

Ecosystem-based coastal protection through floodplain restoration, Vietnam

Klaus Schmitt, *Management of Natural Resources in the Coastal Zone of Soc Trang Province, Vietnam* (2007-2014)

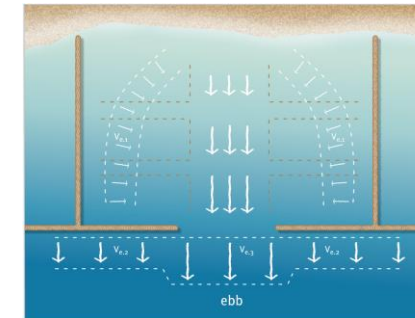
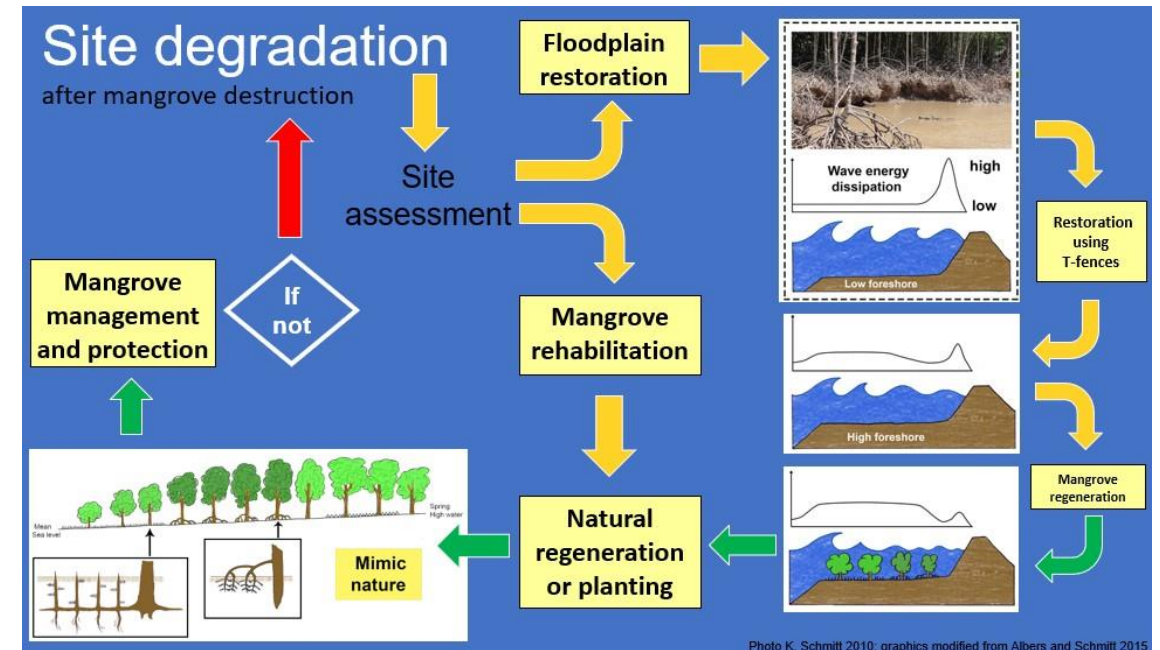
- **What was the initial challenge that required a solution?**
- Along the mangrove mud-coasts of the Mekong Delta, erosion, flooding and storms are cumulative pressures affecting the livelihood and life of thousands, often poor farmers and fishers
- Once the mangroves, which protect the coast, are degraded or destroyed, waves will erode the floodplains and then waves will start eroding the earth dyke leading to dyke overtopping and eventually destruction of the dyke
- Solutions such as strengthening the dyke with sandbags or gabions are only temporary measures which don't address the root cause – a low floodplain due to erosion; therefore, a solution is required which address the root cause



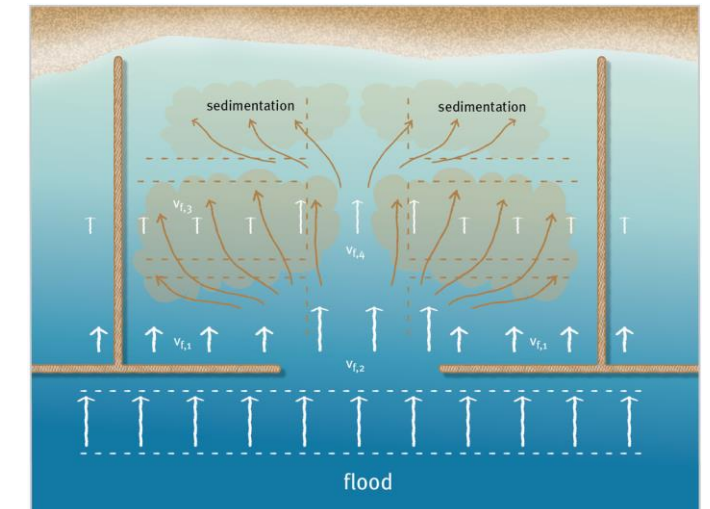
Photos K. Schmitt, 2009

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- What was the Nature-based Solution you found?
- Effective and low-cost restoration of eroded floodplains along mud coasts, using T-shaped, permeable bamboo fences filled with soft brushwood bundles
- In sites where severe erosion has destroyed the mangrove belt, restoration of floodplains is a precondition for mangrove rehabilitation or natural regeneration
- The mangrove forests are an "energy conversion element" of an ecosystem-based approach to area coastal protection

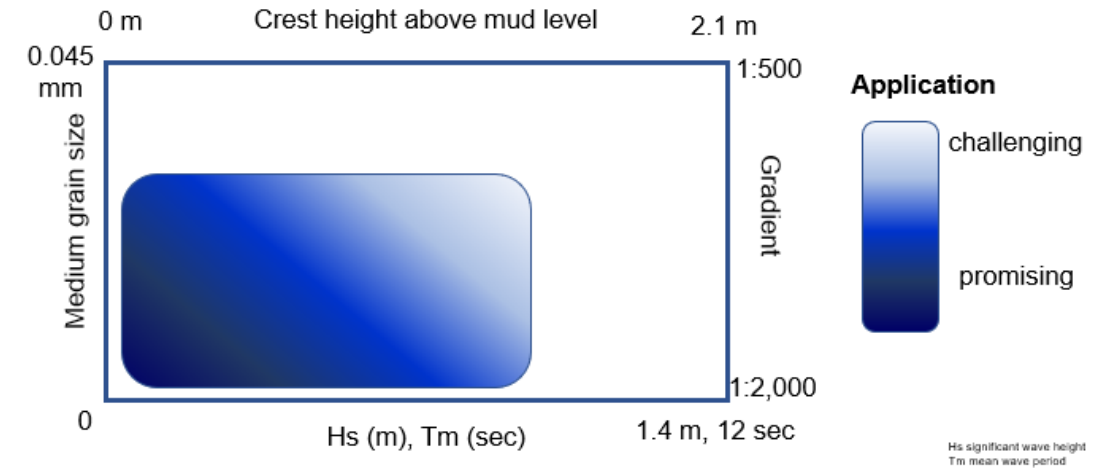


Albers T, Dinh CS, Schmitt K (2013)
http://daln.gov.vn/r/files/ICMP-CCCEP/tai_lieu/Document/Soc-trang/Shoreline-Management-Guidelines.pdf



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- What are 3 lessons learned during the process?
- Permeable bamboo T-fences are effective at restoring eroded floodplains as precondition for mangrove regeneration (rehabilitation)
- This solution only works within a specific set of boundary conditions and must use site-specific and appropriate placement and design specifications
- Applying this solution requires a sound understanding of mangrove ecology, historic changes as well as dynamic coastal processes
- Restoration of floodplains and rehabilitation/natural regeneration of mangroves should not be the only objective; seedlings and forests must be protected from destruction and degradation by involving local communities (co-management)



Graphics K. Schmitt,
Photos © GIZ; seawall
Pham Thuy Duong
2012, breakwater
Russell



Soc Trang,
Natural
regeneration of
Avicennia
(Photos © GIZ)

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- Which funding organisation finances the project?
- Grant from the German Federal Ministry for Economic Cooperation and Development (BMZ)
- From the first bilateral GIZ project (*Coastal Zone Management in Soc Trang Province*) in the south of Vietnam through 2 additional bilateral projects to a Mekong Delta wide programme with co-financing from the Australian Government's Department of Foreign Affairs and Trade (2011-2018) <https://www.giz.de/en/worldwide/18661.html>
- The programme has developed feasibility studies which are preparing the way for investments of EUR 110 million, especially about coastal protection - this involved relevant Ministries and Vietnamese Research and Planning Institutes
- The Coastal Protection for the Mekong Delta online Decision Support Tool provides guidance for the planning of site-specific and appropriate coastal protection measures and for the prioritisation of investments

