Department of Irrigation
and Drainage

Report of Meeting

The 33rd Meeting of Thailand - Malaysia Joint Technical Working Group

on the Golok River Mouth Improvement Project

27 – 28 May 2015
Hua Hin District, Prachuap Khiri Khan Province,
Thailand

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Report on the Thirty-Third Meeting of Thailand – Malaysia Joint Technical Working Group on the Golok River Mouth Improvement Project 27 – 28 May 2015 Hua Hin District, Prachuap Khiri Khan Province, Thailand

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AGENDA 1: OPENING ADDRESSES

Acting Sub Lt. Paijane Marksuwan, the leader of the Thailand Delegation, welcomed the Malaysia Delegation to the Thirty-Third Meeting of Thailand–Malaysia Joint Technical Working Group (JTWG) on the Golok River Mouth Improvement Project which was held on 27 -28 May 2015 in Hua Hin, Prachuap Khiri Khan, Thailand

Dato' Ir. Mohd Abdul Nassir bin Bidin, the leader of the Malaysian delegates, expressed his appreciation for the warm welcome and arrangements for the meeting.

Both sides introduced their delegates to the Meeting. The list of delegates is shown in **Appendix A**.

AGENDA 2: ADOPTION OF PROPOSED AGENDA

The meeting adopted the proposed agenda as shown in **Appendix B**.

AGENDA 3: MATTERS FOR INFORMATION

3.1 Report of Monitoring and Evaluation of the Golok River Mouth

Report by JET

1. The pre and post-monsoon survey for the 2014/2015 monsoon season was carried out by the Malaysian side in October 2014 and March 2015 respectively. The surveys and the comparison of the seabed level at the river mouth is as shown in **Appendix C**.
2. From the Joint Hydraulic Study (year 2013), the estimated maximum discharge at the river mouth for the return period of 100yrs, 20yrs 10yrs and 2yrs are 1,400m^3/s, 700m^3/s, 500m^3/s and 400m^3/s respectively. The average net sand transport along the shoreline is approximately 140,000 m^3/yr towards Thai side.

3. The maximum discharge of Golok River at Cableway (X.119A) during non-monsoon season in 2014 is below 100m^3/s meanwhile during monsoon season is between 400 to 460m^3/s. Based on monitoring survey from year 2005 to 2015, only when the discharge is above 700 m^3/s the sediment was able to be flushed out and the river mouth is fully opened. Below than that, the river mouth is either partially open or totally closed.
4. The average bed level for pre and post-monsoon survey is -2.5m MSL from Ch0+325 to Ch0+400. The shallowest point is -2.1m MSL. The design level for the navigation channel is -3m MSL. The affected area (sedimentation) during post-monsoon is slightly lesser (20%) than pre-monsoon.
5. The bed level during post-monsoon survey near the Malaysian tip is shallower than pre-monsoon survey. However around Thai breakwater the bed level is deeper during post-monsoon compared to pre-monsoon (-5.50 m MSL in post monsoon survey). The cross section from tip to tip is as shown in **Appendix D**. The deep channel moves to the Thai side and is closer to the breakwater tip.

Discussion by JTWG

The meeting acknowledged the needs to continue the monitoring surveys and for JET to continue analyzing the dynamic phenomena at the river mouth.

3.2 Maintenance Dredging of Golok River Mouth

Report by JET

1. The maintenance dredging is required base on the following criteria from the Joint Hydraulics Studies:
   a) The cross section of the river mouth between Thai and Malaysian breakwater tips is blocked up to 30% (Thai study for upstream flood control) or
   b) When the sea bed level at the river mouth is -2m MSL or shallower (Malaysian study for navigation).
2. The proposed two (2) dredging criteria are for different purposes i.e. for upstream flood control (Thai side) and navigation (Malaysian side). These criteria are to be maintained as common criteria for different purposes. The criteria are only for the purpose to determine the needs for dredging. The area to be dredged will be determined later, when there is necessity.

3. The structure stability at Thai breakwater tip need to be closely monitored due to the bed level is increasingly deep year by year, the deepest point at CH 0+200 m about -5.50 m MSL in pre-monsoon 2013 and at present about -5.24 m MSL as shown in **Appendix E**. Thai side proposed the slope stability study need to be done in order to determine the maximum allowable depth at the toe of Thai breakwater to ensure its stability.

Discussion by JTWG

The meeting agreed that;

1. At present, there is no need to carry out maintenance dredging according to the criteria by both sides.
2. The criteria by both sides are to be maintained as common criteria for different purposes.
3. The changes of bed level near the Thai breakwater are to be closely monitored by JET to ensure the stability of the structure.

3.3 Cableway Station Across Golok River

Report by JET

1. Mutual Calibration of Rating Curves
   - The common rating curve was established using the same location, which is at the cableway station and common BM as shown in **Appendix F**. The common BM at the cableway station was established by Thai side by transferring the T11 datum to the site.
2. River bank Protection
   - There is no significant sign of river bank instability at the cableway station. No physical work will be carried out for the time being.

Discussion by JTWG

1. The meeting acknowledged the establishment of common rating curve by JET. The common rating curve will be used for any study and improvement works related to the joint program of the Golok River in the future.

2. The meeting agreed that no physical work for river bank protection will be carried out.

3.4 Progress of real time monitoring system in the Golok River Basin, The Joint Website and Flood Forecasting and Warning System of the Golok River Basin

Report by JET

1. Progress of the proposed telemetry stations
   - Malaysian side: The upgrading works of three (3) telemetering stations are expected to finish by September 2015.
   - Thai side: The six (6) new telemetering stations in Thai side will be start collecting data on June 2015. The proposed work program 2015 by Thai side is as shown below;

Table 1: Proposed Work Program by Thai side (year 2015)

ACTIVITIES	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Program setup	→							
Collect data		→	→	→	→	→	→	
calibration			→	→	→	→	→	
sharing ★		→	→	→	→	→	→	→

★ Carefully used

2. Joint Website
   - The hydrological data (existing stations) has been uploaded up to May 2015 by both sides.
   - The additional hydrological data (new stations) are to be shared and uploaded in the Joint Website by March 2016

Discussion by JTWG

1. The meeting agreed that the hydrological data from the new stations are to be shared by both sides not later than March 2016.

AGENDA 4: MATTERS FOR CONSIDERATION

4.1 Joint Hydraulic Modeling Studies

a) Joint Study on Coastal Flooding at Golok rivermouth (Malaysia)
b) Joint Study on Joint Hydraulic Model on the assessment of the Golok River mouth Improvement works along coastal areas (Thailand)

Report by JET

1. Thai side reported;
   - The budget for Feasibility and EIA study is already approved and will start by August 2015. The duration of the EIA study is 12 months.
   - The detailed design will be executed after or a few months (if possible) before the completion of Feasibility Study.
   - The budget for the Physical Modeling Works for the proposed modification of the breakwater is not yet approved.
2. Both sides agreed to exchange experiences of similar projects in order to improve the detailed design and for the benefits of both countries.
3. Malaysian side will carry out the detailed design at the same time as Thai side (after completion of Feasibility study). At the moment, Malaysian side is still waiting for the budget approval.

Discussion and Recommendation by JTWG

1. The meeting agreed on the importance of conducting a Joint Physical Modeling Works to insist the result of mathematical model and appoint JET to carry out in details. The implementation works will be carried out by Thai side with close participation from Malaysian side.
2. The meeting agreed that the material cost of Joint Physical Modeling Works for the proposed breakwater modification at the river mouth will be borne by Thai side. Malaysian side will request the budget for detailed design, and the budget will also include the administrative cost for Joint Physical Modeling Works.

4.2 Rehabilitation program of Transit Point B (TPB)

Report by JET

1. The budget for the physical modelling works for the proposed protection of TPB by Thai side will be included in the Joint Physical Modeling Works-in Agenda 4.1. The proposed two (2) options based on the Joint Hydraulic Model are as follows;
   - Oval Shape, with proposed vertical gabion with frame structure
   - Hexagonal Shape, with proposed vertical gabion with frame structure
2. During the joint site visit on 17th March 2015 to the TPB, the team had noticed a severely corroded spun pile. However, a joint site investigation on 13rd May 2015 has confirmed that it is actually a corroded steel pipe pile which was used as a tide gauge and is no longer in use.

Discussion and Recommendation by JTWG

1. The meeting acknowledged the report by JET regarding the current condition of TPB. As requested by Thai side, the meeting agreed that Malaysian side will provide the tide gauge facilities at TPB.

4.3 Integrated River Basin Management (IRBM) plan for the Golok River

Reported by JET

Refer to the 14th JSC meeting agreed to expand scope of work of JTWG and JET to expand all activities including review the necessary related agencies for both JTWG and JET member.

JET reported the objectives, scope of work and roadmap of the proposed IRBM Plan as shown in **Appendix G** and **Appendix H,** respectively. Considering the wide components of IRBM, Thai side proposed to reduce the scope of work by focusing only on the component of water resources assessment and water demand management for this phase. The other components such as water quality and groundwater will be done in the next phase. The minimum duration to carry out the study of the first phase is 36 months, with at least six (6) technical meeting intervals prior to JET and JTWG meetings.

Discussion and Recommendation by JTWG

1. Malaysian side agreed with Thai's proposal for IRMB plan to only focus on the component of water resources assessment and water demand management at the time being and proposed the road map for IRBM should include recommendation on action plans by Task Force which will be identified by both sides.

2. The meeting agreed to propose to JSC to;
   - Revise the existing scope of existing JTWG to include the components of IRBM.
   - Revise the existing members of JET and JTWG to include other related agencies from both sides.

3. The meeting acknowledged that the implementation of the IRBM Plan will incurred in budget increase due to the additional meeting, activities and members from other agencies.

AGENDA 5 : OTHER MATTERS

5.1 Proposed for JSC Meeting

The meeting agreed to propose Agenda 4.3 IRBM Plan as a matters for consideration to JSC. Taking into consideration on the urgency for JET and JTWG to get an endorsement from JSC, the meeting proposed that the next JSC meeting should be carried out either in March or April 2016.

5.2 Matters to be referred to JSC

Both sides agreed to the draft agenda as follows;

Matters for Information

1) Reports of Monitoring and Evaluation of Golok River Mouth
2) Maintenance Dredging of Golok River Mouth
3) Flow measurement at Cableway Station Across Golok River
4) Progress of Real Time Monitoring System in the Golok River Basin, The Joint Website and Proposed Flood Forecasting and Warning System of the Golok River Basin.
5) Proposals From Joint Hydraulic Studies:-
    a) Study on Coastal Flooding at Golok River Mouth (Malaysia)
    b) Study on Joint Hydraulic Model on the assessment of the Golok River Mouth Improvement works along coastal areas (Thailand)
6) Protection Work at Transit Point B

Matters for Consideration

7) Implementation of Integrated River Basin Management (IRBM) plan for the Golok River

5.3 Proposed date and venue for the next JTWG Meeting

The meeting proposed the date and venue for the next JTWG meeting as follows;

Date: June or July 2016

Venue: a) Kota Kinabalu, Sabah or
b) Miri, Sarawak

AGENDA 6: ADOPTION OF REPORT OF THE MEETING

The meeting agreed to adopt the report of meeting of the Thirty-Third Meeting of Malaysia - Thailand Joint Technical Working Group (JTWG) on the Golok River Mouth Improvement Project.

(Acting Sub Lt. Paijane Marksuwan)
Co-Chairman
Joint Technical Working Group (JTWG)
Deputy Director General
(Engineering)
Royal Irrigation Department
Thailand

(Dato' Ir. Mohd Abdul Nassir bin Bidin)
Co-Chairman
Joint Technical Working Group (JTWG)
Deputy Director General
(Business Sector)
Department of Irrigation and Drainage
Malaysia

APPENDIX A

Attendance List
33rd Meeting of Thailand- Malaysia Joint Technical Working Group on the Golok River Mouth Improvement Project
27 – 28 May 2015
Hua Hin, Prachuap Khiri Khan, Thailand

THAI DELEGATES

1.	Acting Sub Lt. Paijane Marksuwan	Deputy Director General Royal Irrigation Department , Thailand
2.	Mr. Somkiat Prajamwong	Director Office of Project Management Royal Irrigation Department , Thailand
3.	Mr. Thongplew Kongjun	Director Director, Office of Water Management and Hydrology Royal Irrigation Department, Thailand
4.	Mr. Pradab Kradkhempetch	Director Director, Office of Research and Development Royal Irrigation Department, Thailand
5.	Mr. Sakpinit Padungkij	Senior Expert on Environmental Impact Office of Project Management Royal Irrigation Department, Thailand
6.	Mr. Chalum Nilapant	Director, Engineering Management Division Office of Regional Irrigation 17 Royal Irrigation Department, Thailand
7.	Captain Chaiyoth Kongkwan	Deputy Director of Oceanographic Division Hydrographic Department, Royal Thai Navy, Thailand
8.	Major Chutithep Rajchaseeha	4th Forth Army Area, Royal Thai Army, Thailand
9.	Mr. Adisorn Sittikarn	First Secretary Department of Treaties and Legal Affairs Ministry of Foreign Affairs, Thailand
10.	Mr. Attaporn Wonglimaswat	Senior Surveyor Marine Department, Thailand
11.	Ms. Surang Chuensamran	Policy and Plan Analyst Ministry of Agriculture and Cooperatives , Thailand
12.	Mr. Natakorn Jitaroon	Foreign Relations Officer Ministry of Interior , Thailand
13.	Mr. Kanchadin Srapratoom	Director, Foreign Project Management and International Affairs Division, Office of Project Management, Royal Irrigation Department, Thailand
14.	Mrs.Thayida Siritreeratomrong Van Corstanje	Foreign Relations Officer, Professional Level Office of Project Management Royal Irrigation Department , Thailand

15.	Mr. Chaiwat Chantawee	Civil Engineer, Professional Level, Office of Project Management Royal Irrigation Department , Thailand
16.	Mr. Attapan Diloksopon	Civil Engineer, Professional Level, Office of Project Management Royal Irrigation Department , Thailand

IN ATTENDANCE

1.	Mr. Chalearmkiat Kongvichienwat	Director, Office of Regional Irrigation 14 Royal Irrigation Department, Thailand
2.	Mr. Prinya Kamolsin	Expert on Irrigation, (Hydraulic Engineering) Royal Irrigation Department , Thailand
3.	Mr. Waemamu Waehama	Director, Golok River Basin Operation and Maintenance Project, Office of Regional Irrigation 17, Royal Irrigation Department , Thailand
4.	Mr. Somchai Imyoo	Director, Hydrology and Water Management Center for Southern Region Office of Hydrology and Water Management Royal Irrigation Department , Thailand
5.	Mr. Sakchai Kulsuwan	Irrigation Engineer, Royal Irrigation Department , Thailand
6.	Ms. Yukol Numas	Public Relations Officer, Senior Professional Level Royal Irrigation Department , Thailand
7.	Ms. Kanitha Sapphaisan	First Secretary Department of Treaties and Legal Affairs Ministry of Foreign Affairs, Thailand

Meeting Coordinators

1.	Ms. Soontaranee Sukawat	Foreign Relation Officer, Senior Professional Level, Office of Project Management Royal Irrigation Department, Thailand
2.	Mr. Piriya Thumyago	Foreign Relation Officer, Practitioner Level, Office of Project Management Royal Irrigation Department, Thailand
3.	Ms. Piyachanok Isro	Foreign Relation Officer, Practitioner Level, Office of Project Management Royal Irrigation Department, Thailand
4.	Ms. Wannisa Natoworanun	Foreign Relation Officer, Practitioner Level, Office of Project Management Royal Irrigation Department, Thailand

MALAYSIAN DELEGATES

1.	Dato' Ir. Mohd Abdul Nassir bin Bidin	Deputy Director General (Business Sector), Department of Irrigation and Drainage Malaysia
2.	Ir. Leong Tak Meng	Director Coastal Zone Management Division Department of Irrigation and Drainage Malaysia
3.	Dato' Ir Hj. Hanapi bin Mohamad Noor	Director River Basin Management Division, Department of Irrigation and Drainage Malaysia
4.	Ir. Hj. Shahimi bin Sharif	Director Department of Irrigation and Drainage Kelantan
5.	Hj. Suhaim Mamat	Under Secretary Water Resources, Drainage and Hydrology Division Ministry of Natural Resources and Environment Malaysia
6.	Ir. Gapar bin Asan	Deputy Director Water Resources Management and Hydrology Department of Irrigation and Drainage Malaysia
7.	Mr. Mohd Sor bin Othman	Deputy Director Coastal Zone Management Division Department of Irrigation and Drainage Malaysia
8.	Mr. Abdul Razak bin Abdul Rashid	Project Engineer Kelantan Federal Project Implementation Unit Department of Irrigation and Drainage Malaysia
9.	Mr. Wan Mazuki Wan Ismail	Deputy Director (Technical) Kelantan Federal Development Department Implementation Coordination Unit Prime Minister's Department Malaysia
10.	Mr. Sim Ching Yen	Principal Assistant Director, Boundary Affairs Division, Survey and Mapping Department Malaysia
11.	Captain Rosli bin Ahmad	Marine Officer, Marine Department Malaysia
12.	Mr. Mohd Azman bin Ghazali	Assistant Director Regional and Environment Division Economic Planning Unit of Kelantan
13.	Ms. Aisyah Sakina Ahmad	Engineer Coastal Zone Management Division Department of Irrigation and Drainage Malaysia

APPENDIX B

PROVISIONAL AGENDA

AGENDA 1: OPENING SESSION

AGENDA 2: MATTERS FOR INFORMATION

2.1 MONITORING AND EVALUATION OF GOLOK RIVER MOUTH

2.2 MAINTENANCE DREDGING OF GOLOK RIVER MOUTH

2.3 FLOW MEASUREMENT AT CABLEWAY STATION ACROSS GOLOK RIVER

2.4 REAL TIME MONITORING SYSTEM, JOINT WEBSITE AND FLOOD FORECASTING AND WARNING SYSTEM FOR GOLOK RIVER BASIN

AGENDA 3: MATTERS FOR CONSIDERATION

3.1 JOINT HYDRAULIC STUDIES:-

- STUDY ON COASTAL FLOODING AT GOLOK RIVERMOUTH (MALAYSIA)
- ASSESSMENT OF THE GOLOK RIVER MOUTH IMPROVEMENT WORKS AND ADJACENT COASTAL AREAS (THAILAND)

3.2 PROTECTION WORK AT TRANSIT POINT B

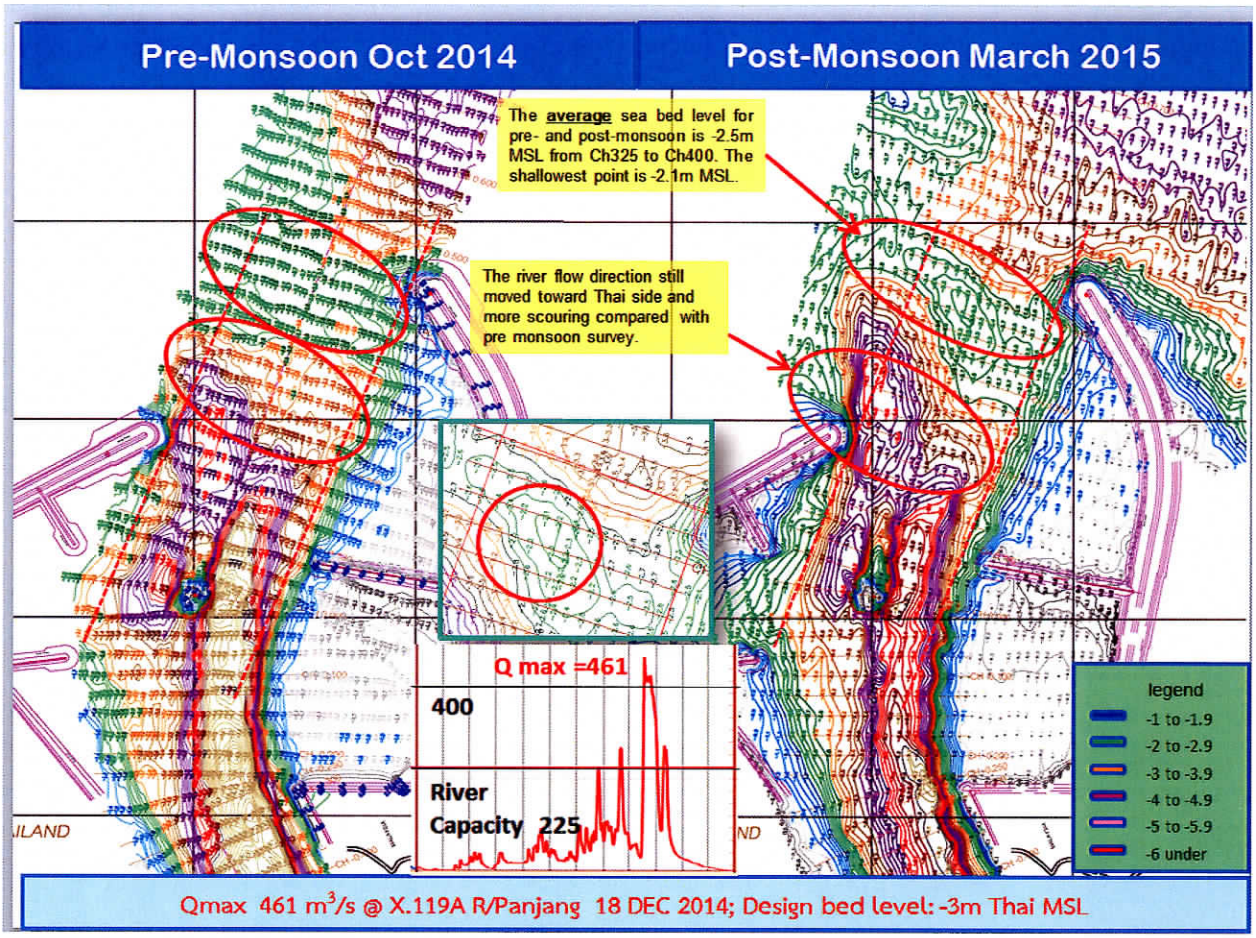
3.3 INTEGRATED RIVER BASIN MANAGEMENT (IRBM) PLAN FOR GOLOK RIVER

AGENDA 4: MATTERS TO BE REFERED TO JSC

AGENDA 5: ADOPTION OF MINUTES OF MEETING

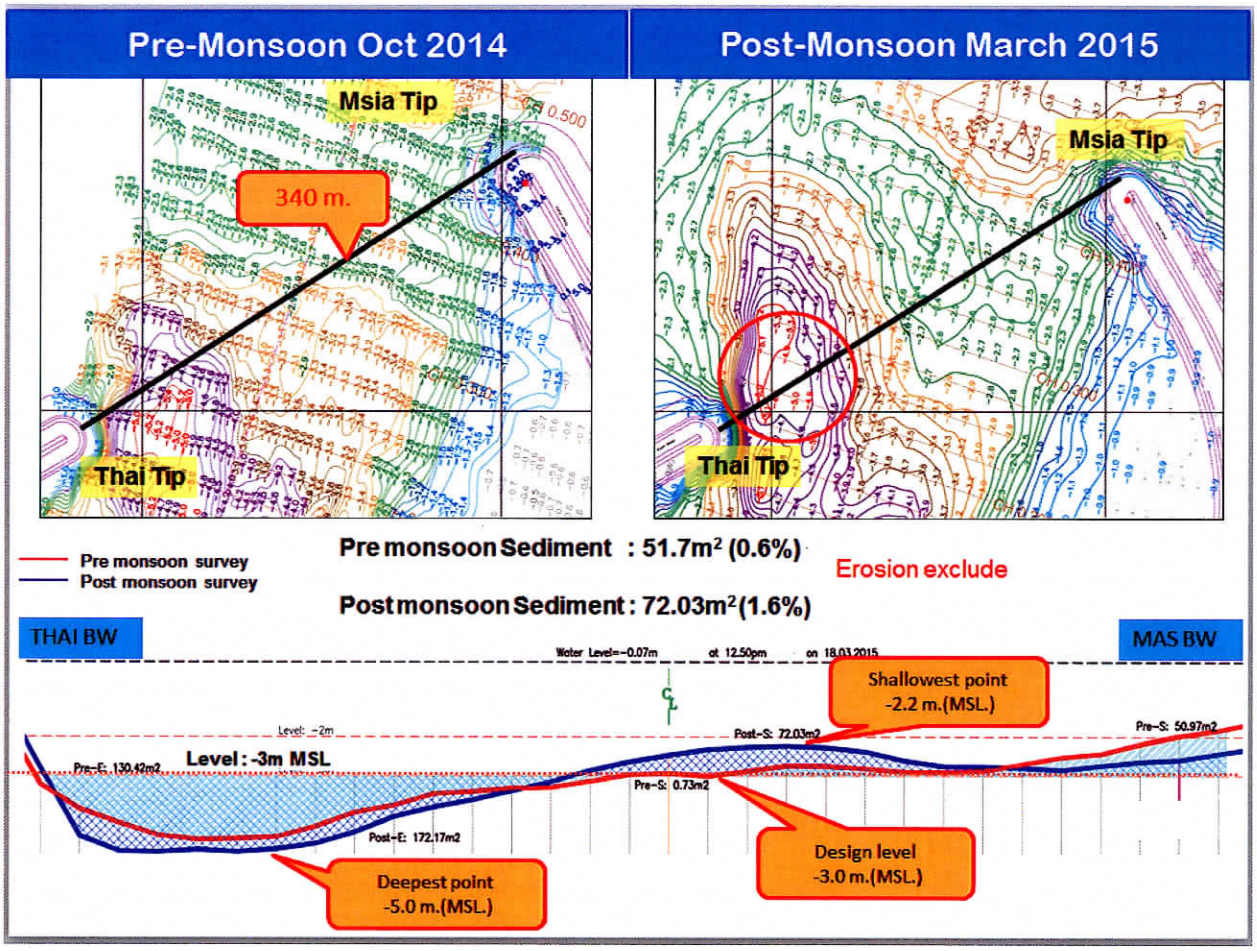
APPENDIX C

THE COMPARISON OF THE SEABED LEVEL AT THE RIVER MOUTH



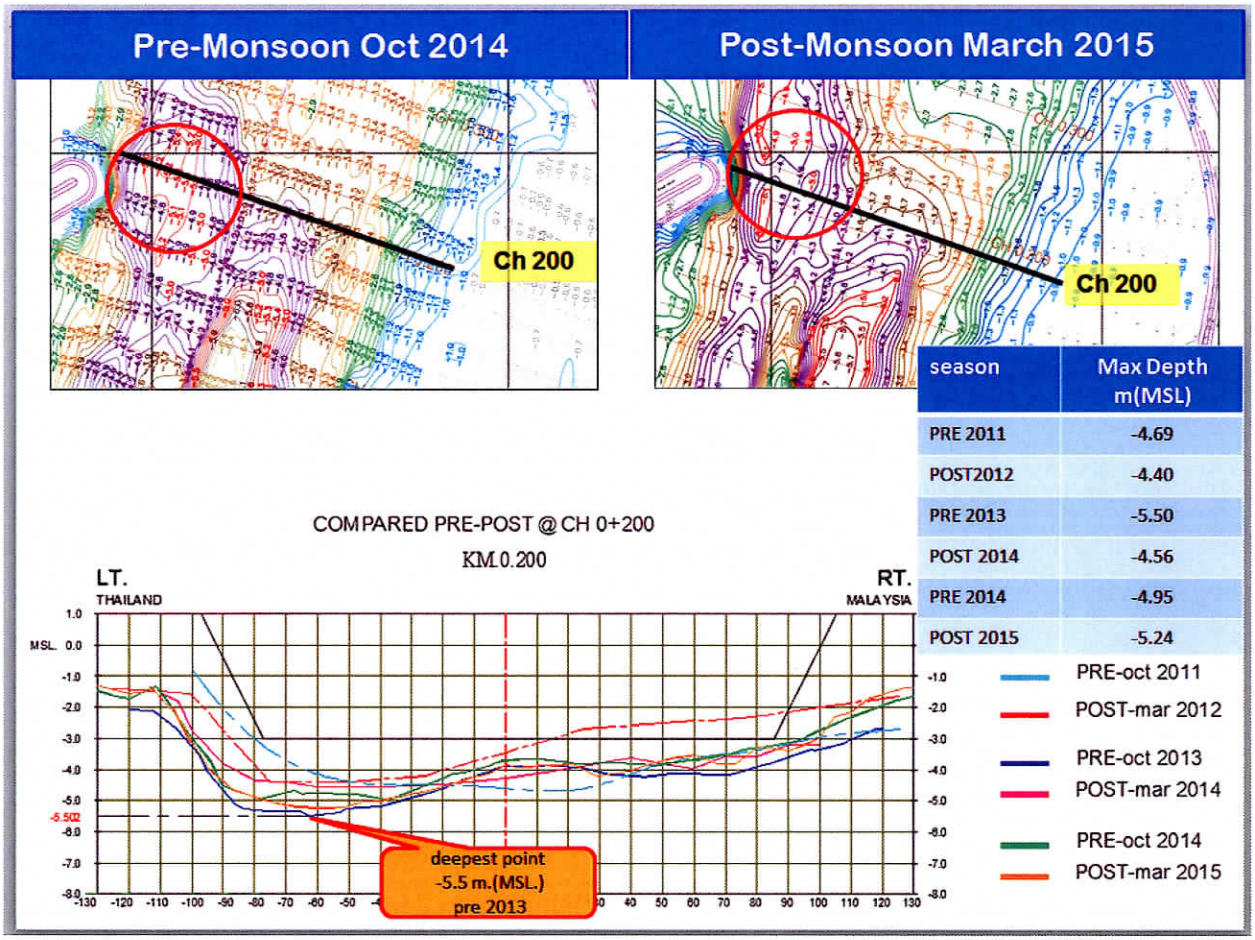
APPENDIX D

THE BED LEVEL AND CROSS SECTION FROM TIP OF MALAYSIAN AND THAI BREAKWATER



APPENDIX E

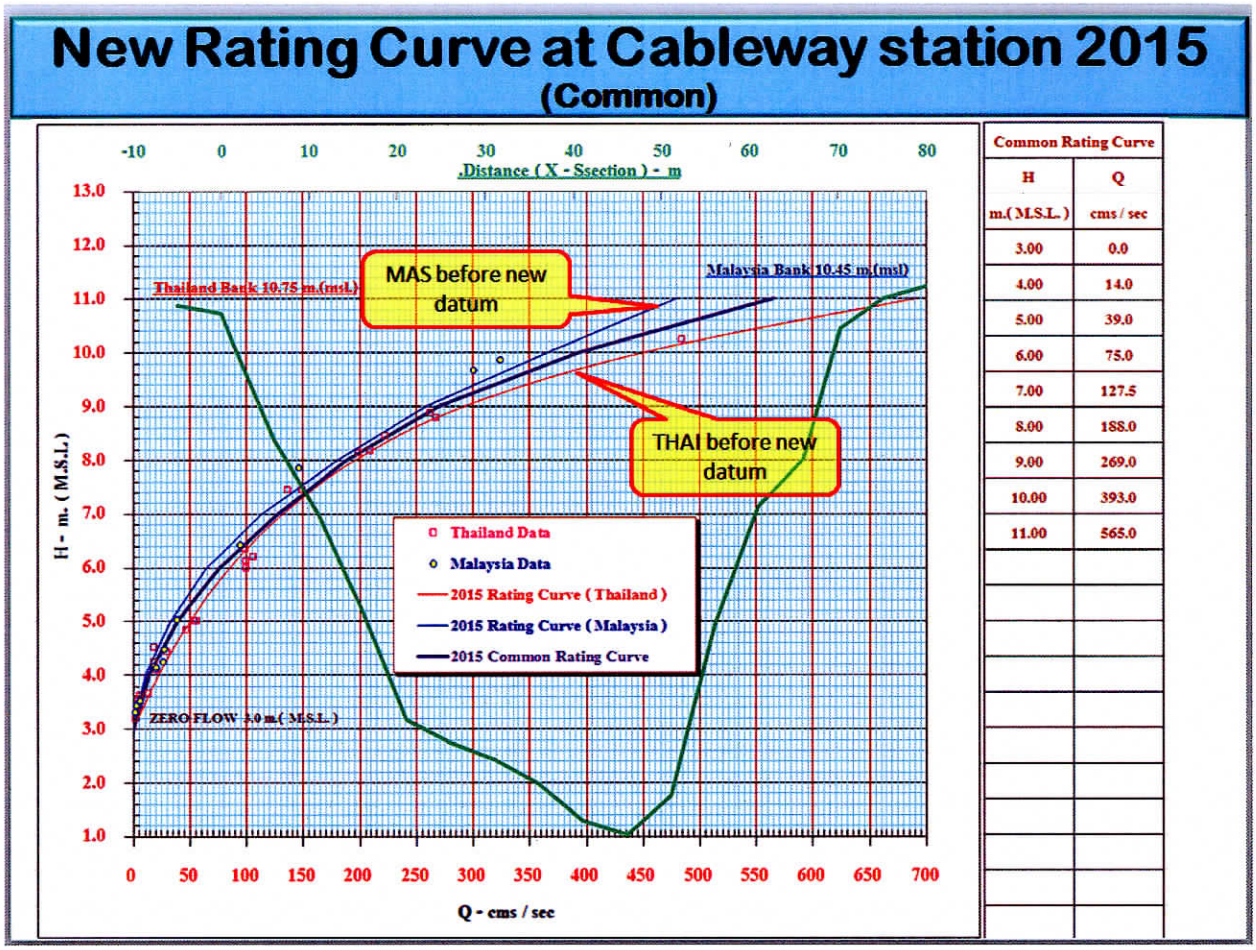
THE BED LEVEL AND CROSS SECTION AT CH 0+200



season	Max Depth m(MSL)
PRE 2011	-4.69
POST2012	-4.40
PRE 2013	-5.50
POST 2014	-4.56
PRE 2014	-4.95
POST 2015	-5.24

APPENDIX F

THE COMMON RATING CURVE AT THE CABLEWAY STATION



Common Rating Curve	
H	Q
m.(M.S.L.)	cms / sec
3.00	0.0
4.00	14.0
5.00	39.0
6.00	75.0
7.00	127.5
8.00	188.0
9.00	269.0
10.00	393.0
11.00	565.0

INTEGRATED RIVER BASIN MANAGEMENT (IRBM) PLAN FOR GOLOK RIVER
OBJECTIVES AND SCOPE OF WORK

GOLOK IRBM Objectives

- Overall Objectives of IRBM Plan
  - To provide **report of the integrated river basin management current situation** and **identify problems and their possible causes** by reviewing the study of Golok River Master Plan to be updated and covered more essential issues on integrated river basin management

- Specific Objectives of integration
  - To preliminary **assess the relation of rainfall, river discharge, river mouth openning and sea water elevation and flood problem**
  - To assess hydrological and current water resources development from **upstream to downstream**
  - To assess **flood and drought** problems
  - To study the potential of **surface and groundwater** availability and development potential
  - To investigate **sediment** locations in main river and its tributaries (if secondary data is available)
  - To assess current **water resource** uses and **land resource** development
  - To assess **current water uses quantity and the water quality** and their relation
  - **To enhance cooperation, transparency and trans boundary management of stakeholders (Thailand and Malaysia)** by
    - Sharing related data and information of current situation such as sub basin information, hydrological data, existing river structures –irrigation structures, flood forecasting and warning system etc and
    - Carrying out the joint assessments and studies

APPENDIX H

INTEGRATED RIVER BASIN MANAGEMENT (IRBM) PLAN FOR GOLOK RIVER ROAD MAP