New approaches towards assessing trade-offs and synergies between SDG 6 and other SDGs

Working Group within GRoW cross-cutting topic „UN-Sustainable Development Goals“

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with Input from WANDEL and STEER and further Working Group Members

Event on Stockholm World Water Week, 25 August 2019, 14:00-15:30h

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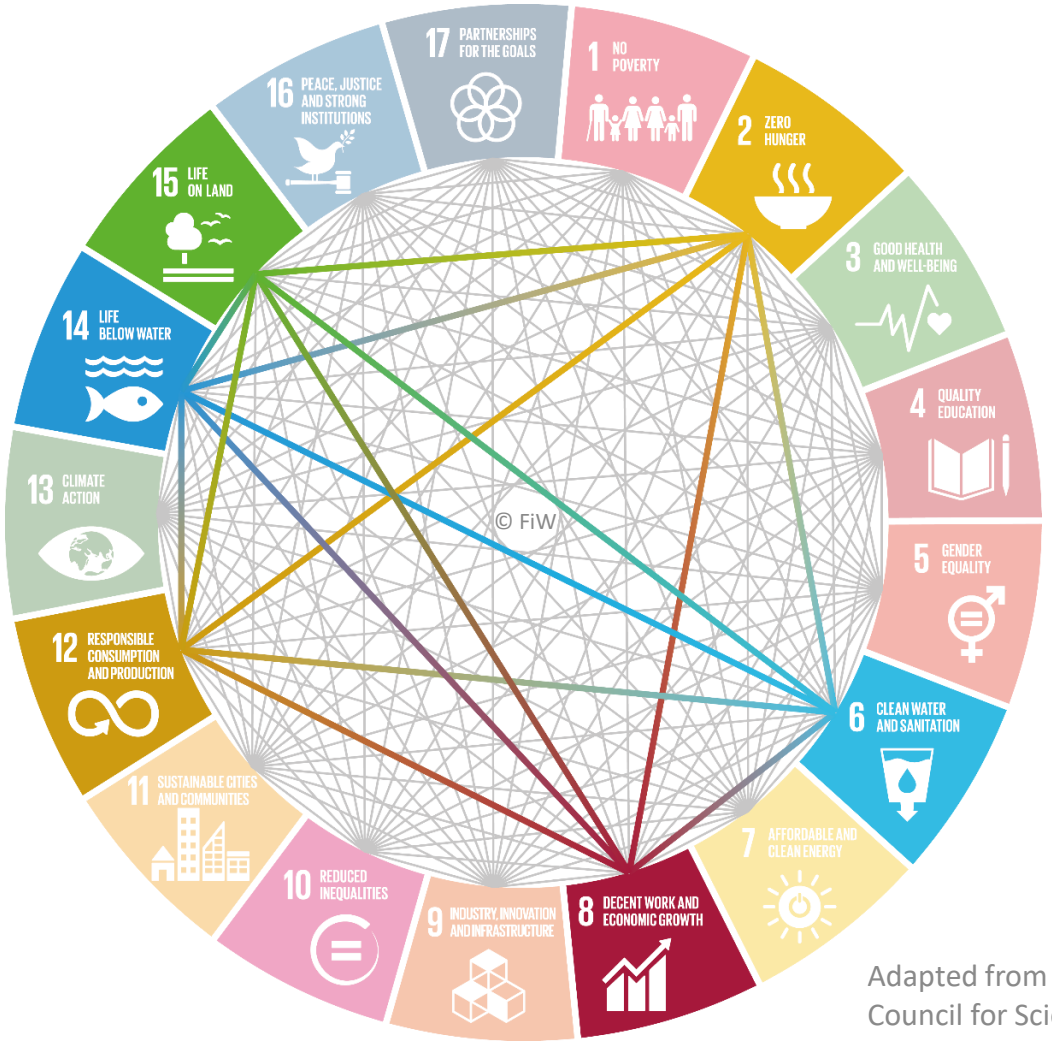
UN-SDG 6 interlinkages with other goals



Adapted from International Council for Science (ICSU 2017)

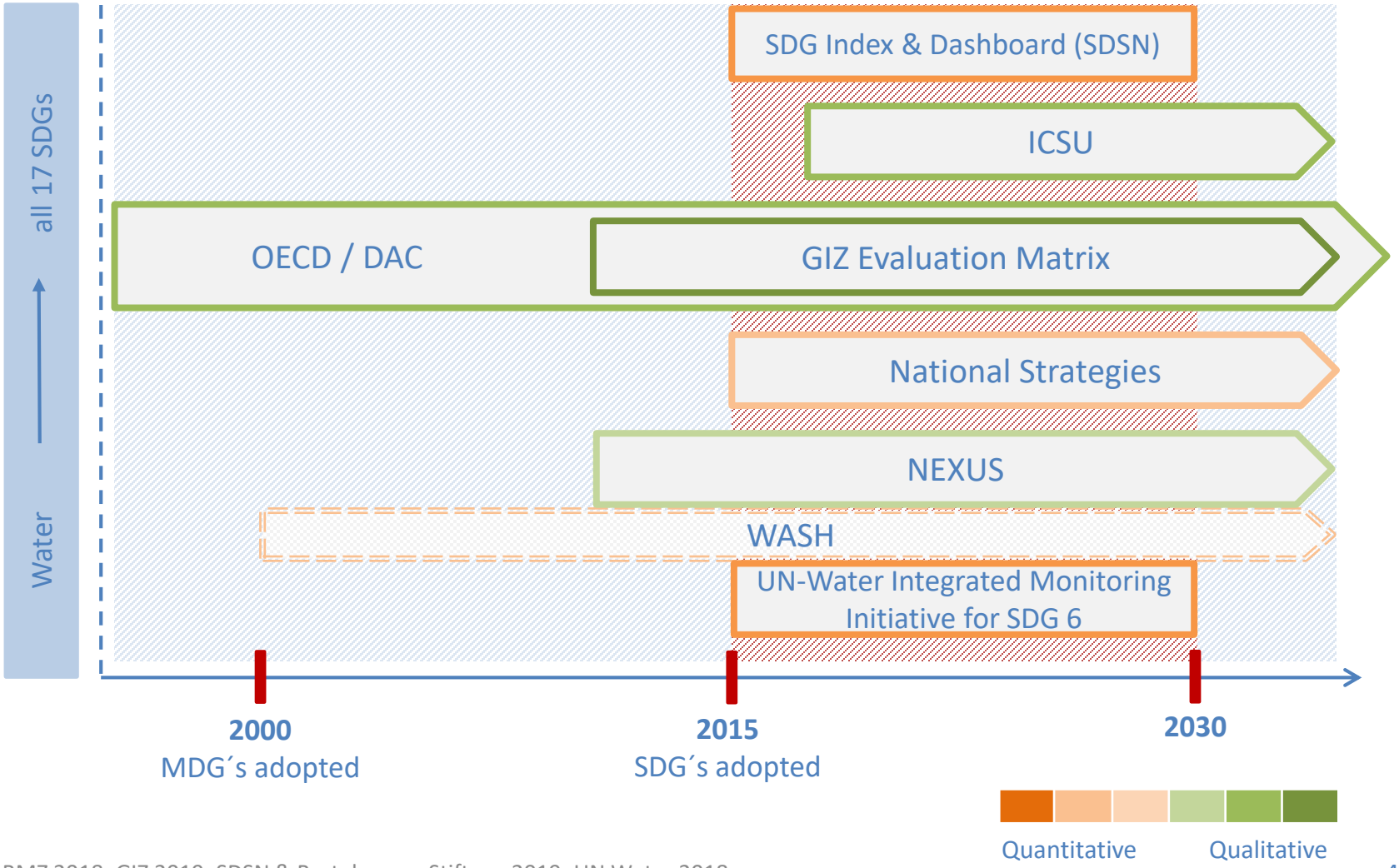
Objective

1. Discuss a **new assessment procedure** by which decision makers can evaluate the effects of key projects / policy strategies on achieving UN-SDG targets including **indirect trade-offs and synergies**.

2. Demonstrate the **importance of SDG 6 in achieving other SDGs** using regional expertise and best practices from work generated within GRoW projects.

→ **Support decisions-making** to harness synergies and avoid / mitigate potentially conflicting approaches.

Current Approaches & Methods to Assess Progress towards SDG Achievement



BMZ 2018; GIZ 2019; SDSN & Bertelsmann Stiftung 2019; UN Water 2018

GIZ Project Monitoring & Evaluation

GIZ Principles according to Agenda 2030

Leaving no one behind
Integrated Approaches & Synergies
Joint Responsibility
National Implementation Strategies
3 Dimensions of Sustainability

OECD / DAC Criteria

Relevance
Effectiveness
Efficiency
Impact
Sustainability

Instruments & Tools

Result Chain
Theory of Change
etc.

GIZ Evaluation Matrix (qualitative & theory-based)

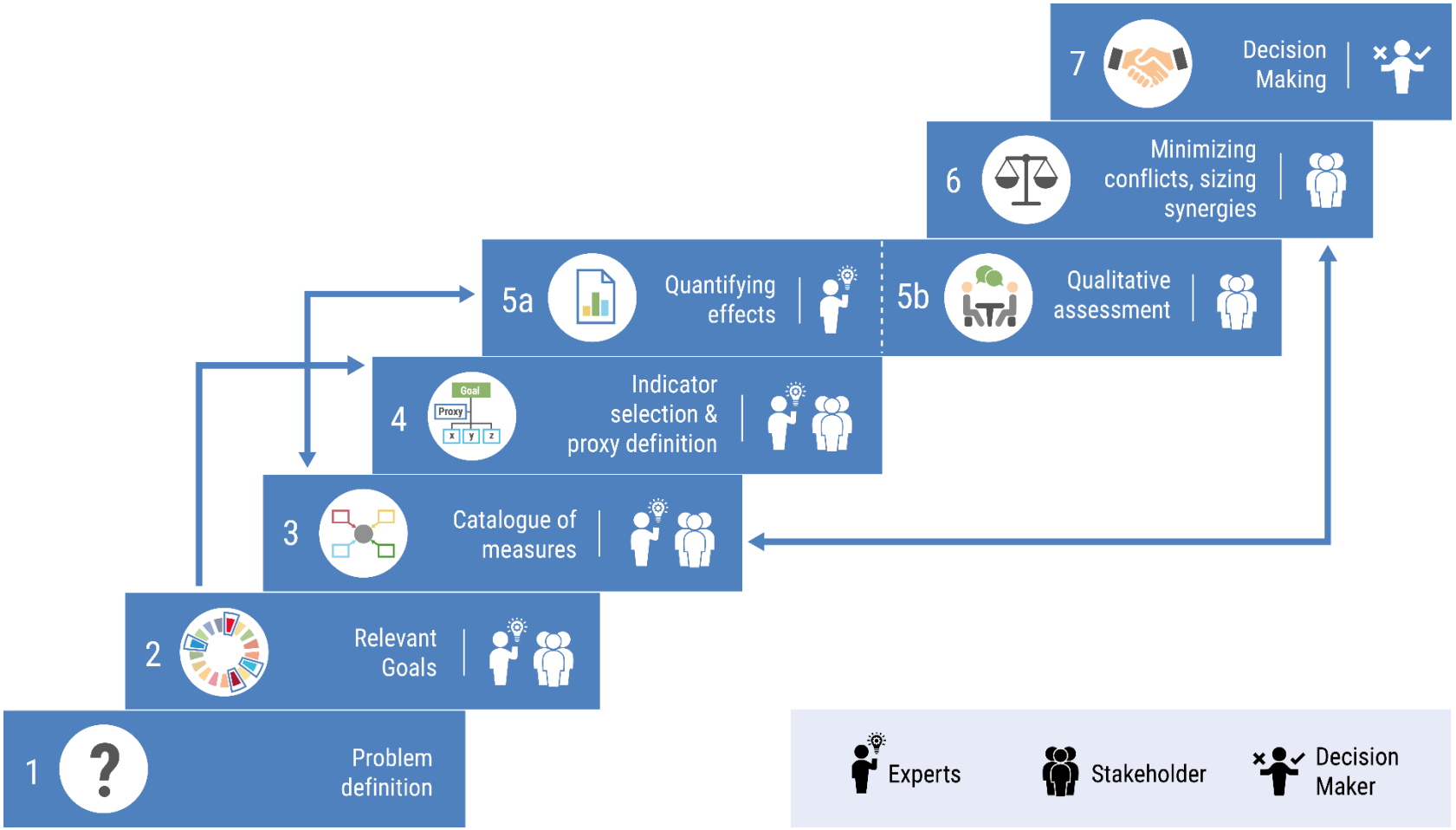
Analysis Questions → Evaluation Indicators → Data Sources → Results / Conclusion

GIZ 2019; OECD 2000

Aims for New Assessment Procedure for Project Planning & Implementation

- Holistic approach by looking on all 17 goals and 169 targets
- Allow context-specific assessment
- Working across different scales
- Participatory involvement of stakeholders to include local knowledge to minimize trade-offs and size synergies
- Be quantitatively as far as possible, but allow qualitative assessment if no projections / model / data are available. Handle data gaps.
- “Make it as simple as possible but not simpler”

Proposed Assessment Procedure



Case studies

Peru

trust

Brazil, Marocco, Germany

WANDEL
Wasserressourcen als bedeutsamer Faktor der
Energiewende auf lokaler und globaler Ebene

Germany

STEER

Pakistan, Turkey, Germany

InoCotton
GROW

Case studies

trust

WANDEL
Wasserressourcen Energiewende als bedeutsamer Faktor der auf lokaler und globaler Ebene

STEER

InoCotton GROW

Case studies

1. Problem definitions

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Population and economic growth lead to increased pressure on water resources and overexploitation of groundwater resources; lack of access to **safe drinking water, sanitation and hygiene**; unsafe wastewater reuse.

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Wasserressourcen Energiewende als bedeutsamer Faktor der auf lokaler und globaler Ebene

Assess direct (on-site) & indirect impacts of electricity production from sugarcane on water resources along the energy supply chain.

STEER

Re-conversion of the Emscher catchment from **heavily-polluted open wastewater channels** to an **ecologically improved watercourse** → focus on sustainable water resources management, participatory landscape planning & nature conservation between 1990 and 2020.

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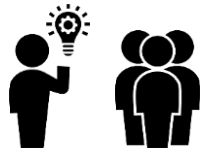
Water scarcity triggers **competition between cotton and food-crop farming** in one of world´s largest irrigation systems, leaving farmers at the tail suffering from insufficient water allocation. Population growth, climate change, and pollution exacerbate water-related challenges.

Case studies

2. Relevant Goals

Case studies

3. Catalogue of Measures



Improve drinking water & sanitation in highlands

Energy sources, Technologies, Land Use etc.

Governance Aspects

Safe wastewater reuse for highland communities & for groundwater recharge in lowland

Achieving Water & Energy Security

Achieving SDG´s

Construction of underground wastewater canal

„Making the most of the current system“

Flood retention & rainwater management

Participatory Urban Water Planning

Renatu-ration

„Many Pennies make a Dollar“

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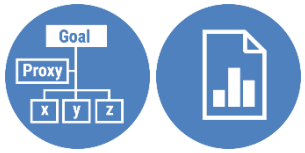


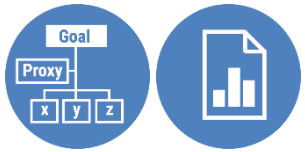
Case studies

4. Indicator Selection & Proxy Definition

5a. Quantitative Effects

2. Relevant Goals	Quanti-tative Assess-ment?	4. Indicator Selection & Proxy Definition	5a. Quantitative Effects		
			Today	Today – Baseline	Tomorrow – Measure implemented
2	X	2.2.2: Prevalence of malnutrition [%]	*	*	*
5	X	Proxy: Participation of women in water management decisions	*	*	*
6	✓	6.1.1: Drinking water: safely managed [%]	a	constant	~ 50
	✓	6.2.1: Sanitation services: safely managed [%]	b	constant	~ 50
	✓	6.3.1: Wastewater: safely managed [%]	0	0	~ 50

** no local data available*



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a)

2) JMP SERVICE LADDER	
Safely managed	0,5%
Basic	26,2%
Limited	37,4%
Unimproved	8,6%
Surface Water	27,4%

b)

2) JMP SERVICE LADDER	
Safely managed	0,0%
Basic	0,0%
Limited	28,2%
Unimproved	0,0%
Open Defecation	71,8%

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a) and b) adapted indicator

ADVANCED SERVICE LADDER - PRIVAT HOMES		ADVANCED SERVICE LADDER - PUBLIC TOILETS		ADVANCED SERVICE LADDER - SCHOOL TOILETS	
Limited	100%				
Basic	90%	Basic	64%	Basic	83%
Safely managed	58%	Limited	100%	Limited	100%
Drinking Water		Sanitation		Hygiene	

Case studies

4. Indicator Selection & Proxy Definition

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WANDEL Wasserressourcen Energiewende als bedeutsamer Faktor der auf lokaler und globaler Ebene

2. Relevant Goals	Quantitative Assessment?	4. Indicator Selection & Proxy Definition	5a. Quantitative Effects		
			Today	2030 – Baseline	2030 – Measure implemented
6	✗	6.3.2: Water quality	**	*	*
	✓	6.4.1: Water use efficiency [%]	75	80	85
	✗	Proxy 6: Water scarcity footprint [L/kWh]	0,63	*	*
7	✓	7.1.1: Access to electricity [%]	100	100	100
	✓	7.2.1: Renewable energy [%]	45,3	45,7	47

** not yet quantified*
*** below drinking water threshold*
**** share of electricity production*

Reference and advanced energy revolution scenario, Green Peace.

Case studies

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5a. Quantitative Effects

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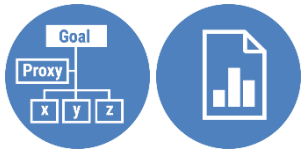

Case studies

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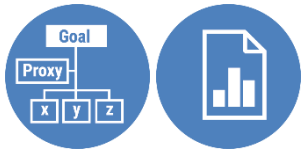
5a. Quantitative Effects

2. Relevant Goals	Quanti-tative Assess-ment?	4. Indicator Selection & Proxy Definition	5a. Quantitative Effects		
			Before conversion	Today – Baseline	2030 – Conversion completed
4	✓	Proxy: Excursions participants – Emscher basin [1]	0	465 - 1.549	> 1.549 (aim)
6	✓	6.3.1: Wastewater [%]	100	100	100
	✓	6.3.2: Water quality [%]	0	38	32
	✓	6.5.1: Integrated water resources management [%]	20	75	95
	✓	Proxy: Total in stream wetted surface [ha] [1]	95	~ 130	168
15	✓	Proxy: Threatened species – IUCN Red list [per site]	0	4	6

[1] Indicator taken from DESSIN (2016): Quantified ESS for 3 mature sites including recommendations for application (D13.1).



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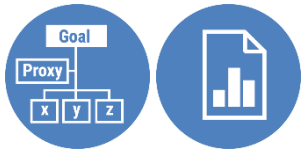

Case studies

4. Indicator Selection & Proxy Definition

5a. Quantitative Effects

InoCotton GROW

2. Relevant Goals	Quantitative Assessment?	4. Indicator Selection & Proxy Definition	5a. Quantitative Effects		
			Today	2030 – Baseline	2030 – Measure implemented
2	✓	Proxy: Yield Cotton [t raw cotton/ha]	2,95	2,95	3,25
	✗	2.1.1: Prevalence of undernourishment [%]	19,9	*	*
6	✓	Proxy: Water productivity [kg/m³ gross irrigation]	0,48	0,48	0,68
	✗	6.4.2: Level of water stress [%]	102,5	*	*
8	✗	Proxy: Cotton farmer average income [€/a]	1.768	*	*

** not yet quantified*

Case studies

4. Indicator Selection & Proxy Definition

5a. Quantitative Effects

InoCotton GROW

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8	✗	Proxy: Cotton farmer average income [€/a]	1.768	*	*

** not yet quantified*

Case studies

5b. Qualitative Assessment

trust

Goals, Targets or Proxys	2030
2: Zero Hunger	Slightly supporting
3: Good Health & Well-Being	Supporting
5: Gender Equality	Slightly supporting
6.4: Water Scarcity	Supporting
8: Decent Work & Economic Growth	Slightly supporting

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Goals, Targets or Proxys	2030
2: Zero Hunger	Likely conflicting
6.3, 6.4: Water quality & efficiency	Likely conflicting
13: Combat Climate Change	Very likely supporting

Goals, Targets or Proxys	2020
4: Quality Education	Slightly supporting
6.3, 6.6: Water quality & ecosystems	Supporting
8: Decent Work & Economic Growth	Slightly supporting
11: Sustainable Cities & Communities	Slightly supporting
15: Life on Land	Supporting

STEER

Goals, Targets or Proxys	2030
2: Zero Hunger	Likely conflicting
6.6: Restore water-related ecosystems	Likely supporting
8: Decent Work & Economic Growth	World cotton price
15: Life on Land	Likely supporting

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Conclusions

- **This is work in progress**: Assessment procedure not yet carried out in a formal planning process
- Findings of all 12 BMBF-GRoW R&D projects in 23 countries underpins **SDG 6 Synthesis Report**:
  - Achieving SDG 6 is essential for progress on all other SDGs and vice versa
  - The time to act on SDG 6 is now
  - Global SDG 6 targets must be localized and adapted to country context
  - Effective water resources management needs more and better data
- **Strength** of assessment procedure suggested:
  - Visible integration of SDG 6 contribution to achievement of other goals
  - Cooperation of relevant stakeholders early on for minimizing trade-offs and sizing synergies

Thank you and enjoy the conference!

InoCotton GROW · MuDak-WRM · WANDEL Wasserressourcen Energiewende als bedeutsame Faktoren der auf lokaler und globaler Ebene · STEER · MedWater · trust

go-CAM · ViWA Virtual Water Values · Globe Drought · iWaGSS · SaWaM

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