

VETIVER SYSTEM FOR RIVER AND CANAL BANK STABILISATION

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Principles of the Vetiver System for River Bank Stabilisation

In flood erosion control and riverbank stabilisation the VS uses the deep and high tensile root system to reinforce the bank slopes and its dense and stiff stems to spread and reduce flow velocity .

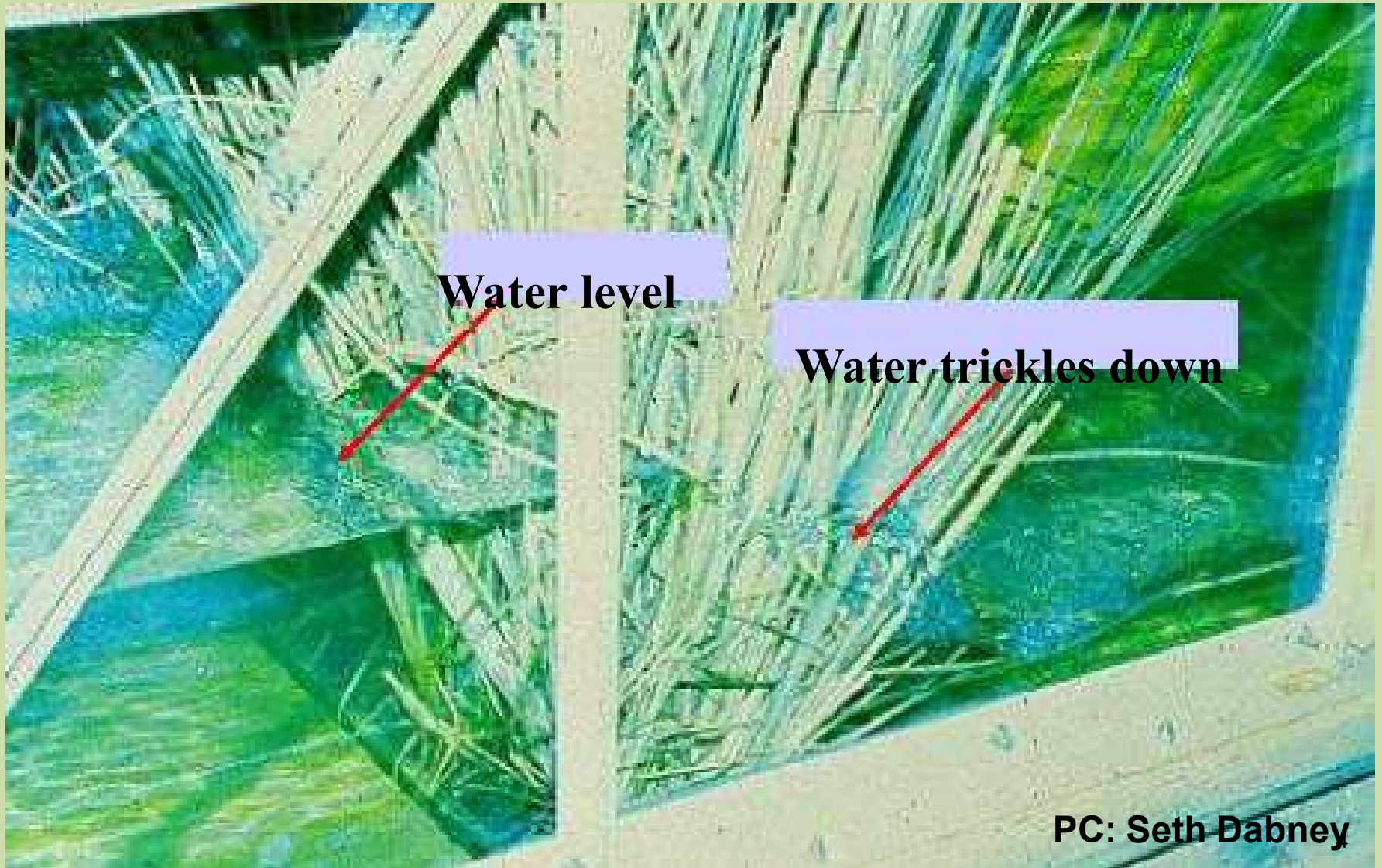
- To stabilise the bank steep gradients, horizontal rows planted on approximate contour lines
- To reduce flow velocity of the strong current therefore preventing scouring from the strong flow, planting of cross rows is needed.
- For maximum effect, the cross rows are orientated at right angle to the flow direction.
- *The spacing of both horizontal and cross rows varies with slope gradient and length, soil type, flow velocity and depth .*



Strong current flattened the native grass but not vetiver on this waterway



Indoor flume test



In flume test a mature hedge can bank up water to 600 mm depth



STREAMBANK STABILISATION IN AUSTRALIA



Severe erosion on the abutment of the Coolumboola Creek bridge near Miles



Vetiver planting following repair of bank.



Cross rows are most effective when planted right angle to flow direction



One month after planting



Six month after planting



There were several big flows during the first summer and no damages were noted. This abutment is now well protected by these mature vetiver.



18 months after planting



Five years after planting





Dam spillway protection



Six months after planting







12/13/17

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Eight months after planting



Mekong Delta Vietnam: Protecting bank against wave erosion



Six months after planting





Assam, India : Doria Bridge approach, Note: grid pattern



Two months after planting



Two years after planting



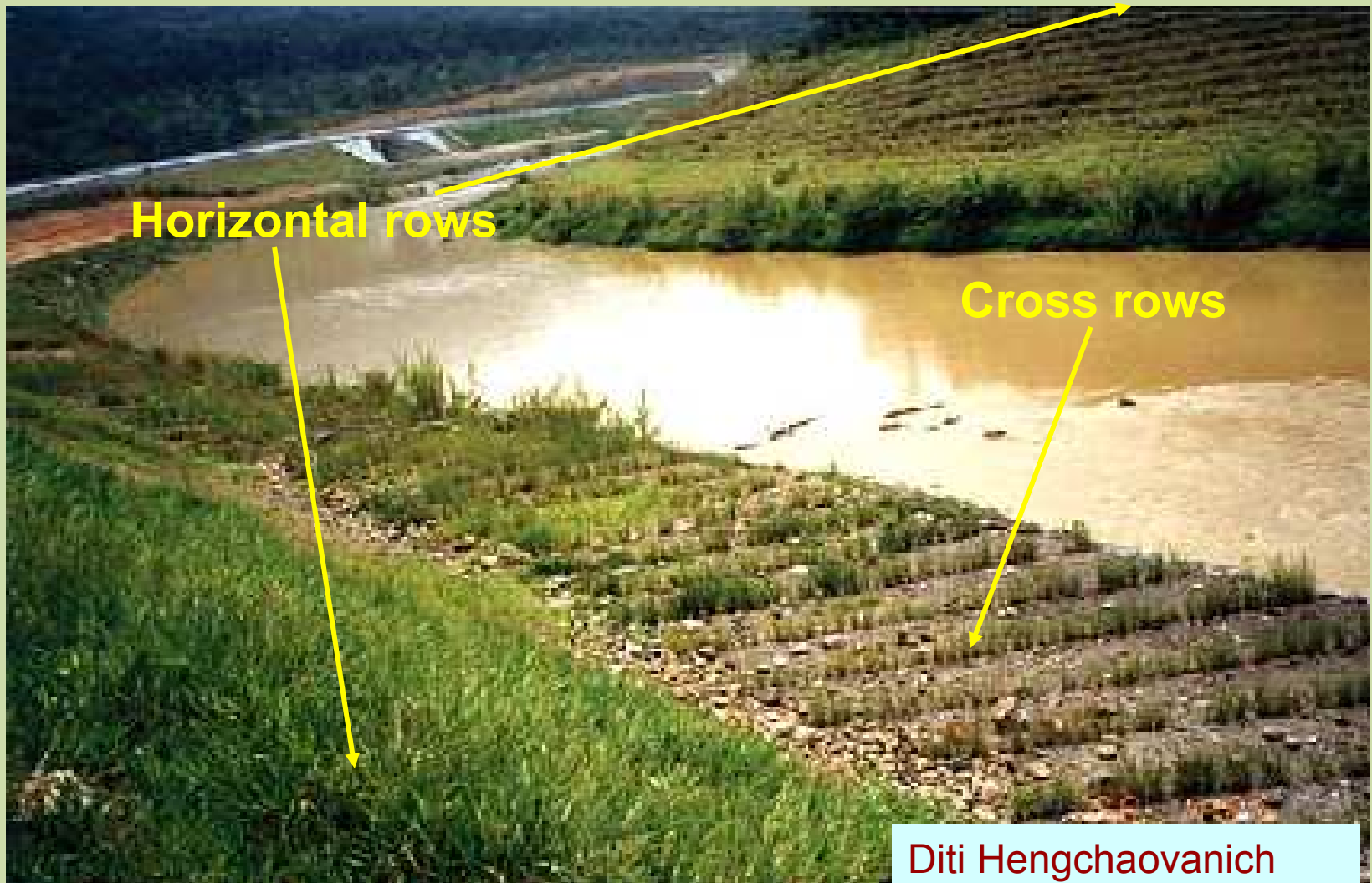
Australia - Badly eroded drainage channel on acidic sulfate



Australia - Four months after planting



Malaysia: An outstanding success, several floods did not damage this river



South Africa: A very well layout provided complete protection against erosion

