Planning/ Policy/ Laws/ Regulations		6	8							1	2				1			2	3							1	2					
	Financial/ Market Mechanisms	1	7	36			1				1	5			1	3		1	7	4	2		1	2	1		2	2	1				
	Social/Behavioural	1	6	29								5				3		1	6	11	1		1	1	2		2	1					
Society, Economy and Health	Nature-Based Options			1						1		1	1			1																	
	Built Infrastructure / Structural			1							4	5							1	2													
	Technological Options										1	5	2														1						
	Informational/ Educational	4	2	3				2		1	5	4		4	3		1		1	1						1							
	Institutional/ Planning/ Policy/ Laws/ Regulations		1	1				1		1	4	8	2						2	2								1	1			2
	Financial/ Market Mechanisms	1		4				1		5	6	14	1				1		5	7	2			1		1		3	1		1		
	Social/Behavioural	2	3	8				2		2	5	13	5		2	1	2		3	13	1			1		1	2	2	1		1		2

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EVIDENCE GAP MAP		Uptake	Shocks and Stressors		Adaptive Capacity		Enabling Environment													
SECTORS	Intervention type/outcome category	Adoption	Decreased	Decreased	Social benefits	Environmental benefits	Environmental systems				Socieconomic systems				Institutional systems			
	Study Design						Ex	QE	NE	SR	Ex	QE	NE	SR	Ex	QE	NE	SR
Water	Nature-Based Options							1										
	Built Infrastructure / Struc										1		1					
	Technological Op																	
	Informatio																	
	Insti																	
Land-use Environ																		2
Forestry, Agricultur																		
Society, Economy and Health	Built																	
	Technologi											1						
	Informational/ Edu										1							
	Institutional/ Planning/ Poli												1	1				2
	Financial/ Market Mechanisms								1		1		3	1			1	
	Social/Behavioural					13	1		1		1	2	2	1		1		2

Gaps:

- Gaps in water and built environment.
- Gaps in interventions depends on the sector.
- Absolute gaps in institutional systems (policy area).
- Gaps in exposure.

Concentration:

- Sector: Agriculture.
- Intervention: Conservation agriculture, irrigation, extension services.
- Outcome: Adoption, economic benefits .

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INTERVENTION HEAT MAP (budget, millions of USD) overlayed with EVIDENCE GAP MAP		Uptake		Shocks and stressors				Adaptive capacity				Enabling environment					
SECTORS	INTERVENTION/OUTCOMES	Adoption		Decreased exposure		Decreased Impacts/Risks		Social benefits		Economic benefits		Environmental systems		Socioeconomic systems		Institutional systems	
	Example specific outcomes indicators	Uptake		Population affected by extreme weather events		Proactive and reactive risk management; climate related illness; deaths; food security		Skills acquired, access, awareness		Livelihood diversification, productivitiy gains, access		Area protected, ecological services improved		Social capital enhanced, overall poverty measurements		Policy changes, regulations approved, institutional reform	
Water	Nature-Based Options			35.85		13.78		4.83	1	2.65	3	31.58	3	0.47		9.38	
	Built Infrastructure / Structural		1	217.49	1	167.90	10	120.40	2	124.14	9	7.89	3	32.79	2		
	Technological Options	4.82		5.75		13.61	1	3.17			1	1.42	1	8.25			
	Informational/ Educational	2.89	2	7.04		13.78	3	5.93		8.19	1	8.72	1	9.89		55.04	
	Institutional/ Planning/ Policy/ Laws/ Regulations		1			4.15	3	19.30	1		2	0.76		0.72		27.35	
	Financial/ Market Mechanisms	9.30	1				1			0.47			2				
	Social/Behavioural		1			6.74	1	1.73	1		1		1	3.77			
Land-use and Built Environment	Nature-Based Options		1	34.23	14	23.47	4	4.86	1	16.28	3	172.20	2	0.08	1	5.80	
	Built Infrastructure / Structural		3	26.88	4	68.51	4	24.66		2.67	5	241.96	3		1		
	Technological Options					4.83	1			14.99		61.02	3			1.53	
	Informational/ Educational	8.55	3			0.37	4	1.26	1			1.17	3	4.66		46.97	
	Institutional/ Planning/ Policy/ Laws/ Regulations	12.75	2	0.74	3	4.99	2	0.03	1	2.17	4	40.64	4	1.07	2	12.33	2
	Financial/ Market Mechanisms	7.26	2				2		1	28.50		1.98	2	0.06			
	Social/Behavioural		1		1		5		3		2		2	0.87	1	0.04	
Forestry, Fishing and Agriculture	Nature-Based Options	0.21	3	7.16	2	42.24	29	36.53	2	155.51	106	48.36	34	5.44	8	2.96	
	Built Infrastructure / Structural		11			26.40	5	11.55	1	40.81	9		1				
	Technological Options	0.11	7	6.55	2	3.12	19	0.36	2	147.78	100		17	7.19	5		
	Informational/ Educational	35.08	77		1	3.49	7	3.95	9	51.93	19	4.24	5	35.38	5	16.75	
	Institutional/ Planning/ Policy/ Laws/ Regulations	6.81	14				3	5.53	1	1.22	5			0.21	3	2.23	
	Financial/ Market Mechanisms	41.75	44	2.52	1	79.88	6		4	93.52	14		4	1.32	5		
	Social/Behavioural		36	0.73			5	6.63	3	11.27	19	3.55	4	15.04	3	6.96	
Society, Economy and Health	Nature-Based Options		1	12.60			3	12.00	1	1.84		7.38		13.51			
	Built Infrastructure / Structural		1			28.33	9	0.45			3			5.37		2.35	
	Technological Options	0.25		9.32		32.23	8			19.43		1.52		19.89	1	31.27	
	Informational/ Educational	17.73	9		2	40.03	10	7.79	8	0.69	2	8.90		83.18	1	204.28	
	Institutional/ Planning/ Policy/ Laws/ Regulations	4.02	2	0.71	1	15.75	15	19.17		4.82	4	8.59		42.83	2	39.04	2
	Financial/ Market Mechanisms	231.95	5		1	305.80	26	10.34	1	12.27	14		1		5	0.02	1
	Social/Behavioural		13	6.42	2	15.64	24	4.93	5	8.77	17	2.78	1	14.15	6	11.99	3

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We are going with Evidences?

- Operating in evidence-rich or evidence-scarce environments.
- Prioritize the generation of new evidence (rigorous IE) or synthesize existing evidence (meta-analysis, in-depth review).
- Sectors like built environment, water and policy are traditionally deemed not suitable for IE, (e.g. challenge to find counterfactual, assign single outcome)
- High weight in four sectors, i.e. “Informational/Educational” intervention types promoting an enabling environment in both socioeconomic

Helps to systematically expand the global evidence base to facilitate future evidence-based programming and portfolio development!

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Lessons learnt and Next steps

a. What did we learn?

- More evidence than thought but not enough.
- Geographic differences: **Sub-saharan African Studies+++ Latin America---**
- Sector differences: **Agriculture**+++ **Water---**

b. Next step?

- Water and **land-based ecosystems**
- More impact evaluations for **Water**
- **Systematic reviews/meta-analyses**: Adoption studies, agriculture

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Rising seawater threatens agriculture and drinking water in vulnerable coastal communities of Bangladesh. (Source: UNDP Bangladesh)

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Project: UNDP Bangladesh's "Enhancing adaptive capacities of coastal communities, especially women, to cope with climate change induced salinity"

(USD 25 million funded by GCF out of the total USD 33 million)

Activities

Component 1

- Introduce diversified, climate-resilient livelihood options.

Component 2

- Establish year-round access to reliable, climate-resilient, potable water systems in the most salinity-affected areas through the introduction of Rainwater Harvesting Systems (RWHS).

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Livelihood Options

Source: UNDP Bangaldesh

Crab Nursery

Floating Garden

Floating Garden

Sesame Production

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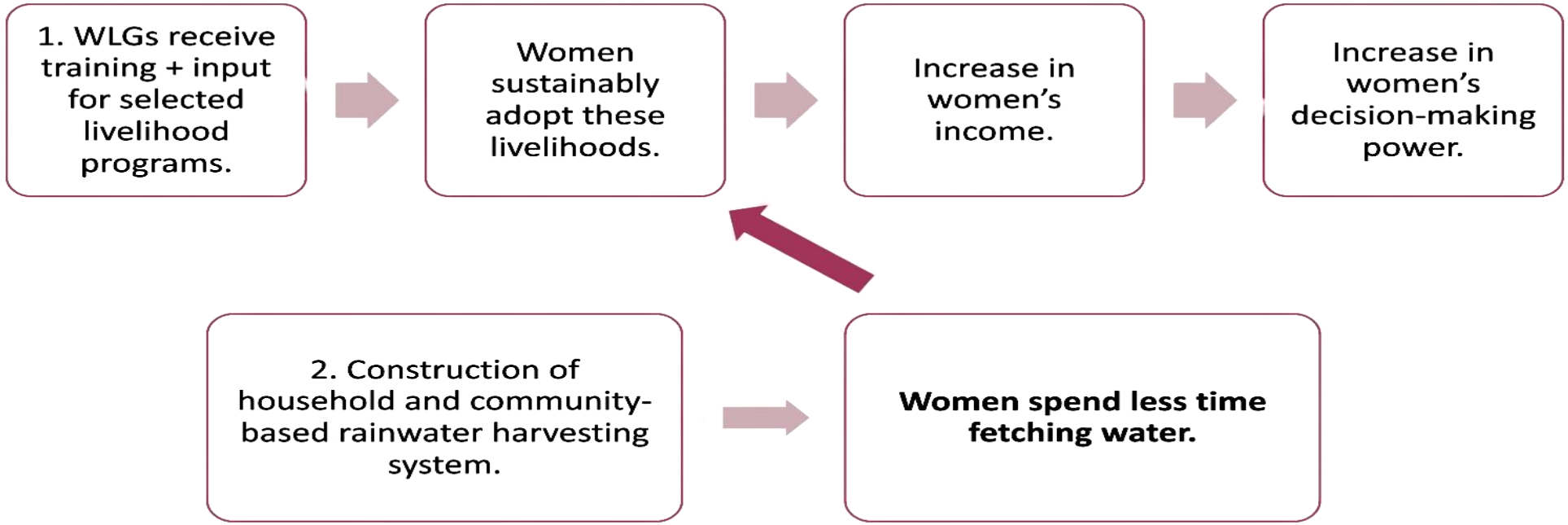
Impact Evaluation Question

Did the adaptive livelihoods program increase the capacity of beneficiaries to adapt to climate change, especially women?

Theory of Change



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Findings on Household Welfare and Food Security

- Increase in household income by BDT 14,000 (or USD 165) which translates into a 43 percent increase.

- Increase in food security (measured by food consumption score) by 8 percent.

Importance of farmers' awareness and understanding of climate risks to adopt climate-resilient practices.

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Learnings for GCF

- Importance of knowledge and awareness for effective adoption of adaptation projects.

- Need to address water issues for agriculture and livelihood programs.

- Importance of social capital and collective action for group-level projects.

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Thank You

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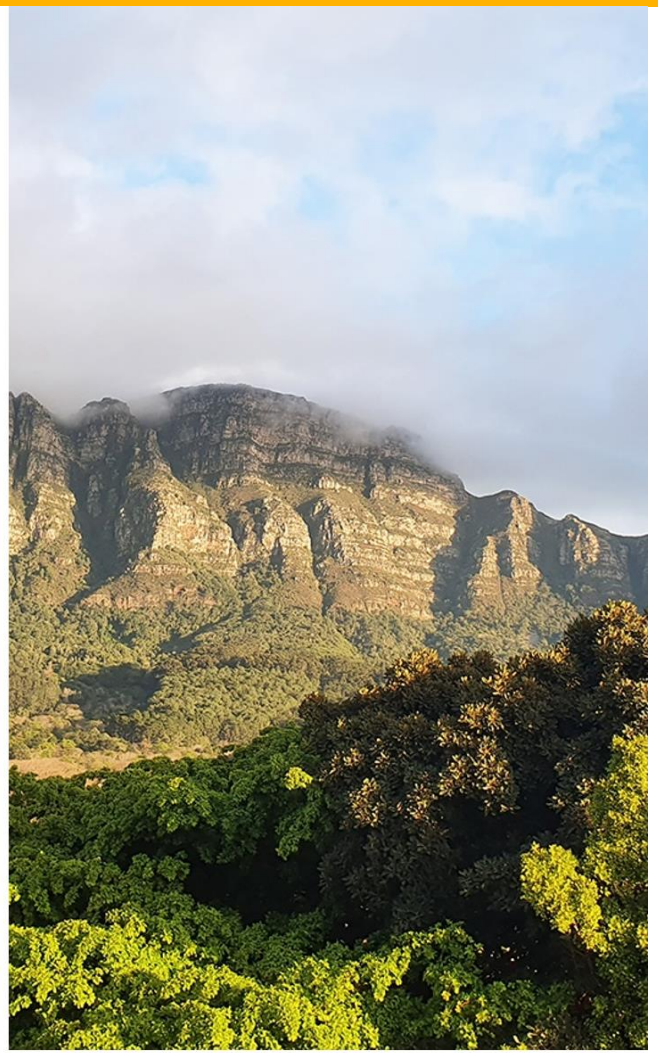

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