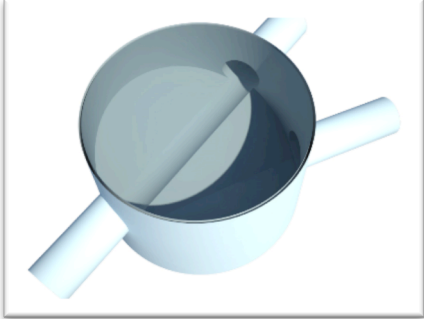
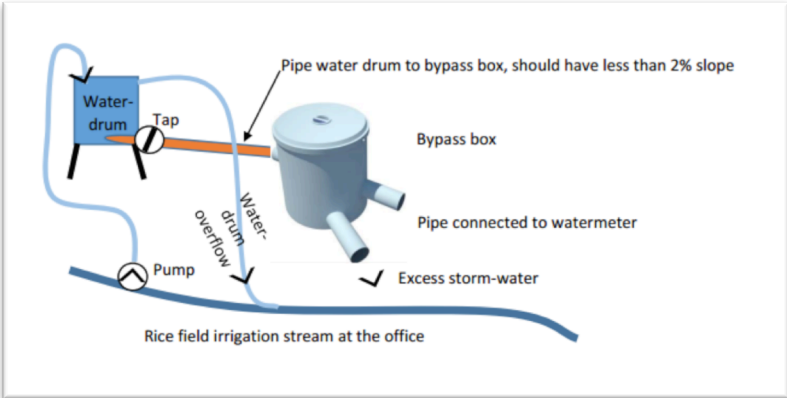
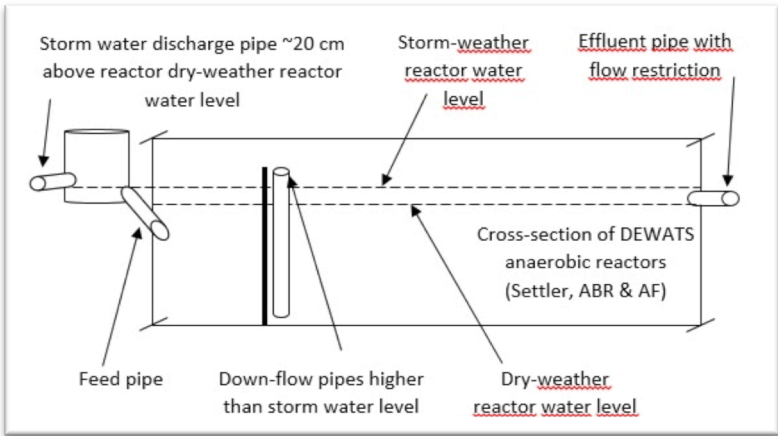


Title	Investigating technical solutions for storm-water intrusion to DEWATS
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Donor	BORDA	
Period	Sept 2015 – April 2017	
Budget	8.000 USD	
Researchers	Prawisti Ekasanti (technical implementation) Ikatri Wulandari (field investigations) Nicolas Reynaud (technical backstopping)	

Partners	BORDA HQ & BORDA Indonesia
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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 style="text-align: center;">  <p><i>Simplified experimental setup</i></p> </div> <div style="text-align: center; margin-top: 20px;">  </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>
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Key words	DEWATS, storm water diversion, tropics, design improvement
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