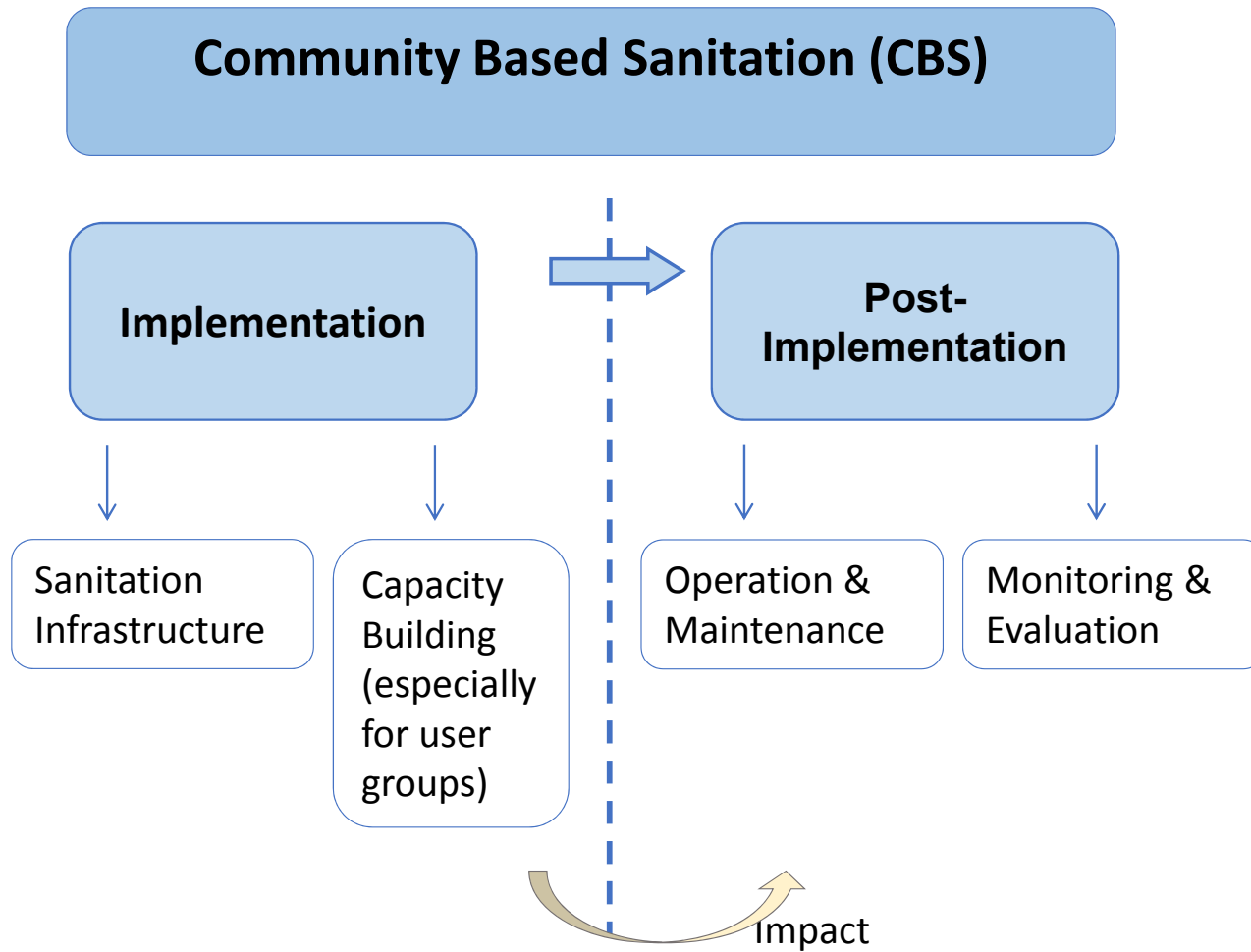


Establishing sustainable Operation & Maintenance and Monitoring & Evaluation schemes for Community Based Sanitation infrastructure: Experiences from Indonesia

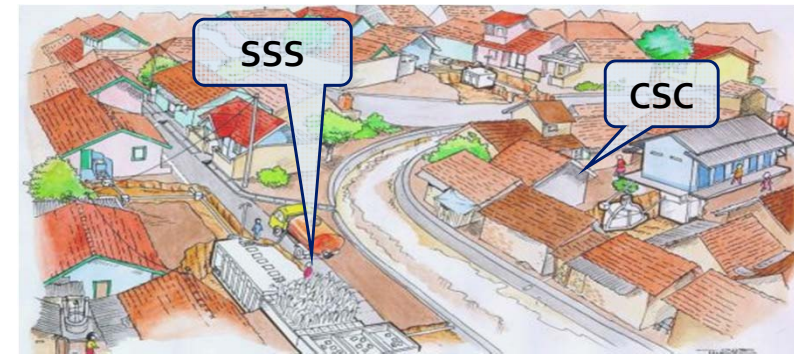
Marina Brueckner

BORDA Indonesia Project Coordinator



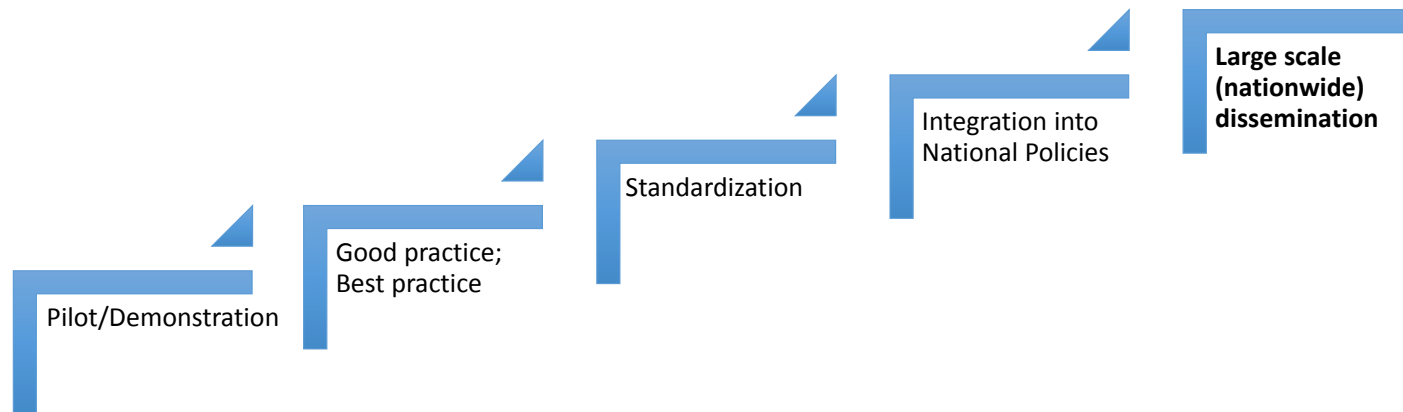
DEWATS CBS Approach

- Community participation and contributions
- Community Based Organization (CBO)
- O&M carried out by community / CBO
- O&M covered through user fees
- Simplified Sewerage System (SSS), Community Sanitation Center (CSC) or Mixed systems



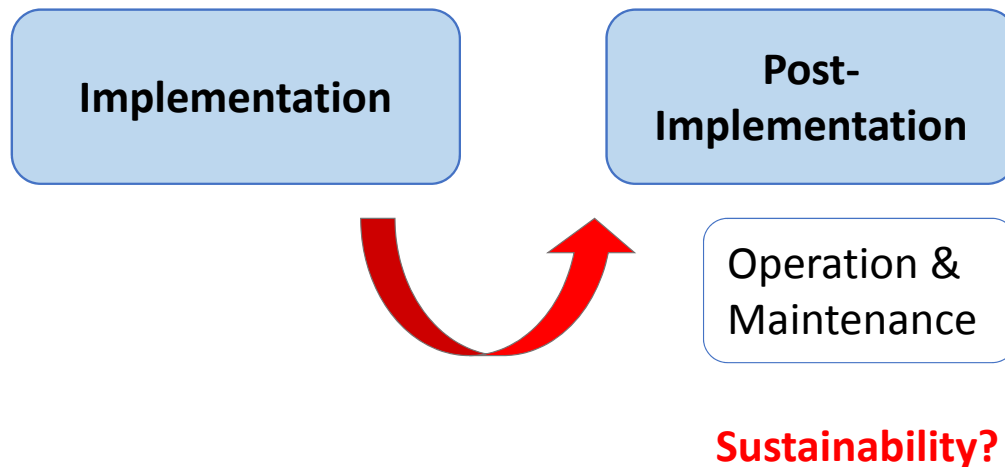
II. Framework conditions – Large scale dissemination

- DEWATS CBS pilots in 2003-2004
 - Replication by National Government: National Sanitation Program SANIMAS (“Sanitation by Communities”)
 - Investment programs and mechanism applying the SANIMAS approach
 - Ca. 13.000 DEWATS CBS implemented by now
 - National Medium Term Development Plan (2015-2019) aims for 100% sanitation access
- > At least another 2.000 DEWATS/year by different stakeholders
- BORDA Indonesia Network: approx. 200-300 DEWATS/year



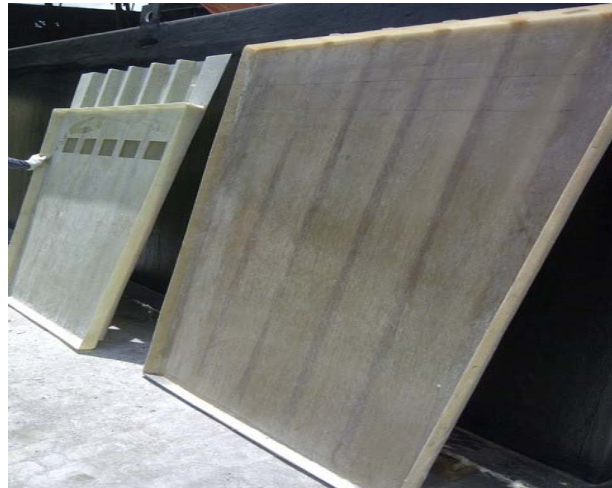
II. Framework conditions – Challenges and risks

- Demand (large scale dissemination) <-> Capacity of implementing institutions
- Infrastructure: Quantity <-> Quality
 - Risk of quality decrease of DEWATS CBS Service Packages
 - Risk of operation failures and major maintenance issues (e. g. repairs of low quality infrastructure)



III. Implementation approaches – Prefabricated DEWATS (Fiber)

- Development of prefabricated, modular system by BORDA and private sector (sector development)
- Supply by certified manufacturers
 - Reduction of construction time
 - Guaranteed, standardized quality technology and implementation
 - Reduction of implementation management and O&M risks



III. Implementation approaches – Application of Social Standard Operation Procedures

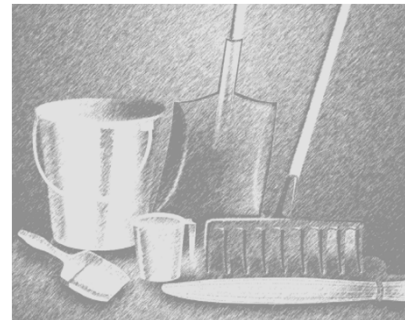
- Community Based Organization (CBO) formation and legalization
- Operator selection
- Operational budget planning
- User fees scheme set up
- Trainings for operators and users
- Linking of CBOs to local governments and to O&M supporting agencies (AKSANSI)
 - Creation of ownership for communities
 - Capacity development for O&M
 - Awareness raising towards local governments



IV. Post-Implementation – Challenges and risks

- Absence of clear regulatory framework on local governments post-implementation role
- Nationwide standardized or institutionalized local governments' O&M contributions don't exist yet
- Assumption: "Community = entity to conduct O&M" <-> CBOs' capacities limited to routine O&M:

Can	Clean community sanitation centre Keep simplified sewer networks unblocked Routine building maintenance (painting etc.) Minor repairs (taps, blockages) Manage operator
Maybe can	De-scum settler Check outlets
Can not	Monitor effluent quality Desludging Do post-disaster repairs



- O&M should be managed by communities and local governments (**Co-Management**)

IV. Post-Implementation approaches – AKSANSI

- Association of Community Based Organization on Sanitation in Indonesia (AKSANSI)
- AKSANSI Secretariat and 28 branches provide technical, social and institutional services for more than 2.000 CBOs and various local governments:
 - Provide technical, social and institutional expertise information on demand (e. g. call center)
 - Capacity building (e. g. operator trainings)
 - Biogas task force (e. g. support biogas utilization)
 - Conduct social optimization and (technical) rehabilitation
 - Facilitation of stakeholder, policy and decision makers meetings, communication and networking
 - Co-Management approach socialization and application enforcement
 - Data Management
 - Monitoring and Evaluation
 - Conduct sanitation and health & hygiene promotion and events



IV. Post-Implementation approaches – Co-Management

- Recognition of AKSANSI and Co-Management on national government level
- Formalization of local governments' O&M contributions (MoUs with 5 local governments)
- Contributions by local governments:
 - Co-financing, e.g. for trainings, stakeholder meetings, publications, rehabilitation of sanitation infrastructure
 - Commitment to co-facilitate events (CBS stakeholder meetings) or to provide office space for AKSANSI branches
- Findings:
 - Co-Management schemes should be developed before large scale dissemination
 - Intense awareness raising and promotion activities towards local governments, policy and decision makers needed

IV. Post-Implementation approaches – Monitoring & Evaluation

- Structured and nationwide systemized governmental M&E system missing
- Access to comprehensive and complete technical, financial or management performance data missing

- AKSANSI M&E on technical, social, financial, institutional performance in order to:
 - Identify nationwide CBS situation or for specific locations as O&M steering tool
 - Inform CBS stakeholders on frequently occurring O&M issues and best practices
 - Lobby CBOs needs towards local governments
 - Develop follow-up proposals and actions (e. g. trouble shooting)
 - Promote DEWATS CBS approach towards various stakeholders, decision makers etc.
 - Further develop O&M (internal and external) training modules
 - Knowledge exchange within partner network for DEWATS Quality Management and to identify required expertise support (e. g. specific technical assistance)



IV. Post-Implementation approaches – Monitoring & Evaluation

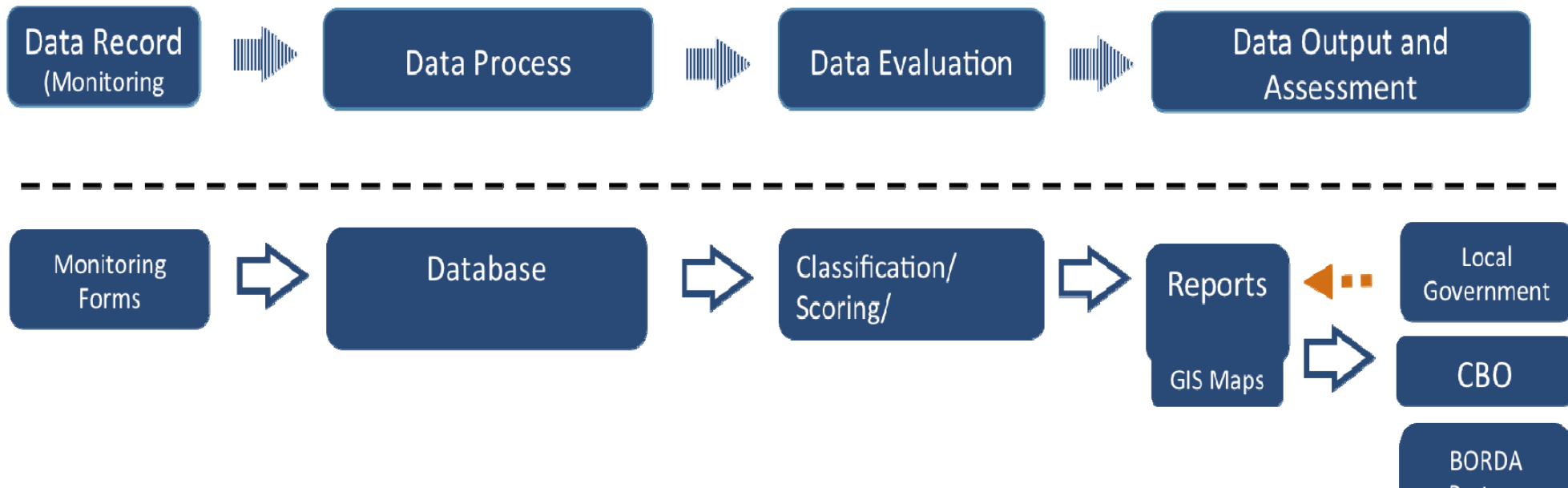
- Monitoring ca. 1 year after implementation
- Ca. 200-300 locations/year
- Systemized long-term monitoring schemes have not been set up yet due to the lack of funds
- Types of Monitoring:
 - Comprehensive on-site monitoring scheme (“Global Monitoring”)
 - “Slim” monitoring (“Pre-Monitoring”) for data completion, Global Monitoring preparation purposes or on demand
- AKSANSI’s database:
 - 2.860 data sets from 2.500 DEWATS CBS locations
 - 725 of these locations have been monitored

Name	Kab/Kota	Sistem	Tipe	Monitoring	%	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR	AS	AT	AU	AV	AW	AX	AY	AZ	BA	BB	BC	BD	BE	BF	BG	BH	BI	BJ	BK	BL	BM	BN	BO	BP	BQ	BR	BS	BT	BU	BV	BW	BX	BY	BZ	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	C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IV. Post-Implementation approaches – Monitoring & Evaluation

AKSANSI M&E Cycle (in brief)

- Comparable nationwide DEWATS CBS monitoring system of this scale has not been set up anywhere else
 - “Learning by doing” experiences +
 - Systematic development of M&E tools, infrastructure, standardized procedures and staff capacity building



Findings

- Set up M&E infrastructure as early as possible!
- Define the purpose of M&E activities -> crucial for indicators and evaluation
- Consider different system types, potential language barriers, cultural conditions etc.
- Data quality (complete, clear, accurate, consistent) is crucial for Quality Management, improvement of planning, implementation, O&M activities and innovations
- Evaluation: complex!
- Standardize internal procedures (SOPs for planning, preparation, sampling, data entry) and set up regular assessment schemes
- Specific staff capacity building modules (technical, social, IT, interview techniques)
- Schemes and software should be flexible for future sanitation technology adaptations, increasing data volumes and changing data output demands
- Long term M&E necessity needs to be communicated to policy and decision makers

THANK YOU!

Marina Brueckner
BORDA Indonesia Project Coordinator

BORDA Indonesia
Jl. Kaliurang km 6.6, Kayen
No. 176, Yogyakarta, Indonesia
Email: brueckner@borda.de

Phone: +62 (0) 274 888 273

www.borda-sea.org