



## ด่วนมาก บันทึกข้อความ

ส่วนราชการ สำนักบริหารกลาง กลุ่มงานบุคคล โทร. ๐ ๒๒๗๑ ๖๐๐๐ ต่อ ๖๘๐๕

ที่ ทส ๐๖๐๑.๒/ว ๒๖๖

วันที่ ๑๕ มีนาคม ๒๕๖๐

เรื่อง รับสมัครผู้เชี่ยวชาญระดับประเทศด้านอุทกภัยและอุทกวิทยา และผู้เชี่ยวชาญระดับประเทศด้านการเก็บรวบรวมข้อมูล

เรียน อธิบดี รองอธิบดี หัวหน้าผู้ตรวจราชการกรม

ผู้อำนวยการสำนัก ผู้อำนวยการศูนย์ ผู้อำนวยการกอง ผู้อำนวยการสำนักงานทรัพยากรน้ำภาค ๑-๑๑

ผู้อำนวยการกลุ่ม และผู้อำนวยการกลุ่มงานในสำนักบริหารกลาง

สำนักบริหารกลาง ขอส่งสำเนาหนังสือสำนักบริหารจัดการกลุ่มน้ำโขง ด่วนมาก ที่ ทส ๐๖๓๐/๔๒๘ ลงวันที่ ๑๔ มีนาคม ๒๕๖๐ เรื่อง รับสมัครผู้เชี่ยวชาญระดับประเทศด้านอุทกภัยและอุทกวิทยา และผู้เชี่ยวชาญระดับประเทศด้านการเก็บรวบรวมข้อมูล ทั้งนี้ สามารถดูรายละเอียดข้อมูลได้ที่ [www.dwr.go.th](http://www.dwr.go.th) หัวข้อข่าวประกาศรับสมัคร

จึงเรียนมาเพื่อโปรดทราบ

(นางสุนทรี มิ่งประยูร)

ผู้อำนวยการสำนักบริหารกลาง



**ด่วนมาก**

## บันทึกข้อความ

ส่วนราชการ สำนักบริหารจัดการลุ่มน้ำโขง ส่วนจัดการองค์ความรู้ลุ่มน้ำโขง โทรศัพท์ ๖๖๓๖  
ที่ ทส ๐๖๓๐/๔๒๘ วันที่ ๑๔ มีนาคม ๒๕๖๐

เรื่อง รับสมัครผู้เชี่ยวชาญระดับประเทศด้านอุทกภัยและอุทกวิทยา และผู้เชี่ยวชาญระดับประเทศด้านการเก็บรวบรวมข้อมูล

เรียน ผู้อำนวยการสำนักบริหารกลาง

ด้วยศูนย์บริหารจัดการและบรรเทาอุทกภัยระดับภูมิภาค (Head of Regional Flood Management and Mitigation Center: RFMMC) ภายใต้สำนักงานเลขาธิการคณะกรรมการแม่น้ำโขง (Mekong River Commission Secretariat: MRCS) ได้เปิดรับสมัครงานตำแหน่งผู้เชี่ยวชาญระดับประเทศด้านอุทกภัยและอุทกวิทยา จำนวน ๑ ตำแหน่ง และผู้เชี่ยวชาญระดับประเทศด้านการเก็บรวบรวมข้อมูล จำนวน ๑ ตำแหน่ง โดยผู้สมัครจะต้องมีคุณสมบัติตามขอบเขตการปฏิบัติงาน (Terms of Reference: TOR) ที่แนบมาพร้อมนี้

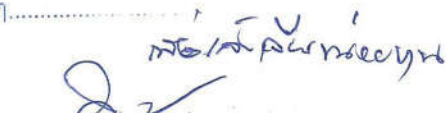
สำนักบริหารจัดการลุ่มน้ำโขง จึงขอความร่วมมือสำนักบริหารกลางปิดประกาศและประชาสัมพันธ์แจ้งเวียน เพื่อเชิญชวนผู้สนใจและมีคุณสมบัติตรงตามขอบเขตการปฏิบัติงาน (Terms of Reference: TOR) โดยสามารถส่งใบสมัครพร้อมประวัติส่วนบุคคลและรูปถ่าย มายังสำนักบริหารจัดการลุ่มน้ำโขง กรมทรัพยากรน้ำ เลขที่ ๑๘๐/๓ ถนนพระรามที่ ๖ ซอย ๓๔ แขวงสามเสนใน เขตพญาไท กรุงเทพฯ ๑๐๔๐๐ หรือทาง Email address: tnmcc@dwr.mail.go.th ภายในวันที่ ๒๒ มีนาคม ๒๕๖๐ เพื่อจะได้ดำเนินการส่วนที่เกี่ยวข้องต่อไป

จึงเรียนมาเพื่อโปรดพิจารณา



(นางสาวนวลละออ วงศ์พิจิโรดม)  
ผู้อำนวยการสำนักบริหารจัดการลุ่มน้ำโขง

เรียน ☐ ผ.บริหาร ☒ ผ.สรรหา ☐ ผ.ทะเบียน  
☐ ผ.พัฒนา ☐ ผ.โครงการสร้าง ☐ ผ.สวัสดิการ  
☐ เวียน ☐ เพื่อทราบ ☒ ดำเนินการ  
☐ อื่นๆ.....

  
(นายณนพร พึ่งทรัพย์)  
ผู้อำนวยการกลุ่มงานบุคคล  
๑๔ มี.ค. ๒๕๖๐

เรียน ☐ ผอ.กสบ. ☒ ผอ.กบค. ☐ ผอ.กคท  
☐ ผอ.กขอ. ☐ ผอ.กปส. ☐ ผอ.กยค  
☐ ผอ.กคจ.  
☒ เวียน ☐ เพื่อทราบ  
☐ ถือปฏิบัติ ☐ พิจารณาดำเนินการ  
☐ อื่น ๆ.....

  
(นางสุนทรี มิ่งประยูร)  
ผู้อำนวยการสำนักบริหารกลาง  
๑๔ มี.ค. ๒๕๖๐



# Mekong River Commission

P.O. Box 6101, 184 Fa Ngoum Road, Unit 18,  
Ban Sithane Neua, Sikhottabong District, Vientiane 01000, Lao PDR  
Telephone: (856-21) 263 263. Facsimile: (856-21) 263 264



No. L-MRCS (TD) 139/17

01 March 2017

Dear JC Members,

**Subject: Recruitment of National Hydrology/Flood Expert (NHFE) and National Data Collection Expert (NDCE) for Annual Flood Report 2015 and Annual Flood Report 2016**

Since 2005 Regional Flood Management and Mitigation Centre (RFMMC) has committed itself to annually prepare a Mekong Flood Report for the MRC, which represented an account of the floods occurred in the LMB to be presented to the MRC Joint Committee and Council. The Annual Mekong Flood Report (AMFR) also served as source of information and as a reference document, not only for the Joint Committee and Council members, but also for a wider audience, like the agencies responsible for the disaster management and mitigation functions in the Member Countries, institutes involved in water resources planning, development partners, NGO's etc.

The Annual Mekong Flood Report is one of major RFMMC products; between 2005 and 2013 a total of 9 AMFRs were successfully published in cooperation with the four MRC Member Countries; the Annual Mekong Flood Report 2014 is scheduled to be released soon.

Based on the Regional Technical Gathering Workshop, for AMFR-2015 and AMFR-2016, under the themes "10-year lessons learnt of annual flood experiences", the AMFR was divided into an annual flood analysis and a special theme that was selected in close cooperation with the MRC Member Countries. The theme touches each year upon a different topic related to floods and droughts and the report is usually developed through contributions from the National Hydrology/Flood Expert (NHFE) and National Data Collection Expert (NDCE).

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H.E. Mr. Te Navuth  
Secretary General  
Cambodia National Mekong Committee  
Member of the MRC Joint Committee for  
Cambodia

Mr. Inthavy Akkharath  
Acting Secretary General  
Lao National Mekong Committee  
Secretariat  
Member of the MRC Joint Committee for  
Lao PDR

Director General  
Department of Water Resources  
Ministry of Natural Resources and Environment  
Member of the MRC Joint Committee for Thailand  
Chairperson of the MRC Joint Committee for 2016

Dr. Le Duc Trung  
Director General  
Viet Nam National Mekong Committee  
Member of the MRC Joint Committee for  
Viet Nam



In order to start the Production of Annual Mekong Flood Reports for 2015 and 2016, I would like to request the kind assistance from you in identifying two (2) candidates for the position of National Flood Expert and National Data Collection Expert; and send the two (2) CVs of these candidates to the RFMMC, Dr. Pichaid Varoonchotikul, through e-mail: Pichaid@mrcmekong.org, preferably by the end of March 2017.

Terms of Reference (ToR) for the NHFE and NDCE are attached for your information. Any related expenses for the function of NHFE and NDCE will be borne by RFMMC.

Thank you for your kind consideration.

Yours sincerely,



Naruepon Sukumasavin  
Officer-In-Charge  
MRC Secretariat



# Mekong River Commission

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Telephone: (856-21) 263 263. Facsimile: (856-21) 263 264

## TERMS OF REFERENCE

### National Hydrology/Flood Expert (NHFE) for the Production of the National Annual Flood Report for 2015 (AMFR-2015) and 2016 (AMFR-2016)

- Title:** National Hydrology/Flood Expert (NHFE).
- Duration:** A maximum of 35 working days (non-continuous) over the period of 5 months starting from 01 Apr - 31 Aug 2017
- Duty Station:** In respective country such as Cambodia, Lao PDR, Thailand and Vietnam where s/he is based.

#### 1. Consultancy Summary:

The **Mekong River Commission (MRC)** was established by the 1995 *Agreement on Cooperation for the Sustainable Development of the Mekong River Basin*, between the governments of Cambodia, Laos, Thailand and Viet Nam, in accordance with this Agreement. The **Mission** of MRC is: "to promote and coordinate sustainable management and development of water and related resources for the countries' mutual benefit and the people's well-being by implementing strategic programmes and activities, and providing scientific information and policy advice."

#### 2. Background:

Right after the 2000 severe flood, the Mekong River Commission Council instructed the MRC Secretariat (MRCS) to prepare a Flood Management and Mitigation (FMM) Strategy using a highly participatory process of interaction with all National Mekong Committees (NMCs) and Line Agencies (NLAs) in the four MRC Member Countries, Development Partners, the Civil Society Organizations (CSOs) and International Organizations (IOs), etc. The development objective of the MRC Flood Management and Mitigation Programme (FMMP) is "to prevent, minimize or mitigate people's suffering and economic losses due to floods, while preserving the environmental benefits of floods". The objective is the key to a balanced approach to Flood Management and Mitigation (FMM) and reinforces the region's commitment to "living with floods". This programme will also maintain an accurate flood forecasting system, to act as a facilitator on trans-boundary issues and build capacity in Member Countries.

The FMM Programme 2004-2010 committed itself to annually prepare a Mekong Flood Report for the MRC, which represented an account of the floods occurred in the LMB to be presented to the MRC Joint Committee and Council. The Annual Mekong Flood Report (AMFR) also served as source of information and as a reference document, not only for the Joint Committee and Council members, but also for a wider audience, like the agencies responsible for the disaster management and mitigation functions in the Member Countries, institutes involved in water resources planning, development partners, NGO's etc.

The FMM Programme 2011-2015, which is a support programme to the Regional Flood Management and Mitigation Centre (RFMMC), continues the commitment to prepare the Annual Mekong Flood Report (AMFR). The Annual Mekong Flood Report is a FMMP product; between 2005 and 2013 a total



of 9 AMFRs were successfully published by the FMMP in cooperation with the four MRC Member Countries. The Annual Mekong Flood Reports 2014 is scheduled to be released soon.

Since 2016, the MRC has undergone an organizational restructure to become a leaner organization; of which the former FMM Programme structure has changed to a team under Technical Support Division (TD), and AMFR remain a key output of the team. The AMFR is divided into an annual flood analysis and a special theme that is selected in close cooperation with the MRC Member Countries. The theme touches each year upon a different topic related to floods and droughts. For AMFR-2015 and AMFR-2016, the following themes have been defined: **“10-year lessons learnt of annual flood experiences”** and **“Emerging technology to cope with flood”** respectively. It is considered an instrumental topic to adjust the structure of the AMFR, as Member Countries have expressed that Flash Floods are perceived equally important as River Floods.

The report is usually developed through contributions from the national data collection experts (NDCE), the national hydrology/flood experts (NHFE), while the international hydrology/flood expert (IHFE) consolidates the four national reports into one AMFR. The report fosters common understanding and enables the Flood Management and Mitigation Programme (FMMP) to publish the AMFR-2014 for the benefits of the MRC Member Countries and other stakeholders.

### 3. Objective of the consultancy:

Both the National Data Collection Expert (NDCE) and the National Hydrology Flood Expert (NHFE) of the MRC Member Countries are required in order to assist the TD in producing their respective National Annual Flood Reports for 2015 (NAFR-2015) and 2016 (NAFR-2016). This will be done in close coordination with the National TD Focal Point of each country. The NAFR-2015 and NAFR-2016 will contribute to the overall MRC AMFR-2015 and AMFR-2016; these contributions will be compiled and prepared by the IHFE.

The NHFE will work under the direct supervision of respective National TD Focal Point of the National Mekong Committee (NMC); he/she will be working in close contact with the NDCE for the required data, information and for the drafting process of the report. For the technical aspects, the NHFE will work in close contact with the Head of Flood Center and the Flood Forecasting Experts (FFE) of the TD, as well as the International Hydrology/Flood Expert (IHFE), if and when required.

The NHFE will work in close contact with the NDCE of the lead National Line Agency. The NHFE will work in close contact with the National TD Focal Point in order to prepare a quality NAFR and to meet the requirements regarding content, lay-out and selected theme for the flood season 2015 and 2016.

The following are key tasks of NHFE:

- Coordinate with and provide technical guidance and advice to the NDCE to be serviced from a Lead Line Agency in collecting country specific data and information related to floods in 2015 and 2016 at national, but further specified for provincial, district, commune and village scale, if appropriate and available.
- Identify and organize site visits, if required by the RFMMC, to some key flood-affected areas in consultation with and agreement from National TD Focal Point of each NMC, and responsible National Line Agencies.
- Support the IHFE, Head of Flood Center and FFEs in preparing the national component of the draft 2015 and 2016 Country Flood Report enriched with reference information, of which the contents and lay-out (agreed between International and National Flood Experts) and to be shared



with each respective National Mekong Committee in consultation with lead National Line Agency.

#### 4. Responsibility and Tasks:

The NHFE is required to undertake the following tasks from 01 Apr - 31 Aug 2017 for a maximum of 35 working days. The submission of compilation of flood information and data and analysis include the preparation of the report to the National TD Focal Point, and Head of Flood Center is as input for the drafting of the AMFR-2015 and AMFR-2016.

With technical guidance and coordination to be provided by the IHFE, National TD Focal Point in the respective Member Country, the Head of Flood Center and the FFEs of the MRC TD, the NHFE will compile all data and information collected by the NDCE, check, analysis etc. in order to meet the requirement of the reports; sources/references for any data/information/photograph will be clearly indicated with name and date (institution, person, newspaper, website...).

The following are specific tasks:

- To participate in the Technical and Consultation Meetings in order to discuss and finalize the planning process and completion of the NAFR-2015 and NAFR-2016 and other if necessary.
- To provides technical guidance to and coordinates with the NDCE in collecting all relevant information related to flood events and impacts during 2015 and 2016 (please refer to the TOR for the NDCE for particular tasks).
- To organise site visits, if necessary and required, to be carried out together with the Head of Flood Center and FFEs of the MRC TD for gathering additional data and information as on ground truthing. More specifically:
  - *To select some key flooded locations along the Mekong mainstream including tributaries contribute to the Mekong River.*
  - *To identify and contact, in coordination with National TD Focal Point, persons in those flooded areas who have predominant involvement in managing the flood event (Govt. authorities, NGOs and etc.) and organise the meetings in order to visit to the most affected people in that area.*
  - *To participate with the Head of Flood Center or FFEs of the MRC TD in field visits.*
- To analyse and write the draft NAFR-2015 and NAFR-2016, including prepare for the presentations.
  - *As the identification of Flood impacts in terms of casualties and damages is a complex process, the NHFE is requested to carefully interact with the MRC TD and NDCE and to come up with recommendations that may include taking advantage of the Annual Performance Evaluation Report of the MRC-Flash Flood Guidance System. Likewise the NHFE may also take advantage of the Annual Performance Evaluation Report of the Mekong Flood Forecasting System for the Mekong River mainstream.*
  - *To structure the National Annual Flood Report such, that river floods and flash floods are both thoroughly analyzed and described, and impact of the floods are separately identified and assessed in terms of casualties and damages. Casualties and damages will be identified, quantified and presented for national territory, being part of the LMB, as well as for each Member Country as a whole.*
  - *Draft a National/Country Flood Report 2015 and 2016 with analysis of flood situation and impact by typhoon and storms for 2015 and 2016, which later on could be served as a basis for the development of the National/Country Report of each respective country to be presented at any workshops and forums as required by the RFMMC.*

- *The report should incorporate in the introductory part of the NAFR-2015 and NAFR-2016 the deficit or surplus rainfall value over the LMB based on the comparison with the long term average basin rainfall.*
- To finalize the report according to comments gathered from the meetings, IHFE and MRC TD staff.
  - *based on comments provided by the IHFE, the Head of Flood Center and FFEs of the RFMMC, the NHFE should take into consideration and finalize the report for the submission to the RFMMC for payment. Request by IHFE and/or RFMMC should fulfill include any graphs, maps, better images and photos etc.*
- To regularly report of the progress and any related issues to the respective National TD Focal Point.
  - *Share the agreed content and structure of the report and incorporate their ideas and opinion if any.*
  - *Seek advice and guidance from the NMC thru National TD Focal Point for any mission inside the countries.*
  - *Make a regular reporting of the progress including any challenges for the reporting if any.*
  - *Submit the draft and final reports to RFMMC through the National TD Focal Point.*
- To duly perform other tasks as required and deemed necessary.

**Important Note:** flood data and information collected must be made representative for “Country scale” and “LMB scale”, which means that on “LMB scale” parts of the Member Country within the LMB are relevant only. All data and information should have “reference sources”.

## 5. Deliverables and timelines:

The following outputs have to be produced by the NHFE and to be submitted to the TD Focal Point of the NMC, Head of Flood Center and FFEs of the RFMMC, not later than 30 August 2017:

1. A NAFR-2015 and NAFR-2016 with analysis of flash flood situation in the country and in the LMB scale.
2. Maps and satellite images (if available) indicate the location of flood(s) in 2015 and 2016 (for instance for Province, District, Commune, Village, Watershed), and periods of occurrence.
3. Hard copies and soft copies of all data and information collected. Each document filed in this folder will be carefully numbered and agreement for publication when necessary - copyright (photograph, newspaper and etc.) will be attached. A summary list of the documents will be placed in front of the folder indicating: document number, title/short description of the content, source of information and date of information.
4. A CD-ROM collecting all documents and information mentioned above, that are existing in “soft copy”.
5. Power point presentation of the NAFR-2015 and NAFR-2016 covering all key aspects and information related to the theme and report contents during the technical and consultation meetings. The presentation for the Consultation Meeting should be modified and updated in according to the final version of the NAFR-2015 and NAFR-2016 as a result of the Technical Meeting.



## 6. Working Arrangement:

The schedule presented below is shown key activities should be performed and in according to the schedule.

<b>Overall tentative work plan for the Annual Mekong Flood Report 2015 and 2016</b>	
<b>Schedule</b>	<b>Key activities and by whom</b>
Feb/Mar 2017	<b>Experts selections</b> <ul style="list-style-type: none"> <li>- TD prepares TORs and in close cooperation with HRS and NMCs to recruit/select the experts (NMC will send CV and proposed candidates) and for international expert the waiver may be proceeding or recruitment.</li> <li>- HRS will prepare contract and get the contracts signed off</li> </ul>
Apr/May 2017	<b>Data collection, analysis and prepare a report</b> <ul style="list-style-type: none"> <li>- IHFE prepares the draft outline/lay-out of the AMFR-2015 and AMFR-2016 in according to the selected themes, then send this draft material to the NHFEs thru TD</li> <li>- All comments are gathered within a week and send to IHFE for the finalization</li> <li>- Data and information collection by NDCE</li> <li>- Reporting writing by NHFEs based on agreed contents</li> <li>- Communications between key stakeholders (experts)</li> <li>- Perform other related tasks if deem necessary</li> </ul>
Jul/Aug 2017	<b>Draft finalization of the reports</b> <ul style="list-style-type: none"> <li>- NHFE submits the first draft reports to IHFE thru the National Focal Point of TD and TD</li> <li>- IHFE reviews and provide comments on the first reports NHFEs to those who concerns (country by country)</li> <li>- NHFE revises and updates the report based on inputs from IHFE (if necessary and due to lack of data and information as required, IHFE should contact the NDCE to help and supplement)</li> <li>- Resubmit the draft final reports to TD and NMCs</li> </ul>
Sept 2017	<b>Regional Technical Meeting (RTM)</b> <ul style="list-style-type: none"> <li>- TD organizes and conducts a Regional Technical Meeting (RTM) to discuss the draft AMFR-2015 and AMFR-2016.</li> <li>- IHFE participates and processes comments obtained from RTM and preparing the 2<sup>nd</sup> final draft AMFR-2015 and AMFR-2016.</li> <li>- TD to adjust and get approval of the AMFR-2015 and AMFR-2016.</li> </ul>
Nov 2017	<b>Format, publication and dissemination (by TD)</b>

Note: All experts if invited should prepare and present the report for meetings when appropriate. TD will cover all related travel costs include DSA in according to MRC rule.

## 7. Qualifications and Requirements:

the following qualifications for the NHFE are required:

- at least MSc level university degree in a field of study closely related to water engineering, i.e., hydrology, hydraulics, flood plain analysis and flood disaster management and/or integrated water resources management;
- proven long-term experience in a field closely related to , i.e., hydrology, hydraulics, floodplain analysis and flood disaster management;

- a minimum of 5 years working experience in the field of integrated water resources management, irrigation and drainage and/or disaster/flood management and mitigation;
- a minimum of 5 years' experience in working in one or more MRC Member Countries and previously was contracted for the reports as advantage;
- have been working with modern technology for collection, processing and presentation of data and information;
- general knowledge and experience with remote sensing imaging, satellite imaging, GIS mapping and experience with designing and writing general reports, including structuring, editing, presenting, documenting and designing lay-out;
- good general understanding of meteorological/hydrological processes, hydrological and hydraulic/hydrodynamic processes, topo-hydrographic conditions, generating and/or affecting flood conditions; and
- good general understanding of the needs for hydrologic and hydraulic data collection, hydrologic and hydraulic modeling, and flood forecasting and warning processes to reduce the vulnerability of the communities living in the LMB;
- good inter-personal, communication, presentation and reporting skills;
- good advantage for the past national hydrology/flood expert.

#### **8. Condition of Payment:**

1. Payment will be made based on the actual number of working days provided by consultants in MRC time sheet template and upon receipt of request from RFMMC and completion of specific tasks and deliverables specified in the TOR;
2. The Final payment will be made upon satisfactory completion of the assignment and upon receipt of the evaluation form for the consultancy services from Head of RFMMC;

#### **9. Intellectual Property Rights:**

Intellectual property – IPR: Information, data, database, knowledge resources in the forms of briefings, reports, proceedings, articles, essay, ect. Issued by and for the MRCS will be the MRCS property. Any utility, announcement and disclosure that are without MRCS highest levels of authority permission is considered illegal and will be charged by relevant local and international legal procedures.

#### **10. Signature Block:**

Signed: \_\_\_\_\_ TSD Director Date: \_\_\_\_\_

Signed: \_\_\_\_\_ National TD Focal Point Date: \_\_\_\_\_

Signed: \_\_\_\_\_ NHFE Date: \_\_\_\_\_





# Mekong River Commission

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- Duty Station:** In respective country such as Cambodia, Lao PDR, Thailand and Vietnam where s/he is based.

#### 1. Consultancy Summary:

The **Mekong River Commission (MRC)** was established by the 1995 *Agreement on Cooperation for the Sustainable Development of the Mekong River Basin*, between the governments of Cambodia, Laos, Thailand and Viet Nam, in accordance with this Agreement. The **Mission** of MRC is: "to promote and coordinate sustainable management and development of water and related resources for the countries' mutual benefit and the people's well-being by implementing strategic programmes and activities, and providing scientific information and policy advice."

#### 2. Background:

Right after the 2000 severe flood, the Mekong River Commission Council instructed the MRC Secretariat (MRCS) to prepare a Flood Management and Mitigation (FMM) Strategy using a highly participatory process of interaction with all National Mekong Committees (NMCs) and Line Agencies (NLAs) in the four MRC Member Countries, Development Partners, the Civil Society Organizations (CSOs) and International Organizations (IOs), etc. The development objective of the MRC Flood Management and Mitigation Programme (FMMP) is "to prevent, minimize or mitigate people's suffering and economic losses due to floods, while preserving the environmental benefits of floods". The objective is the key to a balanced approach to Flood Management and Mitigation (FMM) and reinforces the region's commitment to "living with floods". This programme will also maintain an accurate flood forecasting system, to act as a facilitator on trans-boundary issues and build capacity in Member Countries.

The FMM Programme 2004-2010 committed itself to annually prepare a Mekong Flood Report for the MRC, which represented an account of the floods occurred in the LMB to be presented to the MRC Joint Committee and Council. The Annual Mekong Flood Report (AMFR) also served as source of information and as a reference document, not only for the Joint Committee and Council members, but also for a wider audience, like the agencies responsible for the disaster management and mitigation functions in the Member Countries, institutes involved in water resources planning, development partners, NGO's etc.

The FMM Programme 2011-2015, which is a support programme to the Regional Flood Management and Mitigation Centre (RFMMC), continues the commitment to prepare the Annual Mekong Flood Report (AMFR). The Annual Mekong Flood Report is a FMMP product; between 2005 and 2013 a total



of 9 AMFRs were successfully published by the FMMP in cooperation with the four MRC Member Countries. The Annual Mekong Flood Reports 2014 is scheduled to be released soon.

Since 2016, the MRC has undergone an organizational restructure to become a leaner organization; of which the former FMM Programme structure has changed to a team under Technical Support Division (TD), and AMFR remain a key output of the team. The AMFR is divided into an annual flood analysis and a special theme that is selected in close cooperation with the MRC Member Countries. The theme touches each year upon a different topic related to floods and droughts. For AMFR-2015 and AMFR-2016, the following themes have been defined: **“10-year lessons learnt of annual flood experiences”** and **“Emerging technology to cope with flood”** respectively. It is considered an instrumental topic to adjust the structure of the AMFR, as Member Countries have expressed that Flash Floods are perceived equally important as River Floods.

The report is usually developed through contributions from the national data collection experts (NDCE), the national hydrology/flood experts (NHFE), while the international hydrology/flood expert (IHFE) consolidates the four national reports into one AMFR. The report fosters common understanding and enables the Flood Management and Mitigation Programme (FMMP) to publish the AMFR-2014 for the benefits of the MRC Member Countries and other stakeholders.

### 3. Objective of the consultancy:

Both the National Data Collection Expert (NDCE) and the National Hydrology Flood Expert (NHFE) of the MRC Member Countries are required in order to assist the TD in producing their respective National Annual Flood Reports for 2015 (NAFR-2015) and 2016 (NAFR-2016). This will be done in close coordination with the National TD Focal Point of each country. The NAFR-2015 and NAFR-2016 will contribute to the overall MRC AMFR-2015 and AMFR-2016; these contributions will be compiled and prepared by the IHFE.

The NHFE will work under the direct supervision of respective National TD Focal Point of the National Mekong Committee (NMC); he/she will be working in close contact with the NDCE for the required data, information and for the drafting process of the report. For the technical aspects, the NHFE will work in close contact with the Head of Flood Center and the Flood Forecasting Experts (FFE) of the TD, as well as the International Hydrology/Flood Expert (IHFE), if and when required.

The NHFE will work in close contact with the NDCE of the lead National Line Agency. The NHFE will work in close contact with the National TD Focal Point in order to prepare a quality NAFR and to meet the requirements regarding content, lay-out and selected theme for the flood season 2015 and 2016.

The following are key tasks of NHFE:

- Coordinate with and provide technical guidance and advice to the NDCE to be serviced from a Lead Line Agency in collecting country specific data and information related to floods in 2015 and 2016 at national, but further specified for provincial, district, commune and village scale, if appropriate and available.
- Identify and organize site visits, if required by the RFMMC, to some key flood-affected areas in consultation with and agreement from National TD Focal Point of each NMC, and responsible National Line Agencies.
- Support the IHFE, Head of Flood Center and FFEs in preparing the national component of the draft 2015 and 2016 Country Flood Report enriched with reference information, of which the contents and lay-out (agreed between International and National Flood Experts) and to be shared



with each respective National Mekong Committee in consultation with lead National Line Agency.

#### 4. Responsibility and Tasks:

The NHFE is required to undertake the following tasks from 01 Apr - 31 Aug 2017 for a maximum of 35 working days. The submission of compilation of flood information and data and analysis include the preparation of the report to the National TD Focal Point, and Head of Flood Center is as input for the drafting of the AMFR-2015 and AMFR-2016.

With technical guidance and coordination to be provided by the IHFE, National TD Focal Point in the respective Member Country, the Head of Flood Center and the FFEs of the MRC TD, the NHFE will compile all data and information collected by the NDCE, check, analysis etc. in order to meet the requirement of the reports; sources/references for any data/information/photograph will be clearly indicated with name and date (institution, person, newspaper, website...).

The following are specific tasks:

- To participate in the Technical and Consultation Meetings in order to discuss and finalize the planning process and completion of the NAFR-2015 and NAFR-2016 and other if necessary.
- To provides technical guidance to and coordinates with the NDCE in collecting all relevant information related to flood events and impacts during 2015 and 2016 (please refer to the TOR for the NDCE for particular tasks).
- To organise site visits, if necessary and required, to be carried out together with the Head of Flood Center and FFEs of the MRC TD for gathering additional data and information as on ground truthing. More specifically:
  - *To select some key flooded locations along the Mekong mainstream including tributaries contribute to the Mekong River.*
  - *To identify and contact, in coordination with National TD Focal Point, persons in those flooded areas who have predominant involvement in managing the flood event (Govt. authorities, NGOs and etc.) and organise the meetings in order to visit to the most affected people in that area.*
  - *To participate with the Head of Flood Center or FFEs of the MRC TD in field visits.*
- To analyse and write the draft NAFR-2015 and NAFR-2016, including prepare for the presentations.
  - *As the identification of Flood impacts in terms of casualties and damages is a complex process, the NHFE is requested to carefully interact with the MRC TD and NDCE and to come up with recommendations that may include taking advantage of the Annual Performance Evaluation Report of the MRC-Flash Flood Guidance System. Likewise the NHFE may also take advantage of the Annual Performance Evaluation Report of the Mekong Flood Forecasting System for the Mekong River mainstream.*
  - *To structure the National Annual Flood Report such, that river floods and flash floods are both thoroughly analyzed and described, and impact of the floods are separately identified and assessed in terms of casualties and damages. Casualties and damages will be identified, quantified and presented for national territory, being part of the LMB, as well as for each Member Country as a whole.*
  - *Draft a National/Country Flood Report 2015 and 2016 with analysis of flood situation and impact by typhoon and storms for 2015 and 2016, which later on could be served as a basis for the development of the National/Country Report of each respective country to be presented at any workshops and forums as required by the RFMMC.*

- *The report should incorporate in the introductory part of the NAFR-2015 and NAFR-2016 the deficit or surplus rainfall value over the LMB based on the comparison with the long term average basin rainfall.*
- To finalize the report according to comments gathered from the meetings, IHFE and MRC TD staff.
  - *based on comments provided by the IHFE, the Head of Flood Center and FFEs of the RFMMC, the NHFE should take into consideration and finalize the report for the submission to the RFMMC for payment. Request by IHFE and/or RFMMC should fulfill include any graphs, maps, better images and photos etc.*
- To regularly report of the progress and any related issues to the respective National TD Focal Point.
  - *Share the agreed content and structure of the report and incorporate their ideas and opinion if any.*
  - *Seek advice and guidance from the NMC thru National TD Focal Point for any mission inside the countries.*
  - *Make a regular reporting of the progress including any challenges for the reporting if any.*
  - *Submit the draft and final reports to RFMMC through the National TD Focal Point.*
- To duly perform other tasks as required and deemed necessary.

**Important Note:** flood data and information collected must be made representative for “Country scale” and “LMB scale”, which means that on “LMB scale” parts of the Member Country within the LMB are relevant only. All data and information should have “reference sources”.

## 5. Deliverables and timelines:

The following outputs have to be produced by the NHFE and to be submitted to the TD Focal Point of the NMC, Head of Flood Center and FFEs of the RFMMC, not later than 30 August 2017:

1. A NAFR-2015 and NAFR-2016 with analysis of flash flood situation in the country and in the LMB scale.
2. Maps and satellite images (if available) indicate the location of flood(s) in 2015 and 2016 (for instance for Province, District, Commune, Village, Watershed), and periods of occurrence.
3. Hard copies and soft copies of all data and information collected. Each document filed in this folder will be carefully numbered and agreement for publication when necessary - copyright (photograph, newspaper and etc.) will be attached. A summary list of the documents will be placed in front of the folder indicating: document number, title/short description of the content, source of information and date of information.
4. A CD-ROM collecting all documents and information mentioned above, that are existing in “soft copy”.
5. Power point presentation of the NAFR-2015 and NAFR-2016 covering all key aspects and information related to the theme and report contents during the technical and consultation meetings. The presentation for the Consultation Meeting should be modified and updated in according to the final version of the NAFR-2015 and NAFR-2016 as a result of the Technical Meeting.



## 6. Working Arrangement:

The schedule presented below is shown key activities should be performed and in according to the schedule.

<b>Overall tentative work plan for the Annual Mekong Flood Report 2015 and 2016</b>	
<b>Schedule</b>	<b>Key activities and by whom</b>
Feb/Mar 2017	<b>Experts selections</b> <ul style="list-style-type: none"> <li>- TD prepares TORs and in close cooperation with HRS and NMCs to recruit/select the experts (NMC will send CV and proposed candidates) and for international expert the waiver may be proceeding or recruitment.</li> <li>- HRS will prepare contract and get the contracts signed off</li> </ul>
Apr/May 2017	<b>Data collection, analysis and prepare a report</b> <ul style="list-style-type: none"> <li>- IHFE prepares the draft outline/lay-out of the AMFR-2015 and AMFR-2016 in according to the selected themes, then send this draft material to the NHFEs thru TD</li> <li>- All comments are gathered within a week and send to IHFE for the finalization</li> <li>- Data and information collection by NDCE</li> <li>- Reporting writing by NHFEs based on agreed contents</li> <li>- Communications between key stakeholders (experts)</li> <li>- Perform other related tasks if deem necessary</li> </ul>
Jul/Aug 2017	<b>Draft finalization of the reports</b> <ul style="list-style-type: none"> <li>- NHFE submits the first draft reports to IHFE thru the National Focal Point of TD and TD</li> <li>- IHFE reviews and provide comments on the first reports NHFEs to those who concerns (country by country)</li> <li>- NHFE revises and updates the report based on inputs from IHFE (if necessary and due to lack of data and information as required, IHFE should contact the NDCE to help and supplement)</li> <li>- Resubmit the draft final reports to TD and NMCs</li> </ul>
Sept 2017	<b>Regional Technical Meeting (RTM)</b> <ul style="list-style-type: none"> <li>- TD organizes and conducts a Regional Technical Meeting (RTM) to discuss the draft AMFR-2015 and AMFR-2016.</li> <li>- IHFE participates and processes comments obtained from RTM and preparing the 2<sup>nd</sup> final draft AMFR-2015 and AMFR-2016.</li> <li>- TD to adjust and get approval of the AMFR-2015 and AMFR-2016.</li> </ul>
Nov 2017	<b>Format, publication and dissemination (by TD)</b>

Note: All experts if invited should prepare and present the report for meetings when appropriate. TD will cover all related travel costs include DSA in according to MRC rule.

## 7. Qualifications and Requirements:

the following qualifications for the NHFE are required:

- at least MSc level university degree in a field of study closely related to water engineering, i.e., hydrology, hydraulics, flood plain analysis and flood disaster management and/or integrated water resources management;
- proven long-term experience in a field closely related to , i.e., hydrology, hydraulics, floodplain analysis and flood disaster management;

- a minimum of 5 years working experience in the field of integrated water resources management, irrigation and drainage and/or disaster/flood management and mitigation;
- a minimum of 5 years' experience in working in one or more MRC Member Countries and previously was contracted for the reports as advantage;
- have been working with modern technology for collection, processing and presentation of data and information;
- general knowledge and experience with remote sensing imaging, satellite imaging, GIS mapping and experience with designing and writing general reports, including structuring, editing, presenting, documenting and designing lay-out;
- good general understanding of meteorological/hydrological processes, hydrological and hydraulic/hydrodynamic processes, topo-hydrographic conditions, generating and/or affecting flood conditions; and
- good general understanding of the needs for hydrologic and hydraulic data collection, hydrologic and hydraulic modeling, and flood forecasting and warning processes to reduce the vulnerability of the communities living in the LMB;
- good inter-personal, communication, presentation and reporting skills;
- good advantage for the past national hydrology/flood expert.

#### **8. Condition of Payment:**

1. Payment will be made based on the actual number of working days provided by consultants in MRC time sheet template and upon receipt of request from RFMMC and completion of specific tasks and deliverables specified in the TOR;
2. The Final payment will be made upon satisfactory completion of the assignment and upon receipt of the evaluation form for the consultancy services from Head of RFMMC;

#### **9. Intellectual Property Rights:**

Intellectual property – IPR: Information, data, database, knowledge resources in the forms of briefings, reports, proceedings, articles, essay, ect. Issued by and for the MRCS will be the MRCS property. Any utility, announcement and disclosure that are without MRCS highest levels of authority permission is considered illegal and will be charged by relevant local and international legal procedures.

#### **10. Signature Block:**

Signed: \_\_\_\_\_ TSD Director Date: \_\_\_\_\_

Signed: \_\_\_\_\_ National TD Focal Point Date: \_\_\_\_\_

Signed: \_\_\_\_\_ NHFE Date: \_\_\_\_\_



Since 2016, the MRC has undergone an organizational restructure to become a leaner organization; of which the former FMM Programme structure has changed to a team under Technical Support Division (TD), and AMFR remain a key output of the team. The AMFR is divided into an annual flood analysis and a special theme that is selected in close cooperation with the MRC Member Countries. The theme touches each year upon a different topic related to floods and droughts. For AMFR-2015 and AMFR-2016, the following themes have been defined: **“10-year lessons learnt of annual flood experiences”** and **“Emerging technology to cope with flood”** respectively. It is considered an instrumental topic to adjust the structure of the AMFR, as Member Countries have expressed that Flash Floods are perceived equally important as River Floods.

The report is usually developed through contributions from the national data collection experts (NDCE), the national hydrology/flood experts (NHFE), while the international hydrology/flood expert (IHFE) consolidates the four national reports into one AMFR. The report fosters common understanding and enables the Flood Management and Mitigation Programme (FMMP) to publish the AMFR-2014 for the benefits of the MRC Member Countries and other stakeholders.

#### **4. Responsibility and Tasks:**

Both the National Data Collection Expert (NDCE) and the National Hydrology Flood Expert (NHFE) of the MRC Member Countries are required in order to assist the FMMP/RFMMC in producing their respective National Annual Flood Reports for 2015 (NAFR-2015) and 2016 (NAFR-2016). This will be done in close coordination with the National TD Focal Point of each country. The NAFR-2015 and NAFR-2016 will contribute to the overall MRC AMFR-2015 and AMFR-2016; these contributions will be compiled and prepared by the IHFE.

The NDCE of the lead National Line Agency is specifically required to work in close contact with the NHFE, who will provide technical guidance and advice to the NDCE. The NDCE will work under the direct supervision of the respective National TD Focal Point of the National Mekong Committee (NMC), and the overall supervision of the Head of Flood Center and the Flood Forecasting Experts (FFE) of the MRC TD.

The following are key tasks of NDCE:

- The NDCE will collect and provide country specific data and information related to the theme for 2015 and 2016 at national scale (both country and Tributaries Flood Areas) and further specified for provincial, district, commune and village scales, if appropriate and available in addressing the report's requirement by NHFE and the RFMMC.
- The NDCE will support the IHFE, the Head of Flood Center and FFEs in preparing the national component of the draft Country Flood Report 2015 and 2016, enriched with reference information, of which the contents and lay-out (as agreed between International and National Flood Experts) and to be shared with each respective National Mekong Committee in consultation with lead National Line Agency.

#### **5. Deliverables and timelines:**

The NDCE is required to undertake the following tasks with defined schedule from 01 Apr - 30 May 2017 for a maximum of 10 working days. The submission of the collected flood information and data to the NHFE is as input for flash flood analysis and report drafting.

With technical guidance and coordination to be provided by the NHFE, the National TD Focal Point of the NMC, the Head of Flood Center and the FFE of the MRC TD, the NDCE will collect all relevant information and data including maps related to the flood events and impact of typhoon/tropical storm on LMB and Flood Areas during 2015 and 2016 and past flood events if necessary; sources/references for any





# Mekong River Commission

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Telephone: (856-21) 263 263. Facsimile: (856-21) 263 264

## TERMS OF REFERENCE

### National Data Collection Expert (NDCE) for the Production of the National Annual Flood Report for 2015 (NAFR-2015) and 2016 (NAFR-2016)

#### 1. Consultancy Summary:

**Title:** National Data Collection Experts (NDCE).

**Duration:** A maximum of 10 working days (non-continuous) over the period of 2 month starting from 01 Apr - 31 May 2017.

**Duty Station** In respective countries such as Cambodia, Lao PDR, Thailand and Vietnam where s/he based.

#### 2. Background:

The **Mekong River Commission (MRC)** was established by the 1995 *Agreement on Cooperation for the Sustainable Development of the Mekong River Basin*, between the governments of Cambodia, Laos, Thailand and Viet Nam, in accordance with this Agreement. The **Mission** of MRC is: "to promote and coordinate sustainable management and development of water and related resources for the countries' mutual benefit and the people's well-being by implementing strategic programmes and activities, and providing scientific information and policy advice."

#### 3. Objective of the consultancy:

Right after the 2000 severe flood, the Mekong River Commission Council instructed the MRC Secretariat (MRCS) to prepare a Flood Management and Mitigation (FMM) Strategy using a highly participatory process of interaction with all National Mekong Committees (NMCs) and Line Agencies (NLAs) in the four MRC Member Countries, Development Partners, the Civil Society Organizations (CSOs) and International Organizations (IOs), etc. The development objective of the MRC Flood Management and Mitigation Programme (FMMP) is "to prevent, minimize or mitigate people's suffering and economic losses due to floods, while preserving the environmental benefits of floods". The objective is the key to a balanced approach to Flood Management and Mitigation (FMM) and reinforces the region's commitment to "living with floods". This programme will also maintain an accurate flood forecasting system, to act as a facilitator on trans-boundary issues and build capacity in Member Countries.

The FMM Programme 2004-2010 committed itself to annually prepare a Mekong Flood Report for the MRC, which represented an account of the floods occurred in the LMB to be presented to the MRC Joint Committee and Council. The Annual Mekong Flood Report (AMFR) also served as source of information and as a reference document, not only for the Joint Committee and Council members, but also for a wider audience, like the agencies responsible for the disaster management and mitigation functions in the Member Countries, institutes involved in water resources planning, development partners, NGO's etc.

The FMM Programme 2011-2015, which is a support programme to the Regional Flood Management and Mitigation Centre (RFMMC), continues the commitment to prepare the Annual Mekong Flood Report (AMFR). The Annual Mekong Flood Report is a FMMP product; between 2005 and 2013 a total of 9 AMFRs were successfully published by the FMMP in cooperation with the four MRC Member Countries. The Annual Mekong Flood Reports 2014 is scheduled to be released soon.



data/information/photograph will be clearly indicated with name and date (institution, person, newspaper, website...).

The following are the specific tasks:

- To identify sources where data & information related to the flash flood events and impact of typhoon/tropical storm on flash flood areas during 2015 and 2016 that can be obtained from line agencies concerned, local authorities, specific institutions managing disasters, NGO's, newspaper, website and also based on the experience of earlier years, for example the NAFRs in 2006 to 2014;
- To collect existing data & information, regarding location of flash floods in the country and LMB in the period of occurrence including satellite images. That information must be located precisely on a map (Province, District, Village, and Watershed). Collect existing data and information, regarding the mechanism of flooding (overtopping/breaking dikes, levies), extent, depth and duration of flooding;
- To collect existing data & information, regarding damage to crops, land, houses, public infrastructure, embankments, dikes, roads etc. with estimate of the amount of the damage (including statistical information, of damage in socio-economic terms).
- To collect existing data & information regarding rescue operations and first aid requirements/services, on how authorities, disaster agencies, local, affected people responded to the floods, and collect information on the effectiveness or ineffectiveness of the response.
- To collect the flood preparedness plan and response from government at different levels (national, provincial, district, commune or village levels)
- To collect existing data & information on reconstruction efforts by individuals, groups, local population and authorities, NGO's and others.
- To collect existing photographs of the flood conditions, particularly regarding the "human face" of flooding. Agreement must be obtained for publishing the photographs, the ownership will be with the MRCS.
- To collect photographs in the Flood Report when necessary (copyright - agreement must be obtained for publishing the photographs, the ownership will be with the MRCS).
- To collect existing data & information related to human victims (dead and injured), classified in age and disaggregated gender and gender sensitivity, including particular reasons or conditions (optional and if data are available)
- To participate in the Technical Working Group Meeting(s) in order to discuss and finalize the planning process of the NAFR-2015 and NAFR-2016, if necessary.
- To duly perform other tasks as required and deemed necessary.

**Important Note:** Flood data and information collected must be made representative for "Country scale" and "LMB scale", which means that on "LMB scale" parts of the Member Country within the LMB are relevant only. All data and information should have "reference sources".

## **6. Working Arrangement:**

The below presented below is shown key activities should be performed and in according to the schedule.

<b>Overall tentative work plan for the Annual Mekong Flood Report 2015 and 2016</b>	
<b>Schedule</b>	<b>Key activities and by whom</b>
Feb/Mar 2017	<b>Experts selections</b> <ul style="list-style-type: none"> <li>- TD prepares TORs and in close cooperation with HRS and NMCs to recruit/select the experts (NMC will send CV and proposed candidates) and for international expert the waiver may be proceeding or recruitment.</li> <li>- HRS will prepare contract and get the contracts signed off</li> </ul>
Apr/May 2017	<b>Data collection, analysis and prepare a report</b> <ul style="list-style-type: none"> <li>- IHFE prepares the draft outline/lay-out of the AMFR-2015 and AMFR-2016 in according to the selected themes, then send this draft material to the NHFEs thru TD</li> <li>- All comments are gathered within a week and send to IHFE for the finalization</li> <li>- Data and information collection by NDCE</li> <li>- Reporting writing by NHFEs based on agreed contents</li> <li>- Communications between key stakeholders (experts)</li> <li>- Perform other related tasks if deem necessary</li> </ul>
Jul/Aug 2017	<b>Draft finalization of the reports</b> <ul style="list-style-type: none"> <li>- NHFE submits the first draft reports to IHFE thru the National Focal Point of TD and TD</li> <li>- IHFE reviews and provide comments on the first reports NHFEs to those who concerns (country by country)</li> <li>- NHFE revises and updates the report based on inputs from IHFE (if necessary and due to lack of data and information as required, IHFE should contact the NDCE to help and supplement)</li> <li>- Resubmit the draft final reports to TD and NMCs</li> </ul>
Sep 2017	<b>Regional Technical Meeting (RTM)</b> <ul style="list-style-type: none"> <li>- TD organizes and conducts a Regional Technical Meeting (RTM) to discuss the draft AMFR-2015 and AMFR-2016.</li> <li>- IHFE participates and processes comments obtained from RTM and preparing the 2<sup>nd</sup> final draft AMFR-2015 and AMFR-2016.</li> <li>- TD to adjust and get approval of the AMFR-2015 and AMFR-2016.</li> </ul>
Nov 2017	<b>Format, publication and dissemination (by TD)</b>

*Note: All experts if invited should prepare and present the report for meetings when appropriate. TD will cover all related travel costs include DSA in according to MRC rule.*

## **7. Qualification and requirements:**

The following outputs have to be produced by the NDCE and to be submitted to the NHFE (in steps) starting February and have to be submitted in full, not later than 30 May 2017. However, this schedule should be readjusted and agreed with the NHFE.

1. Flood-related information and data in flooded locations in the Country and LMB.
2. Maps and satellite images (if available) indicate the location of 2015 and 2016 flood(s) (for instance for Province, District, Commune, Village, Watershed), and periods of occurrence.
3. Hard copies and soft copies of all data and information collected. Each document filed in this folder will be carefully numbered and agreement for publication when necessary- copyright (photograph, newspaper and etc.) will be attached. A summary list of the documents will be placed in front of the



folder indicating: document number, title/short description of the content, source of information and date of information.

4. A CD-ROM collecting all documents and information mentioned above, that are existing in "soft copy".
5. All photographs are free of copyright and can be freely used by the MRCS.

The following qualifications for the NDCE are required:

- The national data collection expert must have a university degree in a field of study closely related to hydrology and integrated water resources management;
- The national data collection expert must have a minimum of 5 years working experience in the field of integrated water resources management, irrigation and drainage and/or disaster/flood management and mitigation;
- The national data collection expert must have been working with modern technology for collection, processing and presentation of data and information; he/she must have general knowledge and experience with remote sensing imaging, satellite imaging, GIS mapping and experience with writing general reports;
- The national data collection expert must have good general understanding of meteorological-hydrological processes, hydrological and hydraulic processes, topo-hydrographic conditions;
- The national data collection expert must have some understanding of the needs for hydrologic and hydraulic data collection, and warning processes to reduce the vulnerability of the communities living in the LMB;
- Strong inter-personal and communication skills.
- Great advantage is for those who provided this service in the past.

#### **8. Condition of Payment:**

1. Payment will be made based on the actual number of working days provided by consultants in MRC time sheet template and upon receipt of request from RFMMC and completion of specific tasks and deliverables specified in the TOR;

2. The Final payment will be made upon satisfactory completion of the assignment and upon receipt of the evaluation form for the consultancy services from Head of RFMMC;

#### **9. Intellectual Property Rights:**

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**10. Signature Block:**

Signed: \_\_\_\_\_ TD Director

Date: \_\_\_\_\_

Signed: \_\_\_\_\_ National TD Focal Point

Date: \_\_\_\_\_

Signed: \_\_\_\_\_ NDCE

Date: \_\_\_\_\_





# Mekong River Commission

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## TERMS OF REFERENCE

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#### 1. Consultancy Summary:

- Title:** National Data Collection Experts (NDCE).
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- Duty Station** In respective countries such as Cambodia, Lao PDR, Thailand and Vietnam where s/he based.

#### 2. Background:

The **Mekong River Commission (MRC)** was established by the 1995 *Agreement on Cooperation for the Sustainable Development of the Mekong River Basin*, between the governments of Cambodia, Laos, Thailand and Viet Nam, in accordance with this Agreement. The **Mission** of MRC is: "to promote and coordinate sustainable management and development of water and related resources for the countries' mutual benefit and the people's well-being by implementing strategic programmes and activities, and providing scientific information and policy advice."

#### 3. Objective of the consultancy:

Right after the 2000 severe flood, the Mekong River Commission Council instructed the MRC Secretariat (MRCS) to prepare a Flood Management and Mitigation (FMM) Strategy using a highly participatory process of interaction with all National Mekong Committees (NMCs) and Line Agencies (NLAs) in the four MRC Member Countries, Development Partners, the Civil Society Organizations (CSOs) and International Organizations (IOs), etc. The development objective of the MRC Flood Management and Mitigation Programme (FMMP) is "to prevent, minimize or mitigate people's suffering and economic losses due to floods, while preserving the environmental benefits of floods". The objective is the key to a balanced approach to Flood Management and Mitigation (FMM) and reinforces the region's commitment to "living with floods". This programme will also maintain an accurate flood forecasting system, to act as a facilitator on trans-boundary issues and build capacity in Member Countries.

The FMM Programme 2004-2010 committed itself to annually prepare a Mekong Flood Report for the MRC, which represented an account of the floods occurred in the LMB to be presented to the MRC Joint Committee and Council. The Annual Mekong Flood Report (AMFR) also served as source of information and as a reference document, not only for the Joint Committee and Council members, but also for a wider audience, like the agencies responsible for the disaster management and mitigation functions in the Member Countries, institutes involved in water resources planning, development partners, NGO's etc.

The FMM Programme 2011-2015, which is a support programme to the Regional Flood Management and Mitigation Centre (RFMMC), continues the commitment to prepare the Annual Mekong Flood Report (AMFR). The Annual Mekong Flood Report is a FMMP product; between 2005 and 2013 a total of 9 AMFRs were successfully published by the FMMP in cooperation with the four MRC Member Countries. The Annual Mekong Flood Reports 2014 is scheduled to be released soon.



Since 2016, the MRC has undergone an organizational restructure to become a leaner organization; of which the former FMM Programme structure has changed to a team under Technical Support Division (TD), and AMFR remain a key output of the team. The AMFR is divided into an annual flood analysis and a special theme that is selected in close cooperation with the MRC Member Countries. The theme touches each year upon a different topic related to floods and droughts. For AMFR-2015 and AMFR-2016, the following themes have been defined: **“10-year lessons learnt of annual flood experiences”** and **“Emerging technology to cope with flood”** respectively. It is considered an instrumental topic to adjust the structure of the AMFR, as Member Countries have expressed that Flash Floods are perceived equally important as River Floods.

The report is usually developed through contributions from the national data collection experts (NDCE), the national hydrology/flood experts (NHFE), while the international hydrology/flood expert (IHFE) consolidates the four national reports into one AMFR. The report fosters common understanding and enables the Flood Management and Mitigation Programme (FMMP) to publish the AMFR-2014 for the benefits of the MRC Member Countries and other stakeholders.

#### **4. Responsibility and Tasks:**

Both the National Data Collection Expert (NDCE) and the National Hydrology Flood Expert (NHFE) of the MRC Member Countries are required in order to assist the FMMP/RFMMC in producing their respective National Annual Flood Reports for 2015 (NAFR-2015) and 2016 (NAFR-2016). This will be done in close coordination with the National TD Focal Point of each country. The NAFR-2015 and NAFR-2016 will contribute to the overall MRC AMFR-2015 and AMFR-2016; these contributions will be compiled and prepared by the IHFE.

The NDCE of the lead National Line Agency is specifically required to work in close contact with the NHFE, who will provide technical guidance and advice to the NDCE. The NDCE will work under the direct supervision of the respective National TD Focal Point of the National Mekong Committee (NMC), and the overall supervision of the Head of Flood Center and the Flood Forecasting Experts (FFE) of the MRC TD.

The following are key tasks of NDCE:

- The NDCE will collect and provide country specific data and information related to the theme for 2015 and 2016 at national scale (both country and Tributaries Flood Areas) and further specified for provincial, district, commune and village scales, if appropriate and available in addressing the report's requirement by NHFE and the RFMMC.
- The NDCE will support the IHFE, the Head of Flood Center and FFEs in preparing the national component of the draft Country Flood Report 2015 and 2016, enriched with reference information, of which the contents and lay-out (as agreed between International and National Flood Experts) and to be shared with each respective National Mekong Committee in consultation with lead National Line Agency.

#### **5. Deliverables and timelines:**

The NDCE is required to undertake the following tasks with defined schedule from 01 Apr - 30 May 2017 for a maximum of 10 working days. The submission of the collected flood information and data to the NHFE is as input for flash flood analysis and report drafting.

With technical guidance and coordination to be provided by the NHFE, the National TD Focal Point of the NMC, the Head of Flood Center and the FFE of the MRC TD, the NDCE will collect all relevant information and data including maps related to the flood events and impact of typhoon/tropical storm on LMB and Flood Areas during 2015 and 2016 and past flood events if necessary; sources/references for any



data/information/photograph will be clearly indicated with name and date (institution, person, newspaper, website...).

The following are the specific tasks:

- To identify sources where data & information related to the flash flood events and impact of typhoon/tropical storm on flash flood areas during 2015 and 2016 that can be obtained from line agencies concerned, local authorities, specific institutions managing disasters, NGO's, newspaper, website and also based on the experience of earlier years, for example the NAFRs in 2006 to 2014;
- To collect existing data & information, regarding location of flash floods in the country and LMB in the period of occurrence including satellite images. That information must be located precisely on a map (Province, District, Village, and Watershed). Collect existing data and information, regarding the mechanism of flooding (overtopping/breaking dikes, levies), extent, depth and duration of flooding;
- To collect existing data & information, regarding damage to crops, land, houses, public infrastructure, embankments, dikes, roads etc. with estimate of the amount of the damage (including statistical information, of damage in socio-economic terms).
- To collect existing data & information regarding rescue operations and first aid requirements/services, on how authorities, disaster agencies, local, affected people responded to the floods, and collect information on the effectiveness or ineffectiveness of the response.
- To collect the flood preparedness plan and response from government at different levels (national, provincial, district, commune or village levels)
- To collect existing data & information on reconstruction efforts by individuals, groups, local population and authorities, NGO's and others.
- To collect existing photographs of the flood conditions, particularly regarding the "human face" of flooding. Agreement must be obtained for publishing the photographs, the ownership will be with the MRCS.
- To collect photographs in the Flood Report when necessary (copyright - agreement must be obtained for publishing the photographs, the ownership will be with the MRCS).
- To collect existing data & information related to human victims (dead and injured), classified in age and disaggregated gender and gender sensitivity, including particular reasons or conditions (optional and if data are available)
- To participate in the Technical Working Group Meeting(s) in order to discuss and finalize the planning process of the NAFR-2015 and NAFR-2016, if necessary.
- To duly perform other tasks as required and deemed necessary.

**Important Note:** Flood data and information collected must be made representative for "Country scale" and "LMB scale", which means that on "LMB scale" parts of the Member Country within the LMB are relevant only. All data and information should have "reference sources".

## 6. Working Arrangement:

The below presented below is shown key activities should be performed and in according to the schedule.

<b>Overall tentative work plan for the Annual Mekong Flood Report 2015 and 2016</b>	
<b>Schedule</b>	<b>Key activities and by whom</b>
Feb/Mar 2017	<b>Experts selections</b> <ul style="list-style-type: none"> <li>- TD prepares TORs and in close cooperation with HRS and NMCs to recruit/select the experts (NMC will send CV and proposed candidates) and for international expert the waiver may be proceeding or recruitment.</li> <li>- HRS will prepare contract and get the contracts signed off</li> </ul>
Apr/May 2017	<b>Data collection, analysis and prepare a report</b> <ul style="list-style-type: none"> <li>- IHFE prepares the draft outline/lay-out of the AMFR-2015 and AMFR-2016 in according to the selected themes, then send this draft material to the NHFEs thru TD</li> <li>- All comments are gathered within a week and send to IHFE for the finalization</li> <li>- Data and information collection by NDCE</li> <li>- Reporting writing by NHFEs based on agreed contents</li> <li>- Communications between key stakeholders (experts)</li> <li>- Perform other related tasks if deem necessary</li> </ul>
Jul/Aug 2017	<b>Draft finalization of the reports</b> <ul style="list-style-type: none"> <li>- NHFE submits the first draft reports to IHFE thru the National Focal Point of TD and TD</li> <li>- IHFE reviews and provide comments on the first reports NHFEs to those who concerns (country by country)</li> <li>- NHFE revises and updates the report based on inputs from IHFE (if necessary and due to lack of data and information as required, IHFE should contact the NDCE to help and supplement)</li> <li>- Resubmit the draft final reports to TD and NMCs</li> </ul>
Sep 2017	<b>Regional Technical Meeting (RTM)</b> <ul style="list-style-type: none"> <li>- TD organizes and conducts a Regional Technical Meeting (RTM) to discuss the draft AMFR-2015 and AMFR-2016.</li> <li>- IHFE participates and processes comments obtained from RTM and preparing the 2<sup>nd</sup> final draft AMFR-2015 and AMFR-2016.</li> <li>- TD to adjust and get approval of the AMFR-2015 and AMFR-2016.</li> </ul>
Nov 2017	<b>Format, publication and dissemination (by TD)</b>

*Note: All experts if invited should prepare and present the report for meetings when appropriate. TD will cover all related travel costs include DSA in according to MRC rule.*

## **7. Qualification and requirements:**

The following outputs have to be produced by the NDCE and to be submitted to the NHFE (in steps) starting February and have to be submitted in full, not later than 30 May 2017. However, this schedule should be readjusted and agreed with the NHFE.

1. Flood-related information and data in flooded locations in the Country and LMB.
2. Maps and satellite images (if available) indicate the location of 2015 and 2016 flood(s) (for instance for Province, District, Commune, Village, Watershed), and periods of occurrence.
3. Hard copies and soft copies of all data and information collected. Each document filed in this folder will be carefully numbered and agreement for publication when necessary- copyright (photograph, newspaper and etc.) will be attached. A summary list of the documents will be placed in front of the



folder indicating: document number, title/short description of the content, source of information and date of information.

4. A CD-ROM collecting all documents and information mentioned above, that are existing in "soft copy".
5. All photographs are free of copyright and can be freely used by the MRCS.

The following qualifications for the NDCE are required:

- The national data collection expert must have a university degree in a field of study closely related to hydrology and integrated water resources management;
- The national data collection expert must have a minimum of 5 years working experience in the field of integrated water resources management, irrigation and drainage and/or disaster/flood management and mitigation;
- The national data collection expert must have been working with modern technology for collection, processing and presentation of data and information; he/she must have general knowledge and experience with remote sensing imaging, satellite imaging, GIS mapping and experience with writing general reports;
- The national data collection expert must have good general understanding of meteorological-hydrological processes, hydrological and hydraulic processes, topographic conditions;
- The national data collection expert must have some understanding of the needs for hydrologic and hydraulic data collection, and warning processes to reduce the vulnerability of the communities living in the LMB;
- Strong inter-personal and communication skills.
- Great advantage is for those who provided this service in the past.

#### **8. Condition of Payment:**

1. Payment will be made based on the actual number of working days provided by consultants in MRC time sheet template and upon receipt of request from RFMMC and completion of specific tasks and deliverables specified in the TOR;

2. The Final payment will be made upon satisfactory completion of the assignment and upon receipt of the evaluation form for the consultancy services from Head of RFMMC;

#### **9. Intellectual Property Rights:**

Intellectual property – IPR: Information, data, database, knowledge resources in the forms of briefings, reports, proceedings, articles, essay, ect. Issued by and for the MRCS will be the MRCS property. Any utility, announcement and disclosure that are without MRCS highest levels of authority permission is considered illegal and will be charged by relevant local and international legal procedures.

**10. Signature Block:**

Signed: \_\_\_\_\_ TD Director

Date: \_\_\_\_\_

Signed: \_\_\_\_\_ National TD Focal Point

Date: \_\_\_\_\_

Signed: \_\_\_\_\_ NDCE

Date: \_\_\_\_\_