

	<b>SPECIFICATION DOCUMENT</b> <b>MISIII</b>
Version 1.0	



**BIKAY**

**Specification Document**  
**System Integration of MISIII for**  
**Water and Sanitation**  
**Project**

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## I. Purpose

### I.1. Definitions

This document is a specification document that details the specification requirement by MRD for **Data Collection Tools** and **Web Data Portal** to publish analysis/visualization reports related to MIS Project. This document covers the following requirement points:

- **Data Collection Tools** (Data Collection Form Generation / Data Input Progress Monitoring / Data Completion Validation)
- **Web Data Portal** (Publishing Infographics / Report)

### I.2. Background

MIS is in its second-year implementation and has moved from manual data compilation into automatic consolidation through google drive. This does streamline better accessibility and standardization.

MISII is a data collection project for Water and Sanitation Indicators covering 25 national provinces. The whole process, however, is not hosted in one IT system as well as required human interventions to many of its flow. It relies directly on standard Excel Templates from its assigned data collectors. These templates, will be synchronized into Google Drive as a central MISII data repository. From there, they will be aggregated, compiled to support National Level Status of Water and Sanitation Indicators. There are 2 official reports that this whole process delivers.

1. MIS Yearly Report (at national level)
2. MIS factsheet Report (at provincial level)

Various NGOs also join PDRD\_MIS team in indicator values validation before the report were officially approved for publication.

Within the issue reported earlier, there is a requirement to develop System Integration of MISIII for Water and Sanitation Project. The system will require fewer human interventions on data consolidation and also creating publication reports. The more, there is a requirement to develop a Web Data Portal to publish report generating from the data collection process.

### I.3. General Issues

- **Data Collection:** Each Province has its own MIS team to collect primary indicator data at the lowest level possible. There are indicators that needs to be collected at Village, Commune, and District Level and so on. However, these indicators are not always readily available at its designated level or recorded differently from MIS indicators. For Example, in one District in Kampong Speu province, they only have the Number of Poor Family, but they do not have the data of Number of Poor



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Family with Basic Sanitation. And they are sometimes not available for certain geographical locations at all. This would require extra trips to lower level location to collect to meet MISII data template.

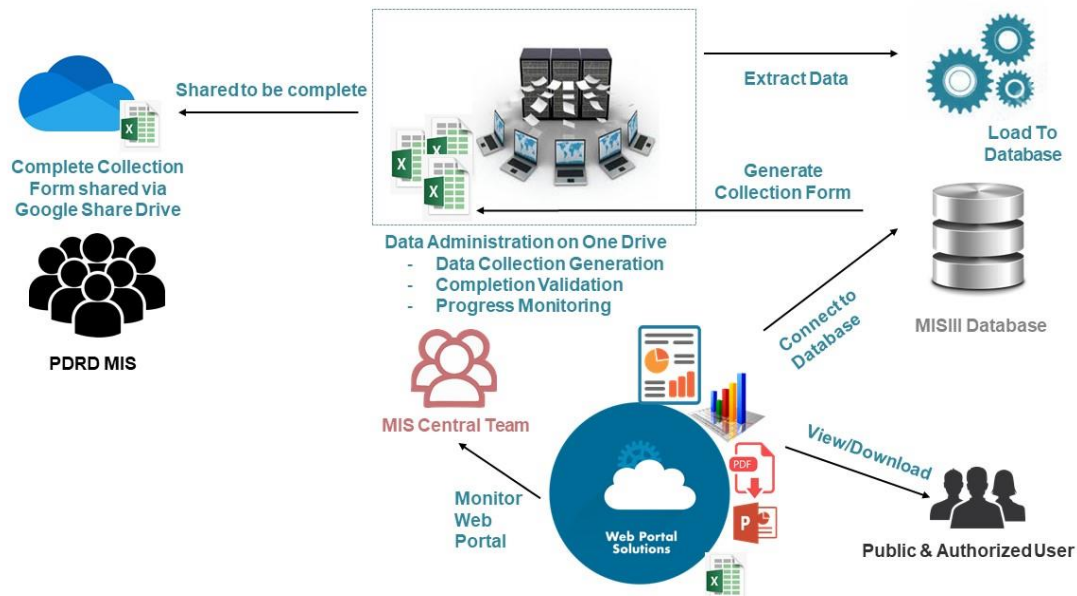
- **Data Entry:** Data Entry personnel would also absorb these issues during its data entry.
- **Data Synchronization to Google Drive:** No noticeable issue in doing this task except if the internet connection is limited that hinders data synchronization.
- **Data Validation & Contribution from Other Stakeholders:** Relevant NGOs who work with Water and Sanitation projects also contribute during this process. The flow of communications touches between central MIS at national level back to the data collectors by province based, since this is done through email and excel, back-and-forth emails leads to unorderly data validation status and time consuming. Mistake do occur during this transition. Not to mention, that PDRD\_MIS has other priority at hands.
- **Official Report Publication:**
  - o **MIS Yearly Report (at national level):** A draft report is prepared by MISII project manager once all the Water and Sanitation Indicator have been checked and validated. Through experience, it can take over a year before the project manager can start working on the draft version. This report can only be published upon approval from higher authority. And that can take time
  - o **MIS factsheet Report (at provincial level):** Guided with Factsheet rules, each PDRD\_MIS of each province is responsible for its own report drafting and publication. Again, they face the same fundamental data completeness similar to what MIS project manager do at the national level.
- **Data Sharing & Distribution:** Official reports of MISII would be shared to related stakeholders in the form of PDF, presentation slide and the compiled excel template. Since the time to produce these materials have been occupied extensively, there is a limit in different analysis apart from based indicator summarization. External stakeholders, on the other hand, eager to get their hands on these validated raw of often as possible or even monthly in any mean possible. That is a big challenge for the current MISII to address.



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## I.4. System Overview



**MIS Central Team** is **Data Administrator** on the cloud data that shared from the server. They have the role to **Generate Collection Form** and store that in the server folder. Following that the Generated Collection Form which is an Excel Document, can be shared on **Cloud Drive (One Drive)** to be complete by **PDRD MIS Team**. **Data Completion Progress** can be monitored by MIS Central Team. **Validation Process** will be handled by an excel interface that read the data from excel Collection Form, giving the status/progress of Data Completion to MIS Central Team.

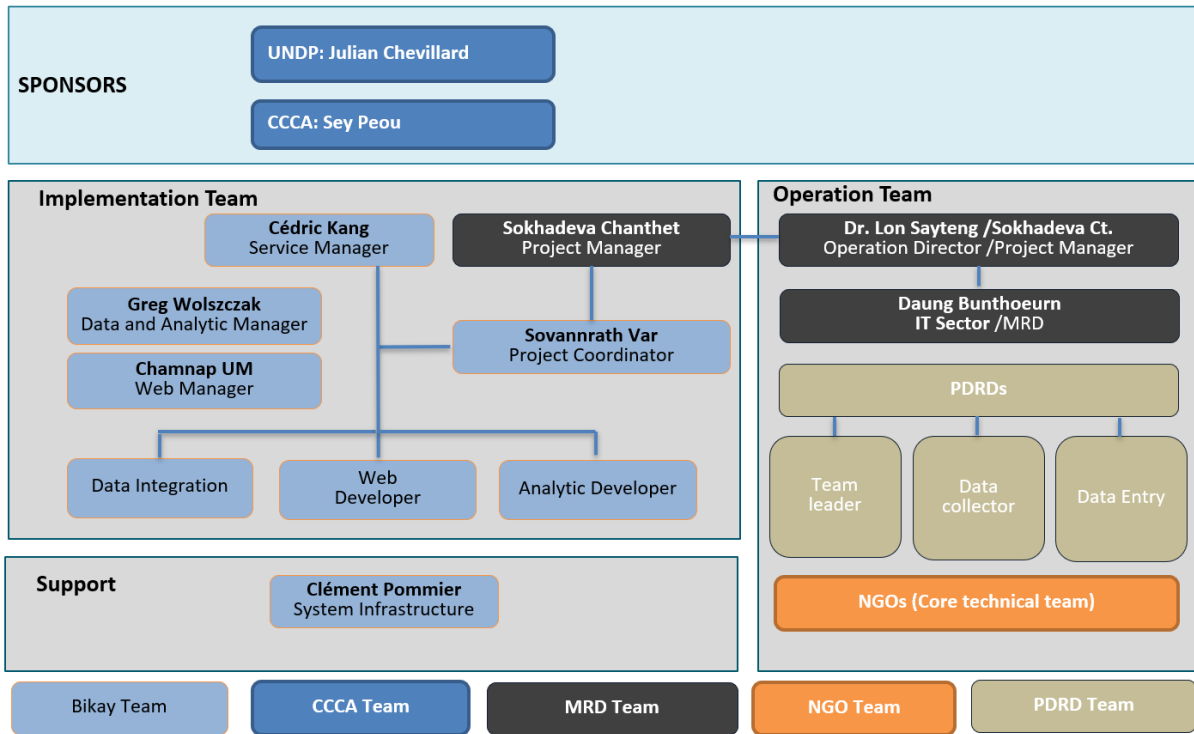
After MIS Central Team validate Data Collection filled by PDRD MIS Team, data will be consolidated into **MISIII Database**. Following this, MIS Central Team can generate **Analysis/Visualization Reports** (under the form of Excels, Graph Images and PDF) that can be used in their yearly report or other reports. Those reports can be published for public users or authorized user via **Web Data Portal**.



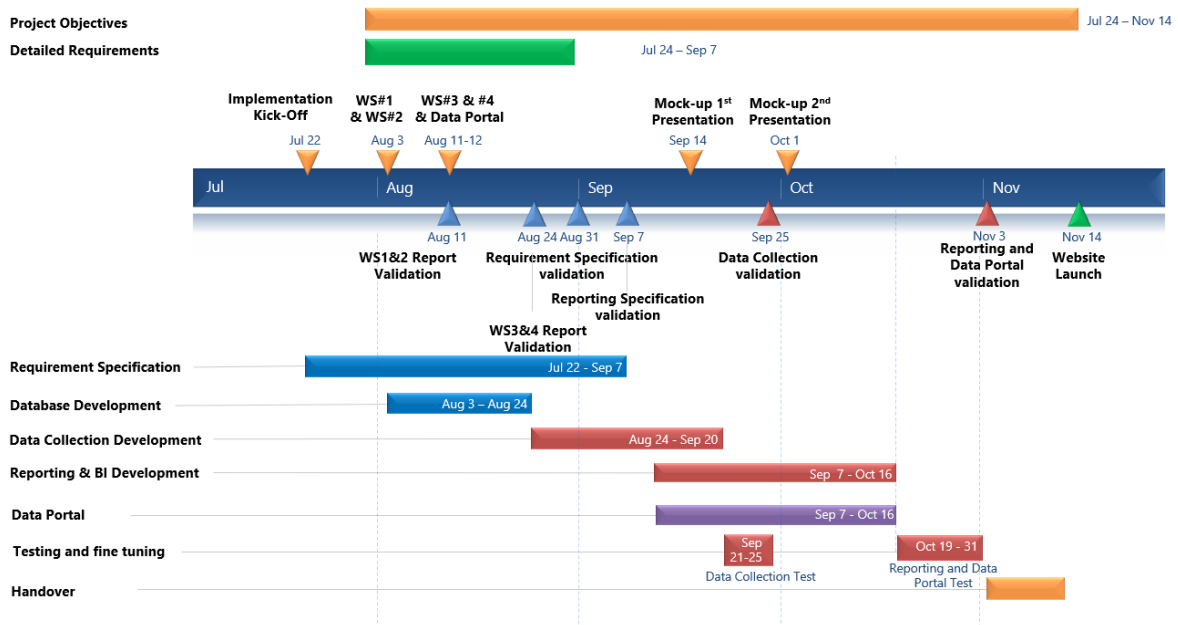
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## I.5. Project Team



## I.6. Project planning



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## II. Specification Requirement

### II.1. External Interface Requirements

#### II.1.1. Data Collection Tools

For the data collection process, two different excel documents are required. The two excel documents are:

- Data Collection Form: this form is an excel document generated with National tab, Province tab, District tab, Commune tab and Village tab.
  - o In Province tab, the name of Province on the rows will be listed dynamically by selecting from MIS Database.
  - o In District tab, the name of District on the rows will be listed dynamically by selecting from MIS Database. User can filter districts by Province.
  - o In Commune tab, the name of Commune on the rows will be listed dynamically by selecting from MIS Database. User can filter Commune by District.
  - o In Village tab, the name of Village on the rows will be listed dynamically by selecting from MIS Database. User can filter Village by Commune.
  - o For the indicators corresponding to each administration levels / tabs (National/Province/District/Commune/Village), it will be handled manually or semi-dynamically on the columns of spreadsheet on their corresponding tabs.
- Progress Monitoring Document: this document read the status from **Data Collection Form** and report the status to the progress monitoring screen, so that MIS Central Team can follow up data completion process, validate for data consolidation (ETL) and also to notify PDRD to fill data collection form.

For the sample of Data Collection Tool, please have a check on **A4**.

#### II.1.2. Analytic Platform

For analytic purpose, MicroStrategy is proposed as a tool to **generate analytic report** and also use for **updating master's data**. As it is a license tools, in the contract, only 5 licenses are assigning to MIS Central Team and System Administrator. For the Analytic Report, please consider document **A7**.

#### II.1.3. Web Data Portal

We have a detail of web design on **Web Data Portal Workshop Report** in the reference above. Within Web Data Portal, MIS Central Team can post analytic/infographic report to the public or authorized user who have an account on the web data portal. After publication, the post can be shared to Facebook Page or Telegram Group. Also, with this Web Data Portal, we use it back end for creating different users of this integrated system.

For the web content, please have a check on **A2**.



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### II.2. Functional Requirements

- Creating a dynamic data collection tool
- Sharing data collection tool with PDRD team
- Notifying PDRD team to complete data
- Monitoring Completion Progress
- Validating data completion
- Data consolidation
- Making analytic/infographic reports
- Publishing report for internal usage and for public

### II.3. Performance Requirements

Here is a list of performance requirement from stakeholders:

- **Data Collection & Entry Cycle & Validating Checked:** if possible, it should be updated on quarterly, semesterly and yearly basis
- **Adding extra Indicators:** Being able to add extra or delete Indicators.
- **Annexed Village:** Are the village that are not yet legal registered into the master data of Ministry of Interior, so in case of missing collected data for this kind of village, the validation check should be allowed to be validated without warning.
- **Partnership Contribution:** Able to cross check indicators data directly with PDRD to save time, learn from one another, and to avoid data duplication as well as improving data quality
- **Water and Sanitation Dashboards & Reports:**
  - Able to export report and raw data of the reports
  - Able to show some dashboards that reflect the status of Water & Sanitation Indicators by province, district and commune
  - Design in interactive content for national and sub-national audiences. It should be simple to understand and has two languages (English & Khmer). Map should be clickable and used as filter province indicator upon clicked
- **Web Data Portal:** The portal should be able to MRD website and MIS Facebook page
- **CCCA Extract Data Report on some indicators:** the system will be allowed to specific some indicator that user want to extract to feed the climate change data portal developed by BIKAY as well.

### II.4. Environment Characteristics

#### II.4.1. Users

There are 4 different types of user in the system:

- **System Administrator:** this user has the roles to create or update user accounts in the system. Update user accounts including change/regenerate password, change user's e-mail address.



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- **MIS Central Team:** this user has the roles to Generate Data Collection Form, Monitor Data Completion Progress and Validate Data Collection. The more, this user also have the role to create analysis/visualization reports and then publish those to Web Data Portal.
- **Authorized Users & PDRD Team:** these two types of user are defined into the same roles, to decrease the number of users. Authorized Users has more right than Public Users in order to access to some internal documents/reports that use internally or not for public. This kind of user need an account to access to web data portal. For PDRD team, they are provincial team of MRD that may have access to some internal report that use only in their working province. Their e-mail addresses are used to communicate between our system and them, to share Data Collection Form on cloud drive for their completion. The more, our system will communicate with them to notify them checking their Data Entry when the death line approach or MIS Central Team may notify them via our system, to making progress on filling data.
- **Public Users:** this user type, are public user who can access to Web Data Portal without any user account. They can access to see posts, reports or documents posted on Web Data Portal as public.

### II.4.2. Cloud Drive

A cloud drive (One Drive or Google Drive) is required to be mounted to a folder in the server. The folder with Data Collection Tool as excels document are shared to PDRD Mis Team in the province to complete. Sharing excels documents on Cloud Drive can allow MIS Central Team to follow up or monitoring data completion progress. Within MISII, they used Google Drive for data collection purpose.

From our study, we found that One Drive provide a better support for Excels Document sharing and completing on web browser or to be launched. While using Google Drive, it is difficult for MIS Central Team to collect all those data, and it is hard to check which submitted document is the last version. The more, on MIS phase II, Data Collection excel form is stored on an individual google drive, which lead to conflict when running out of space.



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### III. Appendix Document

<b>NO</b>	<b>From</b>	<b>Document name</b>	<b>Document Files</b>
A1	BIKAY	Workshop Report on Data Collection	1-MISIII-Workshop_Report_20200807.docx
A2	BIKAY/WEB DESIGN	Web Data Portal Workshop Report	2-MISIII-Web-Data_Portal_Workshop_Report.docx
A3	MRD / BIKAY	Indicator Lists	3-MISIII-Indicators-List.xlsx
A4	MRD	Data Collection Tools Template	4-FIN0_MISII_Data collection tool_All25_ED17July20.xlsx
A5	MRD	MRD WASH NAP2 EN (Indicators List)	5-MRD_WASH_NAP_2_FA_EN_20191118.pdf
A6	MRD	MRD WASH NAP2 KH (Indicators List)	6-MRD_WASH_NAP_2_FA_KH_20191118.pdf
A7	MRD	MISII Dashboard Regional Workshop	7-MISII dashboard_Regional Workshop_ED20Feb20.xlsm