MEETING MINUTES

FINAL WORKSHOP

Scientific Study for the development of sustainable measures to protect coastal zones in Tien Giang and Ca Mau provinces

Dissemination of results and recommendations

26 JANUARY 2018

Meeting Hall:
SIWRR (Southern Institute of Water Resources Research)
658 Vo Van Kiet Str., Ward 1,
Dist. 5, Ho Chi Minh City

Participants:

- The French Ambassador
- Representatives of EU in Vietnam
- Representatives of AFD
- Representatives of MARD, MPI, MONRE, MOF, MOST
- LMDCZ project's reviewers
- Representatives of Ca Mau province, Tien Giang province, Binh Thuan province, Phu Yen province, etc.
- Representatives of SIWRR including the management board and project's members
- Scientists from Universities (VNU, WRU, HCMUT, Can Tho University) and Institutes (VAWR, ICOE, IRD)
- Representative from various national and international organisations (GIZ Vietnam, MRC Vietnam, IUCN Vietnam, the World Bank, SECO, IFAD, WFF, UNDP, etc.)
- LMDCZ project members

Opening speeches

Welcome speeches of the French Ambassador, EU Head of Cooperation, Vice Minister of MADR) and Director of SIWRR.

LMDCZ Study results

- Assoc.Prof. Dr Dinh Cong San (Project Coordinator) presented the first section on Introduction, Methodology and Implementation of LMDCZ project
- Dr Patrick Marchesiello (Project Team Leader) presented the Erosion processes and Sediment Budget of LMDCZ
- Assoc.Prof. Dr Dinh Cong San presented the Protection Measures: Tests and Recommendation for 2 study sites Go Cong and Phu Tan
- Dr Patrick Marchesiello summarised the project's results by Conclusions and Recommendations from LMDCZ project

Guest speakers

- Ass. Prof. Van Pham Dang Tri (Can Tho University) gave a presentation on Land subsidence in the Lower Mekong Delta: a number of projects undertaken by CTU was introduced and drew attention to reasons of land subsidence in LMD. The issue is complex and there are multiple causes;
- Representatives of GIZ introduced their project on Shoreline protection in LMD in which a web database is about to complete by mid April 2018;
- Dr Nicolas Gratiot (IRD) presented an example of the Guianas coast on mangrove erosion, five lessons learnt has been drawn that could be useful for LMD;
- Mr. Nguyen Huy Phuong (Representative of VMRC) presented the results of project "Study on the Impacts of Mainstream Hydropower on the Mekong River" undertaken by DHI

Q&A and Discussions
(chaired by Dr Hoang Van Thang – Vice minister of MARD)

- Prof. Nguyen Ngoc Tran (Former Vice Chairman State Committee of Science and Technology) commented on the project:
    - (i) Highly appreciated the project's results
    - (ii) Expected lessons learnt from previous projects that could contribution to LMDCZ project
    - (iii) Tide is very important in the study area, thus should not be overlooked. Two types of tide represented in LMDCZ are diurnal and semi-diurnal,
    - (iv) should pay attention to Cua Lon river connecting the East sea to the West sea that have not seen in the project
    - (v) Assessment of hard engineering projects along the coastlines: for example thermoelectric factory Tra Vinh constructed on the coastal zone has affected on Ba Lai river, (vi) there was a proposal to build a dyke from Vung Tau to Go Cong (app. 32km) a few years ago, however this idea was not supported by the Vietnam Government (PM Nguyen Tan Dung). The question is whether LMDCZ project could include some elements to reassess this proposal, for example to assess impacts of this dyke on shoreline changes and LMD by numerical modelling
    - (vii) Note some tectonic plates in the study area raising questions how these could impact on erosion processes in LMD.

- Mr. Le Van Su (Vice president People Committee of Ca Mau province):
    - (i) Impressed by the project's results although the duration for implementation was too short. The project has achieved several goals although there were a lot of difficulties during the implementation,
    - (ii) Commented on mangrove belts as the 1st and 2nd belts were disappeared, whether there would be enough sedimentation to recovery the mangrove forests,
    - (iii) Commented on protection measures: surprised that Sandbar seems to work more effectively than Breakwaters but the sandbar solution has never been

tried in Ca Mau. Commented on the sandbar design that suggested the distance to the shoreline is about 500m: at this distance it would be too deep so that volume of sand would be huge. Questioned on the cost estimated proposed by the project: 500 USD/m3 might not be close to reality. Also the question on where the sand would be extracted as in general the Vietnamese government does encourage the sand mining activities, even forbid to extract sand at some sites,

  - (iv) Commented on two (2) pilot site recommended by LMDCZ project: supported the idea. Note that at the moment Ca Mau received four (4) proposals on protection measures from 4 institutes/companies in Vietnam. The criteria of these proposal are to reduce waves, to trap sediment and at low cost. However, Ca Mau is facing difficulties of institutional management in Vietnam, for example pilot projects are not allowed to implement using the province's budget. Ca Mau asked supports from MARD that they can propose a pilot project after the FS phase,
  - (v) Note that bamboo fence (such as GIZ's work) is only suitable for sites prone to accretion, if applied to severe eroded site it will not work.

- Prof. Dano Roelvink (Head, Chairgroup Coastal Systems& Engineering and Port Development, IHE Delft) responded to Prof. Nguyen Ngoc Tran:
  - (i) Recommended that in the Feasibility Study phase Cua Lon river should be studied in more detail even though LMDCZ project also noticed special features of this river.
  - (ii) Proposal on constructing a dyke system from Vung Tau to Go Cong is a very big plan that need to be carefully considered to avoid "engineering disaster"
  - (iii) Subsidence issue is not easy to prevent, so we need long-term thinking,
  - (iv) Note that we should not put sandbars too close to the shoreline in order to leave some space for natural development,
  - (v) The cost for sandbar installation can be as low as 2 USD/m^3 (in Europe, depended on the volume and technology to exploit sand), and should come from the shelf (not from rivers) which is shorter distances from the site, for example dredging a huge amount of sand could be efficient. In Phu Tan the shelf is very shallow, so placing sandbar at 500m from the shoreline is reasonable but Go Cong is a little bit different.

- Mr. Ung Hong Nghi (Deputy Director of DARD, Tien Giang province) commented on protection measures for Go Cong proposed by LMDCZ:
  - (i) Prefer breakwater to sandbar. Questioned on sandbar solution whether it can be applicable in Go Cong and what its impacts on environments and aquaculture,
  - (ii) Should have a section called assessment of cost efficiency,
  - (iii) Gave information on the pilot project in Tien Giang: geotube has been installed (finished by the end of 2016 and started monitoring in 2017). At first the gap between two geotube's installation was 120m and it is proved too wide, so it was reduced to 40m. After that, the result shows that accretion is

much better and toe's erosion is not observed – a problem can see clearly in hard structure breakwaters.

- Dr. Hoang Van Thang had some questions for Prof. Dano Roelvink:
  - (i) LMDCZ project only focuses on 2 sites (Go Cong and Phu Tan). However, there are still a lot of problems related to erosion in LMD, for example from Ganh Hao to Ca Mau cape erosion is not only because of mangrove reduction. This issue is also due to sediment deficit. For this site wave reduction is more important than trapping sediment,
  - (ii) The Vietnam Government prioritises study areas in Vietnam Central,
  - (iii) Sediment budget for LMD is declined significantly, together with natural subsidence, therefore sandbar as a protection measure should be used with caution.

- Prof. Dano Roelvink responded:
  - (i) Sediment deficit can be one of reasons linking to retreat of 20 m/year in LMD, but this retreat can be explained by subsidence as well: as bathymetry is very mild, subsidence could lead to significant lost,
  - (ii) Sandbar can be a positive solution but because we have not gotten any experience in practice in LMD, our study suggested that a pilot site is the first step into a right direction to verify our proposal,
  - (iii) We can also use numerical modelling to predict development of mangrove,
  - (iv) Suggested that sandbar can be a "cheap" solution if we keep maintaining/nourishing the site, i.e. regularly supplement sand every year,
  - (v) We need longer simulations to see effects of protection measures.

- Dr. Hoang Van Thang (MARD) commented:
  - (i) Wished to convey the messages/the project results to a larger audience;
  - (ii) Questioned: selection of simulated year has to be typical, trapping sediment is essential but if sediment deficit is a problem then wave reduction should be in priority;
  - (iii) Supported the idea of sandbar solution but need to be cautious,
  - (iv) Questioned: extension of LMDCZ to study other eroded areas in LMD. This is a big question and hope AFD and EU can support further.

- Dr Patrick Marchesillo (LMDCZ team leader) emphasized that protection measures for Phu Tan and Go Cong are different, more difficult in Go Cong due to stronger waves and steeper slopes, as well as sediment deficit from the Saigon-Dong Nai river system.
- Ms. Le Thi Kim Cuc (MARD) noted that (i) data on subsidence need to be reviewed based on recent data available for Vietnam, (ii) the project should focus on study sites in terms of impacts on surrounding areas if the proposed protection measures were implemented, and (iii) a question that whether database from LMDCZ project can be shared as well as updated in future.
- Mr Richy Fabrice (AFD) and Mr Alejandro Montalban (EU) congratulated the project team and confirmed supports of EU and AFD to the Mekong Delta. However,

Vietnam should be proactive to continue studying and investing in the LMD. Concession loans for sustainable development can be reached with help of EU and AFD.

- Dr. Hoang Van Thang (MARD) closed the discussion section with a few remarks:
  - (i) Highly appreciated LMDCZ project, and congratulated on the project achievement,
  - (ii) Pointed out that the project methodology is robust. This project is a higher level of Mekong studies. It has great implications for future research,
  - (iii) Strongly appreciated the valuable review and positive comments of Prof. Kim Dan Nguyen, as well as his important role in LMDCZ project,
  - (iv) Noted that the presentations during the final workshop, including guests' presentations, were extremely interesting that covered the project results and opened up prospects in future studies. MARD would definitely like to keep in touch with all Universities and Organisations studied the Mekong Delta,
  - (v) On behalf of the Vietnam Government, thanks EU and AFD for their supports and hope to receive a continuous support and interest from all researchers and decision-makers to make our Mekong Delta a better place towards sustainable development.

- SIWRR thanked all supports from various organizations, individuals and sponsors for this study. A special thank goes to AFD and EU who made this project possible.

End of the workshop