



DEPARTMENT OF IRRIGATION AND DRAINAGE

REPORT ON THE THIRTY-FIRST MEETING
OF
THAILAND – MALAYSIA
JOINT TECHNICAL WORKING GROUP
ON
GOLOK RIVER MOUTH IMPROVEMENT PROJECT

HUA HIN, THAILAND
2 – 3 JULY 2013

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**Report on the Thirty-First Meeting of
Thailand – Malaysia Joint Technical Working Group
on the Golok River Mouth Improvement Project
2 – 3 July 2013
Hua Hin, Prachuap Khiri Khan, Thailand**

AGENDA 1: OPENING ADDRESSES

Mr. Chachawal Punyavateenun, the leader of the Thai Delegation, welcomed the Malaysian Delegation to the Thirty-First Meeting of Thailand–Malaysia Joint Technical Working Group (JTWG) on the Golok River Mouth Improvement Project which was held on 2–3 July 2013 in Hua Hin, Prachuap Khiri Khan, Thailand.

Dato' Ir. Nordin bin Hamdan, the leader of the Malaysian Delegation, 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

Background

The Joint Evaluation Team (JET) reported to the meeting that the latest pre- and post-monsoon survey for the 2012/2013 monsoon season was carried out by the Malaysia side in October 2012 and March 2013 respectively.

Malaysian side has determined the datum relationship between Thailand and Malaysia

| Reference Benchmark | Thailand MSL | Malaysia | |
|---------------------|--------------|----------|---------|
| | | MSL | NGVD |
| T11 | +2.7337 | +2.9737 | +2.7837 |
| Difference | - | +0.24 | +0.05 |

Remark:

NGVD – National Geodetic Vertical Datum;

MSL – Mean Sea Level

Current Status

- (i) Based from the latest pre monsoon survey in Thai MSL, the sedimentation occurred at both sides of the breakwater head.
- (ii) The post monsoon 2013 survey showed that overall, the river mouth was naturally able to maintain its design level. The observation also showed that there was an increase in erosion occurring at both sides of breakwater head and Transit Point B.
- (iii) The navigational channel is wider on the Malaysian side compared to before monsoon. There is, however, some sedimentation accumulated at center of the river mouth (from Ch0.350 to Ch0.400) towards the Thai side.
- (iv) The same datum to be used for future surveys to avoid any misinterpretation for the comparison of survey results across different monsoon cycles. It is suggested that the co-reference datum to be located at TPB for convenient accessibility to surveyors of both sides. The new datum is to be transferred from the benchmark at T11 at the Thai side.
- (v) The meeting agreed that for the next surveys by the Thai side, the surveyor will provide the reference datum at TPB by transferring the elevation from T11. The commencement of work should be informed and included the observer from both sides.

3.2 Proposed Maintenance Dredging of the Golok River Mouth

There is no need to carry out a maintenance dredging at this stage. However, this should be confirmed by the joint hydraulic studies findings.

3.3 Cableway Station across the Golok River

Mutual Calibration

- (i) The meeting agreed to measure and plot of the Golok river cross section at the cable way station for every mutual flow measurement and calibration to observe river cross section changes.
- (ii) Engineering survey should be done twice a year in order to attain more accurate river cross section especially for pre-monsoon and post-monsoon, using T11 as benchmark.
- (iii) The mutual flow measurement and calibration for both Sg.Golok at Rantau Panjang and Sg Golok at Kampung Jenob should continue until September 2013 using datum from the Thai side.

Mutual Equipment Calibration

The proposed schedule for the Hornet system gauging equipment calibration and maintenance of the Hornet system gauging equipment as follows;

| Description | Schedule | Proposed date |
|---|-----------------------------|---------------------------------------|
| Hornet System Gauging Equipment Calibration | | |
| Hoist Cable | Yearly physical calibration | 30 November 2013 (by DID) |
| Traveller Cable | Yearly physical calibration | 30 November 2013 (by DID) |
| Current meter | Yearly Calibration | 30 November 2013 by RID Hydraulic lab |
| Maintenance of Hornet System Gauging Equipment | | |
| Greasing of hoist gear system | Yearly | 30 November 2013 |
| Greasing main cable | Yearly | 30 November 2013 |

Recommendation by JTWG:

The datum should be based on T11 to produce a common rating curve. The Thai side will provide the value of Temporary Benchmark (TBM) at the cableway station at Rantau Panjang using the datum from T11 to the Malaysian side.

The meeting suggested that adoption of same datum at Cableway station is necessary and location should be clearly identified. Detailed should be discussed further in JET meeting.

3.4 Progress of real time monitoring system in the Golok River Basin and the joint website

- (i) The Hydrology data record for pre- and post- monsoon, starting from pre-monsoon October 2012, duration 6 month.
- (ii) The long term data record could be shared in numeric table form/spreadsheet for downloading.
- (iii) IT personnel to be included in cooperation team of the joint website is as follows;

| | Contact Person | Division |
|-----------------|---------------------------------|---|
| Malaysia | Ms. Aisyah Sakina Ahmad | River Basin and Coastal Zone Management Division, DID Malaysia |
| | Mdm Paridah Anun Tahir | Water Resources Management and Hydrology Division, DID Malaysia |
| | Nur Murniwati binti Abdul Majid | IT Personnel |

| | | |
|-----------------|-------------------------------|--|
| Thailand | Mr. Somchai Imyoo | Hydrology and Water Management Center for Southern Region, RID Thailand |
| | Ms.Chawee Wongprasittiporn | Office of Project Management, RID Thailand |
| | Mrs.Benjamas Aryameang | IT Personnel |

3.5 Rehabilitation of Transit Point B

The rehabilitation work at Transit Point B was completed in July 2012.

The Malaysian side suggested to set up joint inspection team to inspect Transit Point B once a year.

The meeting noted and suggested this should be informed to JET in advance in order to cooperate the concerned agencies to conduct the inspection.

3.6 Joint Hydraulic Modeling Studies

Progress of the Thai side

The Thai side presented the progress that at present, Progress 2 is submitted. Data collection and data sharing of both sides is completed. For data measurement, at present current measurement is carried out at the location ADCP3 (1 km offshore on Thai side).

Coastal models used for study are as follows;

Regional scale

1. Wave modeling by MIKE 21 SW model: Regional scale cover the area of the South China Sea and the Gulf of Thailand using NCEP/CFSR wind field from NOAA, USA as the input. Model calibration conducted by using the wave measurement e.g., significant wave height and wave period by the deployed buoys in the Gulf of Thailand. The results at Songkhla buoy show that the significant wave height are less than three meters and the mean wave period are less than six seconds. The study is complete.

Large / Local Scale

2. Current modeling by MIKE 21 HD model: There are two study areas
 - a. Area of the Gulf of Thailand for large scale. The study is complete.
 - b. Area of the Golok River Mouth to five kilometers alongshore in Malaysia (southward) and 25 kilometers alongshore in Thailand up to Bang Nara River (northward). The study status is ongoing for the preparation of input data.

3. Sediment transport modeling by MIKE 21 ST model: The boundary covers the area of the Golok River Mouth to five kilometers alongshore in Malaysia (southward) and 25 kilometers alongshore in Thailand up to Bang Nara River (northward).
4. Shoreline erosion and sedimentation modeling by GENESIS model: There are two study areas
 - a. Coastline from Nam Bang or at Groyne No. 27 to Groyne No. 30.
 - b. Coastline from Groyne No. 30 to the north approximately 11 kilometers at Bang Nara River Mouth.

River models used for study are as follows;

1. NAM model for Rainfall-Runoff Modeling.
2. MIKE 11 HD for flood study in the Golok River.

Problem and Obstruction: Delayed beyond schedule for 5% due to the time-consuming on the data sharing from both sides, adjust datum and digitized xyz data format. All necessary data for modeling tasks have been shared and almost complete.

The Thai side requests any reports from the Malaysian side that concern Transit Point B rehabilitation and local socio-economy.

The Malaysian side will inform the concerned agencies to provide such reports for the Thai side and it should be submitted through JET channel.

Progress of the Malaysian side

The Malaysian side reported progress that at present, the study is up to Concept Design Stage. Data collection and data sharing of both sides is completed. Field data measurement has been completed since October 2012.

- (i) Hydrology models :
 - a) Model setup completed – using HEC-HMS software
 - b) First stage of model calibration is completed using 1st option of catchment demarcation–2nd stage of calibration will be done after the catchment demarcation is finalized with the Thai consultant.
 - c) Hydrology analysis – double mass curve, critical flood event identification and analysis on flood frequency analysis, isohyetal map demarcation.
 - d) Hydrology model simulation – ongoing – preparation of input data based on extreme event

(ii) Hydraulic models:

- a) Model setup completed – 1D/2D model using XPSWmm software. Calibration is ongoing – using hydrology output as the input. 2nd stage simulation is ongoing and will be based on hydrology model input

(iii) Coastal models:

- a) Hydrodynamic Model setup for MIKE21 HD – completed from Regional model to Local model
 - Regional covers from the Andaman Sea to the South China Sea
 - Coarse covers The Strait of Malacca to The Gulf of Thailand and the South China Sea
 - Medium covers Sg. Pengkalan Datu (south) to Bang Nara (north)
 - Fine covers Sg. Kelantan towards the 30th groyne.
 - Local covers from Tumpat to the 18th groyne.
- b) Wave Model setup for MIKE21 NSW – completed up to Regional, the rest is still ongoing; Two (2) model with different orientation angle with wet boundary area is the South China Sea.
- c) Hydrodynamic Model simulations – HD: Calibration completed. Regional to Local simulations completed – existing conditions only, other model options – ongoing.
- d) Wave Model simulations – NSW – Regional model only; other model is ongoing.
- e) Sediment Transport model, MIKE21 ST is ongoing
- f) Littoral Transport using LITPACK is ongoing

Problem and obstruction: the progress is 8% delayed beyond schedule due to time consuming on data sharing from both sides.

Future plan: By August 2013 both sides should finish setup models/calibration for discussion and will mutually propose scenarios for simulation.

JTWG acknowledged the workshop plan of JET on the 5 perspective tasks including the Hydraulic Joint Studies, Survey Method, Flood Forecast Model, Integrated River Basin Management (IRBM) and Joint Website. The workshop will be conducted in August 2013 in Malaysia. The purpose of this workshop is to set up the acceptable method of the 5 tasks.

For the Hydraulic Joint Studies, both sides should present the alternative conceptual design for each study during the workshop.

AGENDA 4: MATTERS FOR CONSIDERATION

4.1 Flood Forecasting and Warning System of the Golok River Basin

This agenda is newly open for further cooperation. Currently, both sides have good cooperation on tele-metering and joint website of which data covers the area of the Golok River Mouth as

- Water level 5 stations (3 stations are stream flow and tele-metering)
- 5 rainfall stations (2 stations are tele-metering, 3 manual)

The current cooperation in Hydrology activity for the Golok River Basin includes:

| | Water Level / Stream Flow | Water level | Stream flow | Rainfall Station | Auto | Manual |
|-----------------|---|---------------------|---------------------|---|---------------------|---------------------|
| Thailand | <ul style="list-style-type: none">• X274 (Weang District)• X119A* (Cableway station)• X119 (Muno Project) | √ √ √ | - √ - | <ul style="list-style-type: none">• Weang District• Su-gai golok District• Tak Bai District | - - - | √ √ √ |
| Malaysia | <ul style="list-style-type: none">• Sg. Golok at Rantau Panjang* (Cableway station)• Sg. Golok at Kampng Jenob *Same location | √ √ | √ √ | <ul style="list-style-type: none">• Jenob at Tanah Merah• Custom Quarters (Rantau Panjang) | √ √ | - - |

The meeting agreed that in future, if real time monitoring system & joint website could be extended to the middle and upper Golok Basin as well as improves manual rainfall stations to real time stations and could be used as input in current flood forecasting and warning system of each country. Detail of real time rainfall network should be discussed in JET meeting.

4.2 MATTERS TO BE REFERRED TO THE JSC MEETING

Matters for Information

- (1) Report of monitoring and evaluation of the Golok River Mouth
- (2) Proposed maintenance dredging of the Golok River Mouth
- (3) Cableway station across the Golok River
- (4) Progress of real time monitoring system in the Golok River Basin and the joint website
- (5) Rehabilitation of Transit Point B

- (6) Joint Hydraulic Modeling Studies:-
- a) Joint study on Coastal Flooding at the Golok River Mouth
 - b) Joint Hydraulic Model on the Assessment of the Golok River Mouth Improvement along Coastal Areas

AGENDA 5: OTHER MATTERS

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

Date: May / June 2014

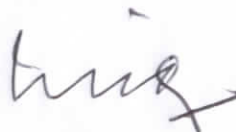
Venue: Penang, Malaysia

AGENDA 6: ADOPTION OF REPORT OF THE MEETING

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



(Mr. Chachawal Punyavateenun)
Co-Chairman
Joint Technical Working Group
Deputy Director General
(Engineering)
Royal Irrigation Department
Thailand



(Dato' Ir. Nordin bin Hamdan)
Co-Chairman
Joint Technical Working Group
Deputy Director General
(Business Sector)
Department of Irrigation and Drainage
Malaysia

List of Delegates
31st Meeting of Thailand – Malaysia
Joint Technical Working Group
on the Golok River Mouth Improvement Project

2 – 3 July 2013
Hua Hin, Prachuap Khiri Khan, Thailand

THAI DELEGATES

- | | | |
|----|-----------------------------|---|
| 1. | Mr. Chachawal Punyavateenun | Deputy Director General Royal Irrigation Department |
| 2. | Mr. Phoovanet Thongrungrroj | Chief Engineer Executive Advisor in Operation and Maintenance Royal Irrigation Department |
| 3. | Mr. Somkiat Prajamwong | Director Office of Project Management Royal Irrigation Department |
| 4. | Mr. Thongplew Kongjun | Director Office of Water Management and Hydrology Royal Irrigation Department |
| 5. | Mr. Prinya Kamolsin | Senior Expert on Research and Development Hydraulic Engineering Royal Irrigation Department |
| 6. | Mr. Kritsada Phokhakorn | Senior Expert on Civil Engineering Irrigation Engineering Material Royal Irrigation Department |
| 7. | Mr. Sakpinit Padungkij | Senior Expert on Environmental Impact Office of Project Management Royal irrigation Department |
| 8. | Mr. Apinon Sonthayanon | Irrigation Engineer, Senior Professional Level Office of Regional Irrigation 17 Royal Irrigation Department |

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|-----|-------------------------------------|--|
| 9. | Mr. Chatchai Boonlue | Director, Foreign Financed Project Administration Division Office of Project Management Royal Irrigation Department |
| 10. | Mr. Attaporn Wonglimaswat | Senior Surveyor Marine Department |
| 11. | Colonel Uthai Rungsang | 4 th Forth Army Area, Royal Thai Army |
| 12. | Captain Pannart Nakbubpar | Deputy Director of Oceanographic Division Hydrographic Department Royal Thai Navy |
| 13. | Mr. Wara Khoenpratiyuth | Foreign Relations Officer, Ministry of Interior |
| 14. | Mr. Akrapong Chalermnon | Counsellor Department of Treaties and Legal Affairs Ministry of Foreign Affairs |
| 15. | Ms. Chatchaya Chotthanatiradetch | Policy and Plan Analyst Ministry of Agriculture and Cooperatives |

IN ATTENDANCE

- | | | |
|----|----------------------------------|--|
| 1. | Mr. Ukrit Thavornkraikul | Senior Expert Regional Irrigation Office 14 Royal irrigation Department |
| 2. | Mrs. Suphaphorn Wongweerakhan | Senior Expert on Economic Analysis for Water Resources Development Project Royal Irrigation Department |

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|----|-----------------------------|---|
| 3. | Mr. Somchai Imyoo | Director Hydrology and Water Management Centre for Southern Region Royal Irrigation Department |
| 4. | Ms. Chawee Wongprasittiporn | Civil Engineer (Professional Level) Office of Project Management Royal Irrigation Department |
| 5. | Mr. Rojawat Inthoong | Irrigation Engineer, Senior Professional Level Special Affairs Division Royal Irrigation Department |
| 6. | Capt. Sanit Gansungnoen | Deputy Director Oceanographic Division Royal Thai Navy |
| 7. | Mr. Wesarat Keokajee | Attache' Ministry of Foreign Affairs |
| 8. | Mr. Attapan Diloksopon | Civil Engineer (Professional Level) Office of Project Management Royal Irrigation Department |

SECRETARIAT TEAM

- | | | |
|----|---|--|
| 1. | Mrs. Thayida Siritreeratormong van Corstanje | Chief of Foreign Activity Coordinating Branch Office of Project Management Royal Irrigation Department |
| 2. | Mr. Bureerat Vongburee | Chief of Water Operation Regional Irrigation Office 14 Royal Irrigation Department |

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- | | | |
|----|--------------------------|---|
| 3. | Mr. Chaiwat Chanthawee | Civil Engineer (Professional Level) Office of Project Management Royal Irrigation Department |
| 4. | Mrs. Jittra Boonrod | Foreign Relations Officer (Professional level) Office of Project Management Royal Irrigation Department |
| 5. | Mrs. Bunreun Srisa-ad | Foreign Relations Officer (Professional level) Office of Project Management Royal Irrigation Department |
| 6. | Mr. Piriya Thumyago | Foreign Relations Officer (Practitioner level) Office of Project Management Royal Irrigation Department |
| 7. | Ms. Phatchara Amphawanon | Foreign Relations Officer (Practitioner level) Office of Project Management Royal Irrigation Department |

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MALAYSIAN DELEGATES

- | | | |
|----|-------------------------------------|---|
| 1. | Dato' Ir. Nordin bin Hamdan | Deputy Director General (Business Sector) Department of Irrigation and Drainage Malaysia |
| 2. | Dato' Nik Kazim bin Nik Yusoff | Director Economic Planning Unit of Kelantan |
| 3. | Mr. Mat Rahim bin Ismail | Director Department of Irrigation and Drainage Kelantan |
| 4. | Mr. Mohd Sor bin Othman | Senior Engineer River Basin and Coastal Zone Management Department of Irrigation and Drainage Malaysia |
| 5. | Mdm Paridah Anun Tahir | Deputy Director, Water Resources Management and Hydrology Department of Irrigation and Drainage Malaysia |
| 6. | Mr. Ahmad Shahrir bin Md Naziri | Principal Assistant Secretary Water Resources, Drainage and Hydrology Division Ministry of Natural Resources and Environment |
| 7. | Mr. Arumugam a/l V.S Subramaniam | Principal Assistant Director, Maritime Safety Unit Marine Department Malaysia |
| 8. | Sr Zulkifli bin Sidek | Principal Assistant Director, Boundary Affairs Section Survey and Mapping Department Malaysia |
| 9. | Mr. Zainal bin Abdul Rahman | Principal Assistant Director Kelantan Federal Development Office Implementation Coordination Unit Prime Minister's Department Malaysia |

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10. Ms. Aisyah Sakina Ahmad Engineer
River Basin and Coastal Zone Management
Department of Irrigation and Drainage Malaysia

IN ATTENDANCE

1. Ir. Hj Shahimi bin Sharif Deputy Director (Coastal Zone)
River Basin and Coastal Zone Management
Department of Irrigation and Drainage Malaysia
2. Mr. Mohd Eizam Yusof Engineer
River Basin and Coastal Zone Management
Department of Irrigation and Drainage Malaysia

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Agenda 3 Matters for Information

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Agenda 4 Matters for Consideration

- 4.1 Flood forecasting and warning system of the Golok River Basin
- 4.2 Matters to be referred to the JSC Meeting

Agenda 5 Other matters

Agenda 6 Adoption of Report of the Meeting

Pre and Post Monsoon survey 2012/2013

