

# Strengthened drought and flood management through improved science-based information availability and management in Myanmar

Deliverable 1 (activity 1.1) List of stakeholders and bilateral meeting notes

UNFCCC Climate Technology Centre  
and Network

Report

November 2018

This report has been prepared under the DHI Business Management System certified by Bureau Veritas to comply with ISO 9001 (Quality Management)



Approved by

29-11-2018

X 

---

Oluf Z. Jessen  
Head of Projects  
Signed by: Oluf Zeilund Jessen

# Strengthened drought and flood management through improved science-based information availability and management in Myanmar

Deliverable 1 (activity 1.1) List of stakeholders and bilateral meeting notes

Prepared for UNFCCC Climate Technology Centre and Network

Represented by Ms Jaime Revenaz-Webbe and Ms Emma Hannula

---

Project manager	Sílvia Leirião
Quality supervisor	Oluf Zeilund Jessen
Prepared by	Neelam Bhusal and Sílvia Leirião

Project number	11820065
Approval date	30 November 2018
Revision	Final 1.0
Classification	Open



## EXECUTIVE SUMMARY

Myanmar requested support from the Climate Technology Centre and Network (CTCN) to strengthen water management and increase adaptation to climate variability and climate change. The Green Climate Fund (GCF) Readiness and preparatory support funding was allocated to the request and the CTCN established an agreement for cooperation with DHI for the implementation of the technical assistance.

DHI is working together with the Myanmar Institute for Integrated Development (MIID) and a regional expert the Hydro and Agro Informatics Institute (HAI) of Thailand, and seeking articulation through the Environmental Conservation Department (ECD) of the Ministry of Environmental Conservation and Forestry, the National Designated Authority of the GCF and National Designated Entity of the CTCN.

This report is the first written deliverable of the technical assistance and output of **Activity 1.1 Bilateral meetings and list of stakeholders**. In this activity, a large effort was placed in assembling and establishing communication with director generals of government departments and department leaders in the academic community in Myanmar. This effort was followed by a mission from the 29<sup>th</sup> of October to the 7<sup>th</sup> of December 2018, the team consisting of DHI and MIID, to hold bilateral meetings with each targeted institution shown in the table below. The purpose was to introduce the technical assistance and initiate stakeholder engagement.

Institution	Ministry
Environmental Conservation Department	Ministry of Environmental Conservation and Forestry
Department of Building	Ministry of Construction
Department of Disaster Management	Ministry of Social Welfare, Relief & Resettlement
Department of Hydro Power Implementation	Ministry of Electricity and Energy
Department of Meteorology and Hydrology	Ministry of Transport and Communications
Directorate of Water Resources and Improvement of River Systems	Ministry of Transport and Communications
Hydroinformatics Centre	Ministry of Transport and Communications
Irrigation and Water Utilization Management Department Groundwater Division	Ministry of Agriculture, Livestock and Irrigation
Yangon Technological University	
Yezin University	Ministry of Agriculture, Livestock and Irrigation
Department of Bridges	Ministry of Construction
Department of Agriculture	Ministry of Agriculture, Livestock and Irrigation

The interest in being part of the technical assistance was overwhelmingly positive, with all institutions demonstrating interest in participating in the first national workshop to take place in December 2018. The contact details of relevant staff within each institution was collected and presented in Annex A.

Information regarding data needs and on-going initiatives that could benefit from the outputs of this technical assistance was collected and presented in the meetings notes of Chapter 3. Finally, initial suggestions for locations in Myanmar for the data validation activity were also amongst the data collected and reported herein.

# CONTENTS

<b>1</b>	<b>Introduction .....</b>	<b>1</b>
1.1	Background .....	1
1.2	Objectives .....	2
<b>2</b>	<b>List of stakeholders .....</b>	<b>2</b>
<b>3</b>	<b>Bilateral meetings .....</b>	<b>4</b>
<b>4</b>	<b>Next steps .....</b>	<b>9</b>

## FIGURES

Figure 3.1	Screenshot of the web portal set up to deliver free access to data and information for Myanmar: <a href="http://www.flooddroughtmonitor.com">www.flooddroughtmonitor.com</a> .....	5
------------	--	---

## TABLES

Table 2.1	Name of stakeholders targeted by the technical assistance and respective institutions .....	2
-----------	---	---

## APPENDICES

### **APPENDIX A – List of Stakeholders** Names, Departments & Contact details

## ACRONYMS AND ABBREVIATIONS

CTCN	Climate Technology Centre & Network
DDM	Department of Disaster Management
DG	Director General
DHI	DHI - see more at <a href="http://www.dhigroup.com">www.dhigroup.com</a>
DHPI	Department for Hydro Power Implementation
ECD	Environmental Conservation Department
GCF	Green Climate Fund
HAI	Hydro and Agro Informatics Institute Thailand
HIC	Hydro-Informatics Centre
IWUMD	Irrigation and Water Utilization Management Department
MIID	Myanmar Institute for Integrated Development
NDA	National Designated Authority
NDE	National Designated Entity
UNCST	Uganda National Council for Science and Technology
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change

# 1 Introduction

This report constitutes 'Deliverable 1 List of stakeholders and bilateral meeting notes' of the technical assistance to Myanmar entitled 'Strengthened drought and flood management through improved science-based information availability and management', which started in September 2018 and will end in June 2019. The work plan of this technical assistance is divided into three main activities:

- Activity 1: Assessment of technology and information needs and technology validation
- Activity 2: Development and validation of drought and flood management
- Activity 3: Awareness raising and capacity building for using the established portal

This report is the output from Activity 1.1 Bilateral meetings and list of stakeholders.

## 1.1 Background

The Climate Technology Centre and Network<sup>1</sup> (CTCN) received from the United Nations Framework Convention on Climate Change (UNFCCC) the mandate to promote the accelerated transfer of environmentally sound technologies for low carbon and climate resilient development at the request of developing countries (cf. COP decisions 1/CP.16, 2/CP.17, 14/CP.18, and 25/CP.19). To achieve this, the CTCN provides technology solutions, capacity building and technical advice on policy, legal and regulatory frameworks tailored to the needs of individual countries and based on specific country requests submitted by a National Designated Entity (NDE).

The CTCN is composed of a Climate Technology Centre (CTC) and a Network (cf. COP decision 2/CP.17). The CTCN is hosted by the United Nations Environment Programme (UN Environment) in collaboration with the United Nations Industrial Development Organization (UNIDO) and with the support of 12 independent organizations with expertise in climate technologies called 'CTCN Consortium Partners'. DHI has been selected to be part of the UN Environment-led consortium selected to operate the CTCN by the 196 Parties to the United Nations Framework Convention on Climate Change.

Myanmar requested support from the CTCN to strengthen water management and increase adaptation to climate variability and climate change with specific focus on these areas, through the use of a web-based portal.

The Green Climate Fund<sup>2</sup> (GCF) Readiness and preparatory support funding was allocated to the aforementioned request and the CTCN established an agreement for cooperation with DHI on the 13<sup>th</sup> July 2018, for the implementation of the Response Plan with reference number 2016000035 entitled 'Strengthened drought and flood management through improved science-based information availability and management' in the framework of the approved project: Joint UNEP-UNIDO Programme to host and manage the CTCN.

This agreement is consistent with the Memorandum of Understanding (MoU) effective on 14 October 2013 between UN Environment and DHI. To carry out this technical assistance, DHI is working together with the Myanmar Institute for Integrated Development (MIID) and a regional expert the Hydro and Agro Informatics Institute (HAII) of Thailand.

---

<sup>1</sup> <https://www.ctc-n.org/>

<sup>2</sup> <https://www.greenclimate.fund/home>

## 1.2 Objectives

The assistance requested aimed at the creation of a portal that could support the work of several national and subnational levels government ministries and agencies with a strong direct interest in water and its use as part of their work.

As the CTCN network partner implementing the technical assistance DHI builds on the work done during the “Flood and drought management tools” project (GEF and UNEP 2014-2018) which produced a platform, data processing routines, and developed tools for flood and drought assessments. With the IT infrastructure in place, the technical assistance can further focus on its adaptation to the Myanmar study area, data validation, workshops and training.

The main objectives and outcomes are:

- A web portal for Myanmar with state of the art remote sensing data and information, tools and reporting abilities; to strengthen the basis for informed flood and drought management action; to enable the stakeholders to use satellite data to support the existing ground station data for climate change adaptation measures;
- Testing and validation with two use cases to be selected;
- Strong and interconnected user community;
- Training and capacity building workshops;

The beneficiaries of the project outcomes, are decision makers, planners, managers at the government level as well as the academic community, involved in management of floods, droughts, water resources and climate change adaptation.

## 2 List of stakeholders

With collaboration of the Myanmar Institute for Integrated Development, our local partner, the team put together a list of stakeholders to meet with. In some cases, when the Director General was not available, we met with the Deputy Director. Only one of the targeted institutions was not available to meet, the Department of Agriculture. However, this institution will be invited to the first national workshop under Activity 1.2, and therefore features in the list below.

Table 2.1 Name of stakeholders targeted by the technical assistance and respective institutions

Name	Job Title	Institution	Ministry
Daw Thin Thuzar Win	Deputy Director	Climate Change Division	Ministry of Environmental Conservation and Forestry
Daw Zin Mar Phyu	Staff Officer	Climate Change Division	Ministry of Environmental Conservation and Forestry
Mya Seine Aye	Dep. Director Int. Relations & Regulations Section	Department of Building	Ministry of Construction
U Thein Zaw	Director General	Department of Building	Ministry of Construction
U Wunna	Deputy director	Department of Building	Ministry of Construction
Daw Khaing Mar Win	Deputy Director	Department of Building Water and Sanitation Division	Ministry of Construction

Name	Job Title	Institution	Ministry
Min Soe Han	Deputy Staff officer	Department of Disaster Management	Ministry of Social Welfare, Relief & Resettlement
Dr Min Thein	Director	Department of Disaster Management	Ministry of Social Welfare, Relief & Resettlement
Soe Myint Khine	Staff officer (Civil)	Department of Hydro Power Implementation	Ministry of Electricity and Energy
U Mya Thura	Director Planning and Works	Department of Hydro Power Implementation	Ministry of Electricity and Energy
U Khin Maung Win	Director General Electric Power Generation Enterprise	Department of Hydro Power Implementation	Ministry of Electricity and Energy
Mya Kyae Mone	Deputy Director Design Branch	Department of Hydro Power Implementation	Ministry of Electricity and Energy
Thandar Aye	Staff officer	Department of Meteorology and Hydrology	Ministry of Transport and Communications
Dr Kyaw Moe Oo	Director General	Department of Meteorology and Hydrology	Ministry of Transport and Communications
Daw Khin Cho Cho Shein	Deputy Director General	Department of Meteorology and Hydrology	Ministry of Transport and Communications
Daw Saw Mya Mya Hlaing	Assistant Director	Directorate of Water Resources and Improvement of River Systems	Ministry of Transport and Communications
Daw Saw Sanda Win	Assistant Director	Directorate of Water Resources and Improvement of River Systems	Ministry of Transport and Communications
U Win Hlaing	Director	Directorate of Water Resources and Improvement of River Systems	Ministry of Transport and Communications
U Hla Maung Thein	Director General	Environmental Conservation Department	Ministry of Environmental Conservation and Forestry
Sein Htoon Linn	Deputy Director General	Environmental Conservation Department	Ministry of Environmental Conservation and Forestry
Dr. Khin Ni Ni Thein	Director	Hydroinformatics Centre	Ministry of Transport and Communications
U Than Zaw	Deputy Director	Irrigation and Water Utilization Management Department Groundwater Division	Ministry of Agriculture, Livestock and Irrigation

Name	Job Title	Institution	Ministry
U Thu Ra	Deputy Director	Irrigation and Water Utilization Management Department Groundwater Division	Ministry of Agriculture, Livestock and Irrigation
U Htay Lwin	General Director	Irrigation and Water Utilization Management Department Groundwater Division	Ministry of Agriculture, Livestock and Irrigation
U Thant Zin	Staff officer	Irrigation and Water Utilization Management Department Groundwater Division	Ministry of Agriculture, Livestock and Irrigation
Thein Zaw Htoon	Instructor	Myanmar Maritime University River & Coastal Department	
Dr. Su Wai Aung	Assistant lecturer	Yangon Technological University	
Dr Daw Myint Thein	Department Leader	Yangon Technological University	
U Nay Myo Aung	Head of Admin Rector Office	Yezin University	Ministry of Agriculture, Livestock and Irrigation
Daw Nang Hseng Hom	Rector	Yezin University	Ministry of Agriculture, Livestock and Irrigation

### 3 Bilateral meetings

The first bilateral meeting took place over skype September 5<sup>th</sup>, 2018 with Dr Khin Ni Ni Thein, manager of the Hydro-informatics Centre. The remainder of the bilateral meetings took place in Naypyitaw and Yangon from the 29<sup>th</sup> October to the 6<sup>th</sup> of November 2018. The DHI/MIID team consisted of the project manager and a Burmese speaking consultant.

Official letters with meeting requests were sent to the offices of the Director General of the identified institutions via fax. Several phone calls were carried out to follow up until the ministries and departments of government found the available correct counterpart to meet with the DHI/MIID team.

The meeting agenda was the same for all meetings held except for the Environmental Department (ECD), Climate Change Division of the Ministry of Environmental Conservation and Forestry (MONREC), due to their role in the project. The points covered in the agenda were:

1. Introducing the project background
  - a. Green Climate Fund (agency that funds the project)
  - b. Climate Technology Center & Network and DHI

- c. Key stakeholders are institutions involved in water resources, flood and drought management
  - d. Adaptation to climate change
2. Objectives
    - a. Provide portal with data for Myanmar
    - b. Tool to make automatic reports
  3. Demonstration of the portal
    - a. Register in the portal
    - b. Data & information and use of satellite data (measured from a satellite) versus station data (measured on the ground)
    - c. Time series data tools, plotting and downloading
    - d. Appropriateness of the data for application
  4. Project mailing list
    - a. Technical people in your team to receive weekly info
  5. Workshop in December
    - a. Present the scope of the project, the portal and available data
    - b. Discuss types of data used by your team
    - c. Reporting needs of your team
    - d. Select two locations in Myanmar for testing the data with the following criteria: a place with available station data (data measured on the ground that can be compared to the satellite data from the portal); a place where there is an environmental issue (flood, drought, irrigation, power production).



Figure 3.1 Screenshot of the web portal set up to deliver free access to data and information for Myanmar: [www.flooddroughtmonitor.com](http://www.flooddroughtmonitor.com)

The next sections summarise the meetings held and main items emerging in each meeting. From the list of stakeholders, the only outstanding meeting was with the Department of Agriculture.

### Skype, 3 p.m. 03/09/18 – Hydro-informatics Centre

The technical assistance manager met on skype with the director of the Hydro-informatics Centre (HIC), to present the objectives and discuss the role of the HIC. It was agreed that due to pre-existing project engagements of the HIC, availability for deeper participation will be reduced. Engagement in the technical assistance will be as recipients of the workshops and training events that will be held in Myanmar by the team.

### Yangon, 10 a.m. 29/10/18 – Directorate of Water Resources and Improvement of River Systems, Waterways Conservation Department

The team was received by the Director General (DG) of the Water Conservation Department for Lower Myanmar, U Win Hlaing. We followed the agenda and the interest in the demonstration of the portal was great. There was commitment to be a part of the workshops and fomenting the use of the portal within the Directorate.

### Yangon, 1 p.m. 30/10/18 – Civil Engineering Department, Yangon Technological University

We were received by the Civil Engineering Department lecturer and introduced to the University Rector. The meeting agenda was followed and feedback from the lecturer was extremely positive. During the demonstration, attention was placed on the fact that several remote sensing datasets provide longer continuous time series than existing observed records.

When asked about case studies and locations for data validation, the flood caused by Swa Dam spillway break in June 2010 was mentioned as well as the floods in Kayin state in the city of Hpa-An.

The relevance of the portal for the university students was highlighted by the lecturer, who suggested Yangon Technological University is added to the mailing list of the technical assistance and that the Rector and Civil Engineering department leader are invited to the first national workshop.

### Naypyitaw, 9.30 a.m. 02/11/18 – Yezin University

The University Rector and four lecturers received the team and shared a presentation of Yezin University's activities. Amongst the work they carry out, it is worth noting the relevance to this technical assistance of:

- the water resources department
- the climate smart agriculture program
- IT application to agriculture program
- Innovative scientific solutions program

These could highly benefit from usage of the data and information in the portal. From the demonstration of the portal, flood and drought indicators were highlighted and the need for day/night temperature and wind speed/direction data was highlighted.

The Rector empathised their commitment to being part of the technical assistance as well as the mailing list. An invitation was extended to the technical team to come to the University and carry out a lecture at the University.

The university rector mentioned the existence of the Department of Soil and Water Science at Yezin. The department is currently focusing on conducting research on Climate Smart Agriculture and they are also involved in doing a lot of research on climate change related issues with the support of FAO. They believe that this portal would be very useful for their research in their future.

While they have a weather station at Yezin university, township specific time-series data would be of great use for them. In addition, in terms of temperature, separating the dataset into day and night would be more useful for the university. Another variable they are interested in is wind velocity.

### Naypyitaw, 11 a.m. 02/11/18 – Environmental Conservation Department

The team met with the Climate Change Division of the Environmental Conservation Department (ECD). Over the course of a crucial meeting, the Climate Change team showed interest in being the anchor of the technical assistance, falling in line with the ECD's role as GCF National Designated Authority (NDA) and CTCN National Designated Entity (NDE).

We discussed the establishment of close collaboration of ECD and its Climate Change Division on the following activities:

- Invitation of stakeholders to workshops;
- Adding a member of Climate Change Division as a contact in the project letters and mailing list;
- Comments to workshop programs;
- Technical insight into Myanmar environmental issues through active and engaging participation in the workshops.

During demonstration of the portal, particular interest was found to be in monitoring of soil degradation and vegetation, if any of the datasets could be used towards this end. Together, rainfall datasets were observed specifically for the 3<sup>rd</sup> of May 2008 when cyclone Nargis hit Myanmar leading to one of the greatest natural disasters ever recorded.

They expressed their interest in being a part of the mailing list as well as participating in the first national workshop. Concern regarding sustainability of the portal and ownership was expressed and in response the team highlighted that this is intended to be one of the major topics for discussion during the first national workshop.

Finalization of the collaboration process with the ECD is still underway at the time of writing of this report.

### Naypyitaw, 2 p.m. 02/11/18 – Department of Meteorology and Hydrology

Considered a key stakeholder in this technical assistance, the team met with the Department of Meteorology and Hydrology (DMH) and was received by the Deputy Director General and Staff officer. All items in the agenda were followed and high interest in the rainfall historical datasets, climatology, medium range forecasts and climate change projections.

When asked about potential locations in Myanmar for testing and validation of information, the Deputy DG mentioned largest flood in 10 years in Mon state affecting the city of Mawlamyine in 2018; as well as flood events in Bago Division on the 29<sup>th</sup> of July 2018 affecting the town of Shwe kyin.

The DMH was interested in the future ownership and sustainability of the portal, to which the team pointed out this would be a key topic of discussion during the first national workshop and

that for the duration of this technical assistance the technical team should facilitate and create opportunity for stakeholders to discuss how to the outcomes of the technical assistance forward.

#### Naypyitaw, 2 p.m. 05/11/18 – Department of Building

The DG and deputy directors of different departments were present, namely the Design Branch and the Water and Sanitation Division. The DG and team were very interested and pointed out the data and information in the portal is very useful for their work. Particular interest was shown regarding earthquake, water quality, rate of river sedimentation and landslide related information, as well as all the historical datasets the portal already provides. Additionally, they were very interested in the ability to extract point time series from different datasets, by clicking directly on the map.

They mentioned two flood prone areas: Ayeyarwaddy Division and Rakhine State. Suggested drought prone areas for investigation are: Magway, Mandalay and Myingyan.

We discussed ownership and sustainability of the portal and technical assistance.

They agreed to participate in the first national workshop as well as being included in the mailing list. They pointed out the Department of Bridges from the same Ministry should be included in the technical assistance and if possible invited to the first national workshop.

#### Naypyitaw, 3 p.m. 05/11/18 – Irrigation and Water Utilization Management Department, Groundwater Division

The DG of the Irrigation and Water Utilization Management Department (IWUMD), Groundwater Division as well as all Deputy Directors of the Division were in attendance and we were met by great enthusiasm and interest in the portal and data. However, a major challenge was met due to the bad internet connectivity within the building.

The live demonstration of the portal was not possible, and a presentation of slides and documentation was done instead to provide an overview. Interest with regards to presenting data at district level rather than province was discussed. They also pointed out the river water pumping project would benefit greatly from the portal data and be included in the technical assistance.

They recognised the application of the data in calculation of water balances, where groundwater is a major component, and emphasized the relevance of these datasets for their work activities of estimating groundwater requirements. Additionally, they highlighted the potential applicability of the portal's indicators for floods, droughts and vegetation.

#### Naypyitaw, 4.30 p.m. 05/11/18 – Department of Disaster Management

The Deputy Director of the Disaster Management Department (DDM) received the technical team. In this meeting we followed the agenda and the Deputy Director immediately identified on-going initiatives they are involved in that could overlap with the outputs of this technical assistance, notably the Japanese funded International Flood Initiative Platform. This initiative is being headed by the National Water Resources Committee where an online platform for flood management is being discussed currently. The Deputy Director immediately recognised that the portal provided by this technical assistance could greatly inform the work carried out in this initiative.

As other stakeholder institutions that should be involved, the Deputy Director pointed out: Department of Agriculture, IWUMD, and the ECD. He pointed out that there should be a discussion about ownership and sustainability together with the ECD.

During the live demonstration of the portal, the Deputy Director pointed out that the data and information would be useful for their preparedness activities and potentially emergency related activities. Finally, he agreed to be added to the mailing list and to participate in the first national workshop.

#### Naypyitaw, 10 a.m. 06/11/18 – Department of Hydro Power Implementation

We were met by the DG of the Department of Hydro Power Implementation (DHPI) and the Deputy Directors of the Design Branch, Planning and Works Departments. The team followed the agenda and there was great interest regarding the available portal data and information. The potential use of the portal within the department was recognised as high and relevant and they were very familiar with use of satellite data sets.

During the live demonstration, an event on the 15th September 2015 was observed, and the remote sensing rainfall data appeared to capture the expected high values registered on this day of generalized flooding in southern states and divisions of Myanmar, namely Tanintharyi, Mon and south of Kayin.

The DHPI referred to their involvement in a project to decide on placement of station locations for ground measurements together with the IWUMD and the DMH. We discussed which types of datasets could assist with that task and agreed that the historical satellite rainfall records would be very useful. Finally, they mentioned an ongoing Norwegian Water Resources Directorate initiative that could be supported by the portal data.

## 4 Next steps

Following the round of bilateral meetings, the next phase of the technical assistance is **Activity 1.2 National consultations to identify information needs, constraints and potential**, which refers to the first national workshop, scheduled for the 4<sup>th</sup> and 5<sup>th</sup> of December 2018. The workshop will gather two experts from each stakeholder institution in Myanmar.

The outputs of Activity 1.2 will be:

- Report of compiled findings from the national workshop into a more detailed description of the data and information needs and application of the portal.
- Identification of potential use cases or programmes for validation and testing of the data and information from the portal.

Simultaneously, the team has also initiated work on the outputs of **Activity 1.3 Identification and design of the information**. This translates into writing a report on the technical specifications and methodology for testing on two local cases studies. This report will also be complemented with stakeholder feedback collected during the first national workshop of activity 1.2.



## APPENDIX A – List of Stakeholders

Names, Departments & Contact details



## A Names, Departments & Contact details

Title	Department	Ministry	Job Title	Fax	Phone	E-mail
<b>Daw Thin Thuzar Win</b>	Climate Change Division	Ministry of Environmental Conservation and Forestry	Deputy Director	9567431322	9567431325	thinthuzar1981@gmail.com
<b>Daw Zin Mar Phyu</b>	Climate Change Division	Ministry of Environmental Conservation and Forestry	Staff Officer	67431490	959250969549	zinmarphyu123@gmail.com
<b>Daw Mya Seine Aye</b>	Department of Building	Ministry of Construction	Dep Dir Int Relations and Regulations Section		9595002307	myaseineaye@gmail.com
<b>U Thein Zaw</b>	Department of Building	Ministry of Construction	Director General	9567407080	9567407070	ichizawde@gmail.com
<b>U Wunna</b>	Department of Building	Ministry of Construction	Deputy director		959448534296	wunna7689@gmail.com
<b>Daw Khaing Mar Win</b>	Department of Building Water and Sanitation Division	Ministry of Construction	Deputy Director		9567407175	makhaingmarwin@gmail.com
<b>U Min Soe Han</b>	Department of Disaster Management	Ministry of Social Welfare, Relief & Resettlement	Deputy Staff officer		9420703634	minsoehann@gmail.com
<b>Dr Min Thein</b>	Department of Disaster Management	Ministry of Social Welfare, Relief & Resettlement	Director	95673404512	95673404318	drminthein@gmail.com
<b>U Soe Myint Khine</b>	Department of Hydro Power Implementation	Ministry of Electricity and Energy	Staff officer (Civil)		9253981009	soemyintkhine@gmail.com
<b>U Mya Thura</b>	Department of Hydro Power Implementation	Ministry of Electricity and Energy	Director Planning and Works	95678104184	95678104181	myathura.mm@gmail.com
<b>U Khin Maung Win</b>	Department of Hydro Power Implementation	Ministry of Electricity and Energy	Director General Electric Power Generation Enterprise	95678104292	95678104290	ukhinmgwin09@gmail.com
<b>Daw Mya Kyae Mone</b>	Department of Hydro Power Implementation	Ministry of Electricity and Energy	Deputy Director Design Branch		959678104195	designbranch123@gmail.com

Title	Department	Ministry	Job Title	Fax	Phone	E-mail
<b>Daw Thandar Aye</b>	Department of Meteorology and Hydrology	Ministry of Transport and Communications	Staff officer		95006104	thandaraye.dmh@gmail.com
<b>Dr Kyaw Moe Oo</b>	Department of Meteorology and Hydrology	Ministry of Transport and Communications	Director General	95673411449	95673411031	kyawmoeoo39@gmail.com
<b>Daw Khin Cho Cho Shein</b>	Department of Meteorology and Hydrology	Ministry of Transport and Communications	Deputy Director General	95673411449	95673411422	khinchochoshein@gmail.com
<b>Daw Saw Mya Mya Hlaing</b>	Directorate of Water Resources and Improvement of River Systems	Ministry of Transport and Communications	Assistant Director		9421084433	myamya.saw@gmail.com
<b>Daw Saw Sanda Win</b>	Directorate of Water Resources and Improvement of River Systems	Ministry of Transport and Communications	Assistant Director		9794086976	sawsandawin@gmail.com
<b>U Win Hlaing</b>	Directorate of Water Resources and Improvement of River Systems	Ministry of Transport and Communications	Director		951292844	winhlaing34@gmail.com
<b>U Hla Maung Thein</b>	Environmental Conservation Department	Ministry of Environmental Conservation and Forestry	Director General	9567431490	9567431326	hlamaungthein.env@gmail.com
<b>U Sein Htoon Linn</b>	Environmental Conservation Department	Ministry of Environmental Conservation and Forestry	Deputy Director General		9567431323	linn.ecd.myanmar@gmail.com
<b>Dr. Khin Ni Ni Thein</b>	Hydroinformatics Centre	Ministry of Transport and Communications	Director			component1hic@gmail.com
<b>U Than Zaw</b>	Irrigation and Water Utilization Management Department Groundwater Division	Ministry of Agriculture, Livestock and Irrigation	Deputy Director		95949349093	tzaw.wrud@gmail.com
<b>U Thu Ra</b>	Irrigation and Water Utilization Management	Ministry of Agriculture, Livestock and Irrigation	Deputy Director		9567431290	thuragw61@gmail.com

Title	Department	Ministry	Job Title	Fax	Phone	E-mail
	Department Groundwater Division					
<b>U Htay Lwin</b>	Irrigation and Water Utilization Management Department Groundwater Division	Ministry of Agriculture, Livestock and Irrigation	General Director	9567431306	9567431229	sehtaylwin@gmail.com
<b>U Thant Zin</b>	Irrigation and Water Utilization Management Department Groundwater Division	Ministry of Agriculture, Livestock and Irrigation	Staff officer			wrud.thantzin@gmail.com
<b>U Thein Zaw Htoon</b>	Myanmar Maritime University River & Coastal Department		Instructor		9975209810	theinzawtun.ph.mu@gmail.com
<b>Dr. Su Wai Aung</b>	Yangon Technological University		Assistant lecturer		9428122346	suwai17@gmail.com
<b>Dr Daw Myint Thein</b>	Yangon Technological University		Department Leader			ytu.rector@gmail.com
<b>U Nay Myo Aung</b>	Yezin University	Ministry of Agriculture, Livestock and Irrigation	Head of Admin Rector Office	9567416517	9567416513	naymyoung03@gmail.com
<b>Daw Nang Hseng Hom</b>	Yezin University	Ministry of Agriculture, Livestock and Irrigation	Rector	95673416517	95673416514	nanghsenghom@gmail.com