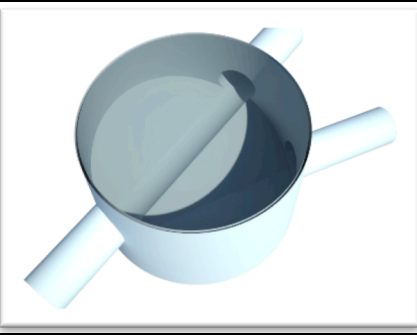
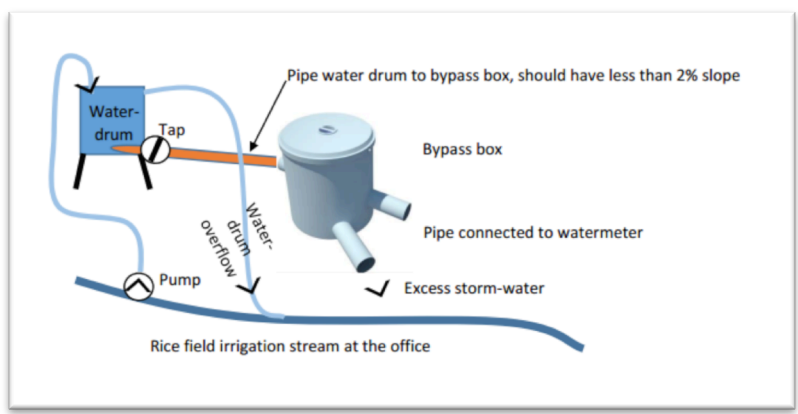
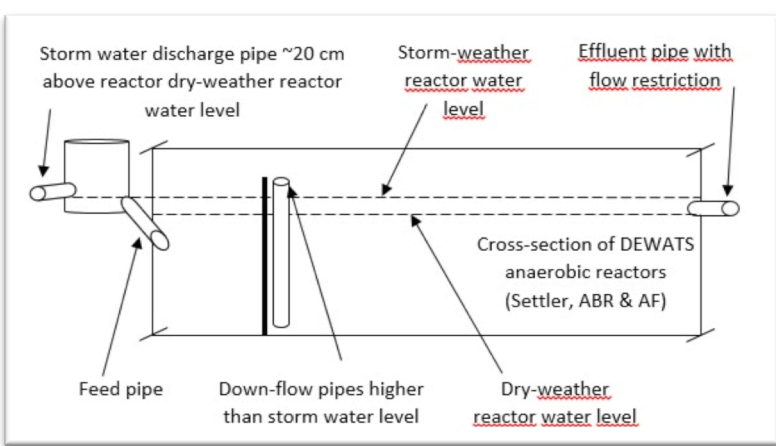


Title	Investigating technical solutions for storm-water intrusion to DEWATS	
Donor Period Budget Researchers	BORDA Sept 2015 – April 2017 8.000 USD Prawisti Ekasanti (technical implementation) Ikatri Wulandari (field investigations) Nicolas Reynaud (technical backstopping)	
Partners	BORDA HQ & BORDA Indonesia	
Project description	<p>Project motivation: Literature unanimously states that hydraulic load is the single most treatment influencing factor for ABRs. However, BORDA R&D investigations have shown that large numbers of DEWATS, and therefore ABRs, are exposed to extreme hydraulic surges during storm-events. Indeed, further results indicate that systems are affected by this since measured sludge activities are significantly lower during wet than during dry seasons.</p> <p>The investigations: Two technical storm-water diversion options are being investigated in Yogyakarta, Indonesia:</p> <p><u>Option 1:</u> Classical leaping weir with reduced piping diameter and partial pipe at DEWATS feed</p> <div data-bbox="661 1469 1092 1528" data-label="Caption"> <p><i>Simplified experimental setup</i></p> </div>  <p><u>Option 2:</u> Limiting the effluent to maximum hydraulic design load by placing an orifice plate on the DEWATS effluent pipe. Excess feed leads to rising water-levels inside the DEWATS while keeping upflow-velocities near-constant. The highly polluted “first flush” is caught within the reactors. After DEWATS water-levels have reached a maximum admissible level, additional storm-water is rejected before entering the plant.</p>  <p>Methodology: Flow measurements at effluent and storm-water discharge points, artificial and natural feed-flow increase, precipitation measurements</p> <p>Expected outcome: The assessment of effectiveness and maintenance requirements of two technical solutions to the problem of storm-water intrusion to DEWATS</p>	
Key words	DEWATS, storm water diversion, tropics, design improvement	