Disaster Risk Reduction and Management Service

RADaR-DS User Guide

July 2019

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1. Introduction

1.1 Purpose

This User Manual (UM) provides information necessary for end-users to effectively use the Rapid Assessment of Damages Report - Digital Solution (RAdaR-DS) developed by Risk Reduction Education for Disasters, USA (Risk RED) for the Filipino Department of Education (DepEd), Disaster Risk Reduction and Management Service (DRRMS) with support from Save the Children, Philippines (Save PHL).

1.2 Scope

RADaR-DS is developed to automate DepEd DRRMS' original practice (i.e. RADaR) of collecting disaster damage information from impacted schools after a disaster. The original RADaR workflow consisted of the following major steps:

1) After a disaster declaration by the responsible official body, School DRRM Coordinators at potentially impacted geographies were expected to answer a maximum of 15 [confirm] questions in total. Coordinators would then code their answers following the guidance document DepEd provided in advance. Subsequently, Coordinators composed and transmitted to DRMMS' RADaR mobile number three separate comma-delimited SMS messages in which the codes matched the sequence of the questions asked.
2) DRRMS staff at DepEd received the incoming SMS messages on their mobile phone(s). SMS contents were then transferred to Excel via a utility where error-checking and data validation were undertaken manually and programmatically to the extent possible.
3) Cleaned survey data were then summarized by DRRMS staff to produce provisional school damage assessment reports by division and region. The reports were distributed by email and other means to all stakeholders authorized to receive them, and particularly to Division Coordinators to validate school submissions before assessment reports were declared final.

Past RADaR deployment rounds were assessed to be labor intensive, error-prone, difficult to audit, took much longer to finalize and to act upon than was desirable. Therefore, it called for significant improvements.

Prior to the development of RADaR-DS, DRRMS was guided by Risk RED to revisit its data collection, validation and reporting use cases and workflows. The original set of RADaR questions were retained with minor additions to *RADaR 1 - Damage to facilities*. The remaining school damage survey questions are grouped under *RADaR 2 - Damage to Furniture, Learning Resources or Equipment*, and *RADaR 3 - Casualties*.

RADaR-DS is designed to have two main components, namely the RADaR Mobile App (aka the App) and the RADaR Web App (aka the Portal). The App is designed for the use of School Disaster Risk Reduction and Management (DRRM) Coordinators for reporting on disaster damage impacts to their schools. The Portal is accessible to all School Safety stakeholders with login IDs and passwords assigned to them by DRRMS.

This UM covers all relevant functions of both the Portal and the App as they relate to effective utilization of RADaR-DS to fulfill the requirements of the use cases specified by DRRMS.

Risk RED developed RADaR-DM in compliance with Principles for Digital Development (https://digitalprinciples.org) “The Digital Principles were created in a community-driven effort, the result of many lessons learned through the use of technology in development projects. They are part of an ongoing effort among development practitioners to share knowledge and support continuous learning.” They are:

- Design With the User
- Understand the Existing Ecosystem
- Design for Scale
- Build for Sustainability
- Be Data Driven
- Use Open Standards, Open Data, Open Source, and Open Innovation
- Reuse and Improve
- Address Privacy & Security
- Be Collaborative

1.3 Cautions and Warnings

RADaR-DS code and object base are copyrighted and developed utilizing open-source technologies and components. It is released to DepEd and Save PHL under the *Creative Commons Attribution-NonCommercial-ShareAlike 2.5 Generic (CC BY-NC-SA 2.5)* License (https://creativecommons.org/licenses/by-nc-sa/2.5/).

The information contained in this UM is current as of June 30, 2019 version of RADaR-DS Information and Communications Technology (ICT) environment provisioned by DepEd. This UM must be revised to reflect subsequent updates and revisions by parties who have access to the RADaR-DS open-source libraries Risk RED transferred to DepEd via Save PHL.

Since the migrating of the RADaR-DS code and object base to DepEd Cloud servers followed by ensuring their smooth operation by June 30, 2019, Risk RED does not have any responsibility for the ongoing operation and maintenance of RADaR-DS Information and Communications infrastructure. See Section 5 for DepEd's current technical support and training focal point contact information.

Risk RED does not take any responsibility for the use of RADaR-DS beyond its intended scope.

2. Overview

RADaR-DS is developed to automate DepEd DRRMS' original practice of collecting disaster damage information from impacted schools after a disaster (i.e. RADaR). This overview summarizes the key features and major functions of the RADaR-DS components, namely the App and the Portal.

2.1 RADaR-DS Process Flow

The RADaR-DS Process Flow was decided upon as the outcome of a rigorous analysis of DRRMS' desired business processes and related use cases. The following diagrams list the major actions involved within six stages of a RADaR-DS deployment in response to a typical slow onset hazard.

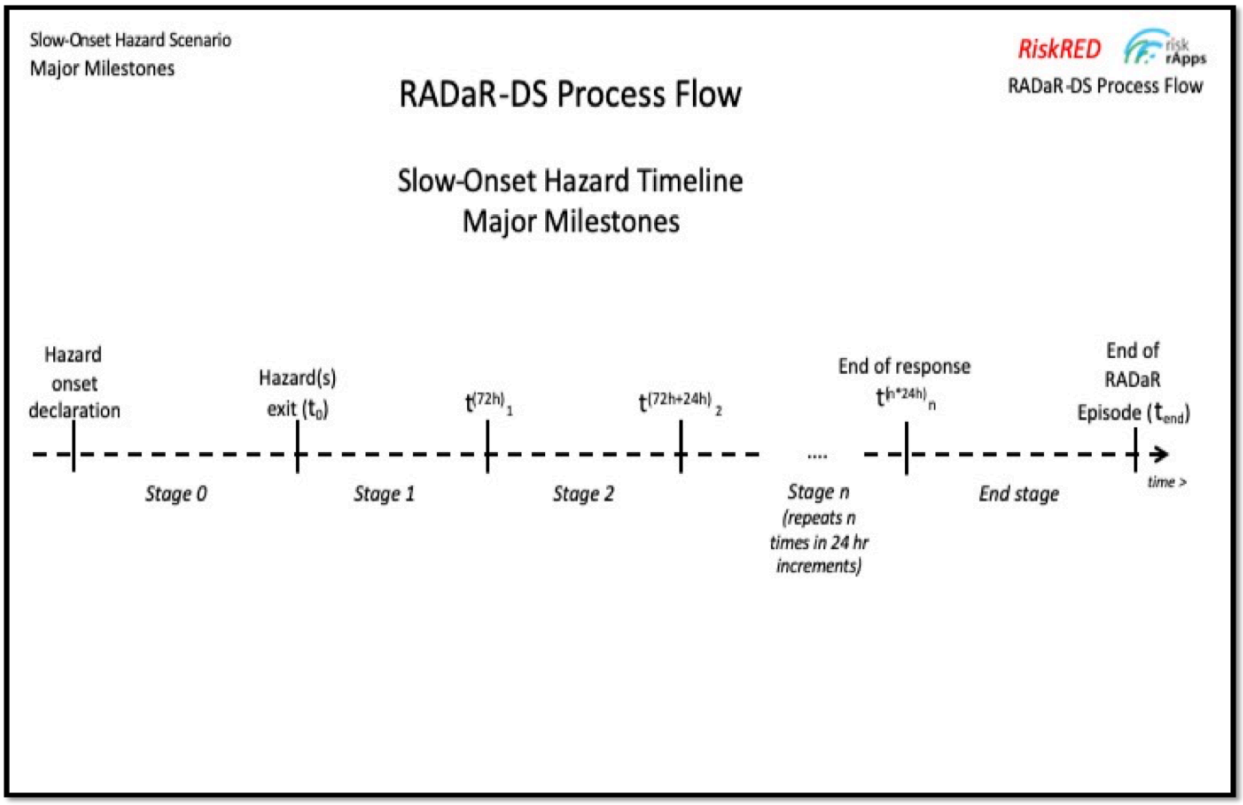


Figure 1 - Overview of RADaR-DS Process Flow Stages.

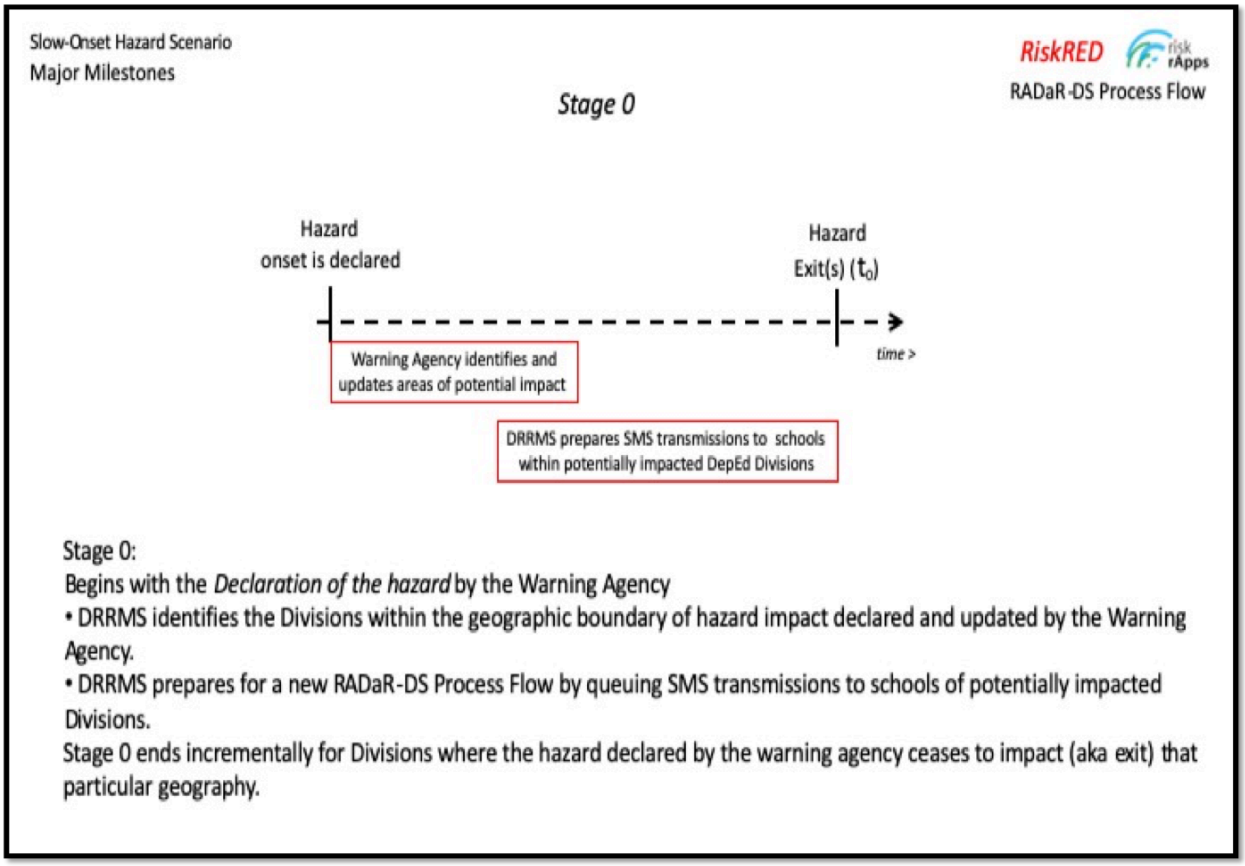


Figure 2 - Stage O - Preparation of RADaR-DS deployment in response to a declared slow onset hazard.

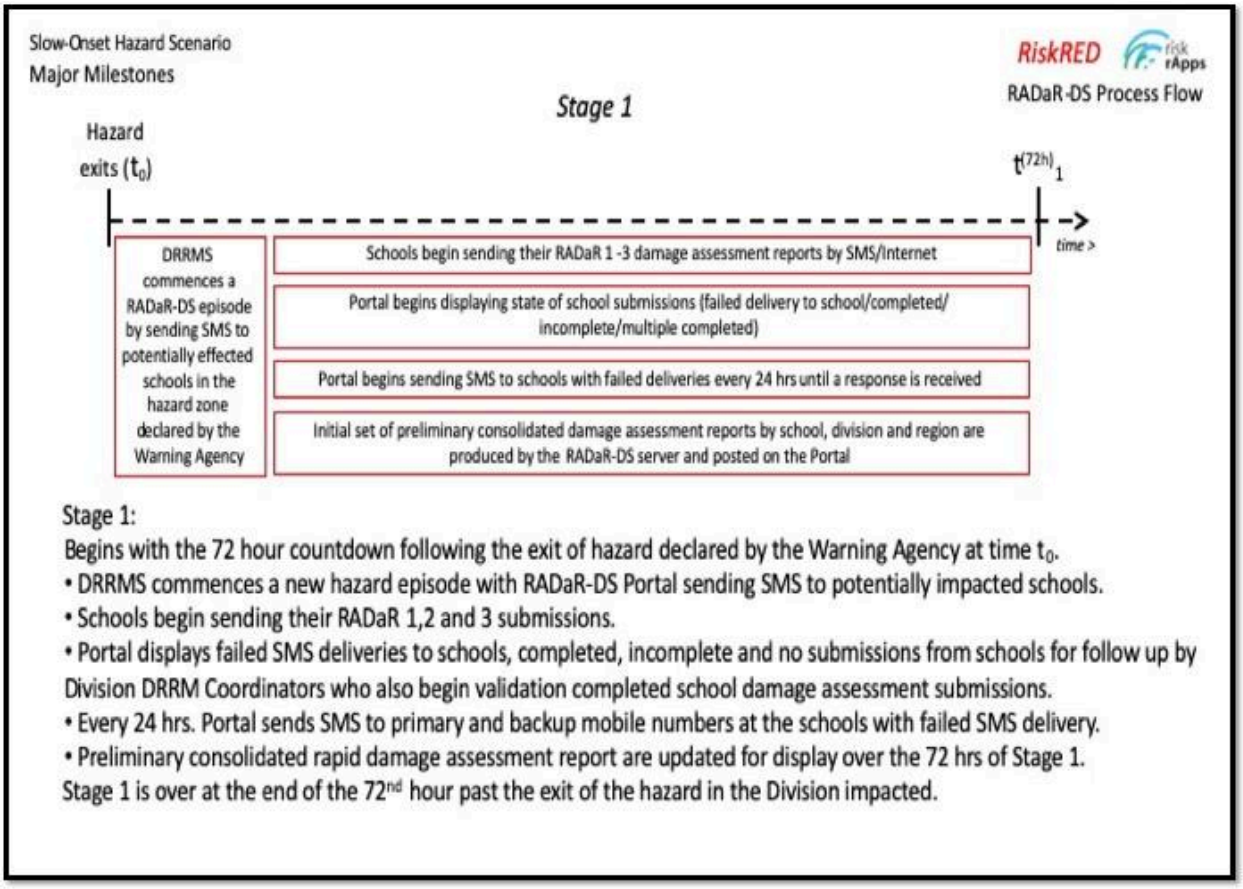


Figure 3 - Stage 1: All schools of impacted Divisions are probed by SMS to submit their RADaR 1, 2 and 3 information.

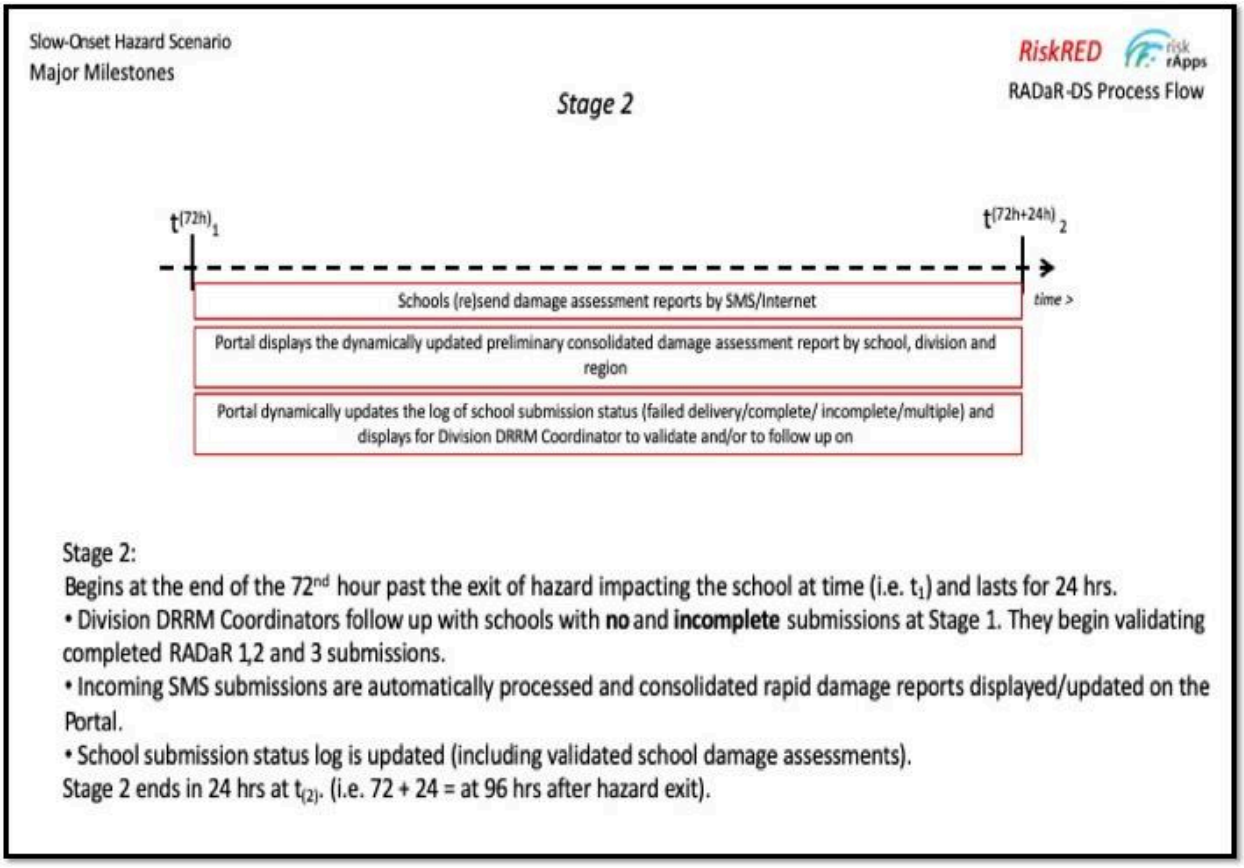


Figure 4 - Stage 2: DRRMS continues to invite via SMS School DRRM Coordinators that have not responded to the call to send their school's RADaR information. Division DRRM Coordinators reach out to schools with no or incomplete submission to comply with information requirements of DepEd while they also begin validating completed submissions.

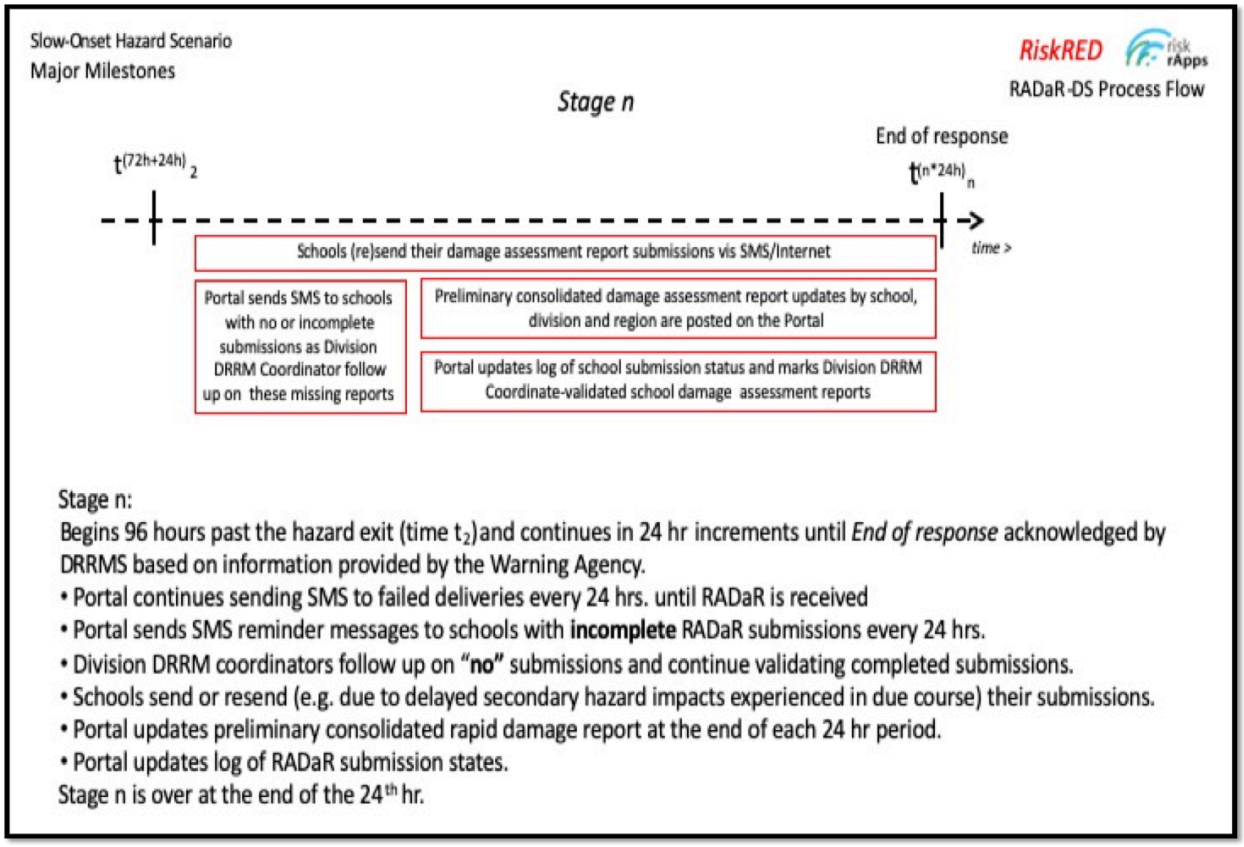


Figure 5 - Stage n: The hazard response period is extended at 24 hr increments until it is deemed justifiable to terminate the response.

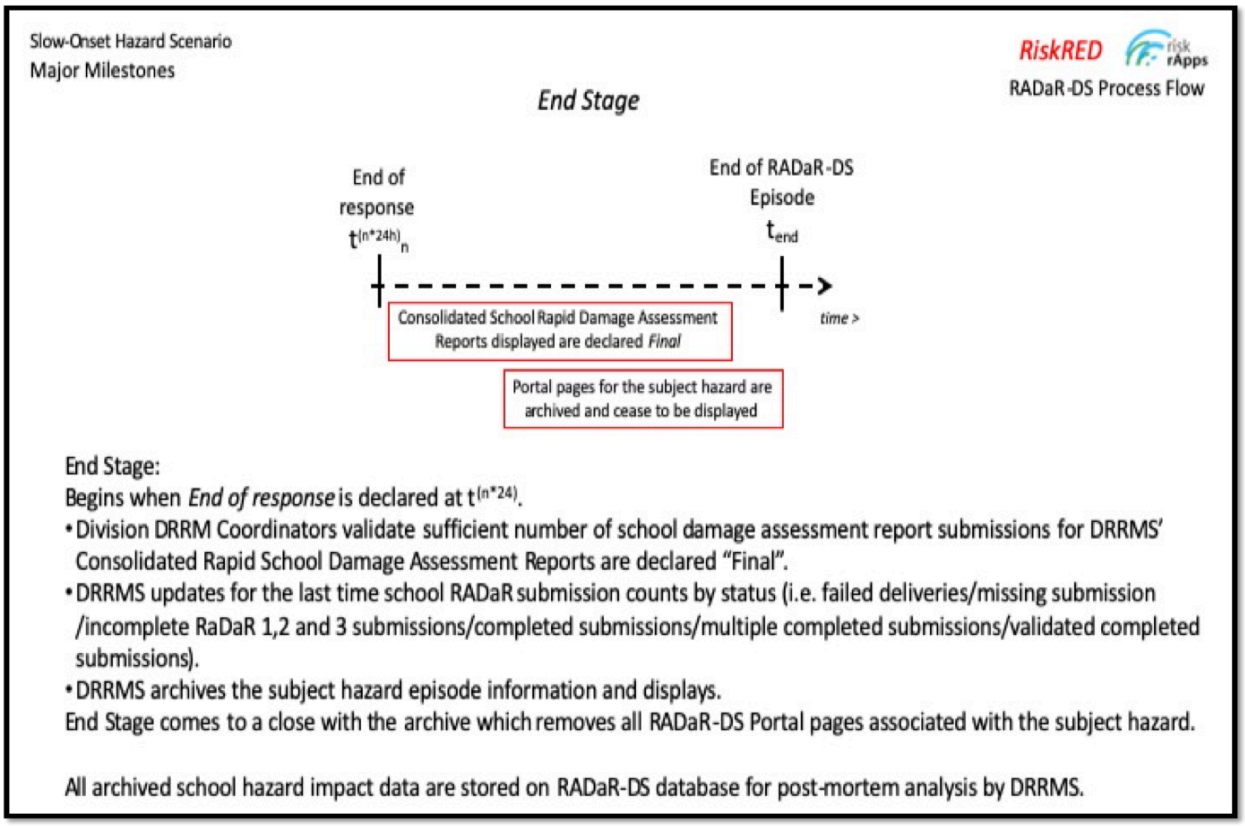


Figure 6 - End Stage: The period between End of Response declaration and the archiving of all RADaR-DS information associated with a particular hazard. All such information is no longer accessible via the Portal but can be retrieved from the RADaR-DS archive for purposes such as an audit or an analysis of the business process flows to improve them.

2.2. Key Features and Major Functions

The App and the Portal work in tandem to help DRRMS to continuously monitor the dynamic situation within the changing geographical boundary of a particular hazard impact episode until it is declared "over" by the authorities and the final damage assessment reports are produced.

By design, RADaR-DS is capable of collecting and reporting on school damage assessments from multiple hazard episodes simultaneously.

The communication infrastructure RADaR relied on is Short Messaging System (SMS) provided by mobile network operators to all mobile phone customers. The App, in addition to SMS, provides the option for School DRRM Coordinators to submit their post-disaster damage reports

via the Internet as well. School DRRM Coordinators with “data plans” can transmit their submissions via the Internet either utilizing their mobile network or a WiFi hotspots they have access to with their smartphones.

The Portal also utilizes SMS to invite and follow up on School DRRM Coordinators at potentially impacted schools to submit their rapid damage assessment reports.

3. Getting Started

3.1 Setup Considerations

RADaR-DS App is available for download from Google Play Store at: https://play.google.com/store/apps/details?id=com.riskrapps_philippines or from the RADaR Portal at: http://philippines.riskrapps.net/help. After installation, launch the App and login with the School DRRM Coordinator credentials supplied by DepEd/DRRMS. If unsuccessful, double-check your email address and password to make sure that they are entered correctly. Reach out to your Division DRRM Coordinator or the DRRMS focal point for RADaR-DS for further assistance.

The RADaR-DS Portal is at: http://philippines.riskrapps.net. Use the DepEd DRRMS-assigned RADaR-DS login credentials to access the Portal pages.

3.2 User Access Considerations

Both the Portal and the App require user ID (i.e. email address) and password to login. The email and a default password are provided by DRRMS. The user has the option to revise the password after Portal login.

The App login requires a School DRRM Coordinator credentials (i.e. email and password) assigned to each school by DepEd DRRMS. Otherwise, school RADaR 1, 2, 3 information and photos will not be accepted by the Portal.

A RADaR-DS user has the option to revise his/her password after Portal login. However, to get started, a user must have login credentials assigned by DepEd DRRMS.

Each RADaR-DS user has a specific *Role* assigned by DepEd/DRRMS when the user's access credentials (i.e. email address and user password) are created. Table 1 lists the RADaR-DS *Roles* and their *Permissions*.

	ROLES					
PERMISSIONS	SurveyAdmin	School DRRM Coordinator	Division Coordinator	Region Coordinator	DepEd Admin	Guest
Schools CSS Research Data						
Browse, edit, delete only own survey data						
Adhoc search	√				√	
Submit new survey data	√	√			√	
Delete any school survey data	√				√	
Edit all school survey data	√	√	√		√	
Browse all school safety survey data	√	√	√	√	√	√
Browse all school safety reports	√	√	√	√	√	√
Mark submissions as validated			√			
Downloads						
Download Schools List	√		√		√	
Download Users List	√				√	
Photos						
Browse school safety photos	√	√	√		√	
Manage photo tags	√				√	
Tag school safety photos	√				√	
User Data						
Add Portal users	√				√	
Delete Portal users	√				√	
Edit Portal user profile	√				√	
List Portal users	√				√	
Show Role List	√				√	

Table 1 - RADaR-DS Roles and Permissions list

Note that the *Role* which is granted the *Add Portal users Permission* can create a new *Role* with a new set of *Permissions* using the blue *+ Add Role* button on the upper right corner of the *Roles* page (See Section 4.1.1)

3.3 Accessing the System

3.3.1 The App

Only users with the *School DRRM Coordinator Role* can login to the RADaR-DS Mobile App to submit damage reports (i.e. RADaR 1, 2 and 3).

3.3.2 The Portal

Everyone with DRRMS-assigned credentials (i.e. User ID and Password) can login to the RADaR-DS Web Portal. Their assigned *Roles* determine what part of the Portal they are authorized to have access to.

3.4 System Organization

3.4.1 The App

It is the School DRRM Coordinator who is authorized to use the RADaR Mobile App. Only after an invitation via SMS is received from DEpEd/DRRMS and signing on to the RADaR-DS Information and Communications Technology (ICT) environment on the mobile app with the credentials provided can damage information be compiled and submitted using the App.

Sign on credentials are stored by the App and do not to be re-entered the next time the App is launched. Until sign out, these credentials identify the user by the name displayed on the upper left corner of the landing page.

The App user moves around the app pages by pressing the *Next* and *Back* buttons on the bottom of each page. There are also five buttons on the upper right corner of each page two of which are for navigation purposes as well.

Save - Saves the data entered so far.

Validate - Checks to make sure that all required questions are answered and there are no data entry mistakes.

Go to the first page

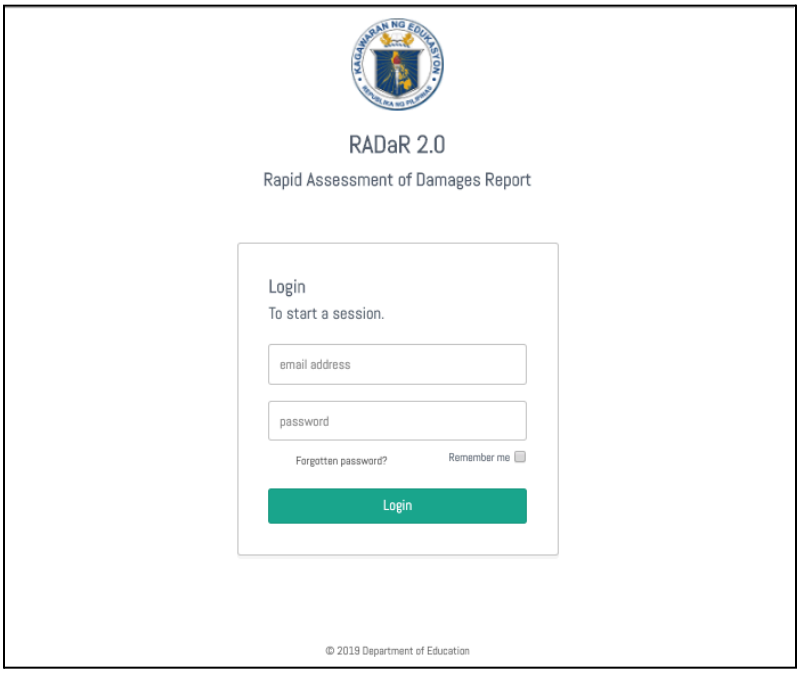
Go to the last page (Photos page with the Validate and Submit button)

Exit - Returns to the first page of the App which has the orange hazard button(s).

Further information on the use of the RADaR Mobile App with a specific focus on its intended user, namely the School DRRM Coordinator, is provided in section 4.2 below.

3.4.2 The Portal

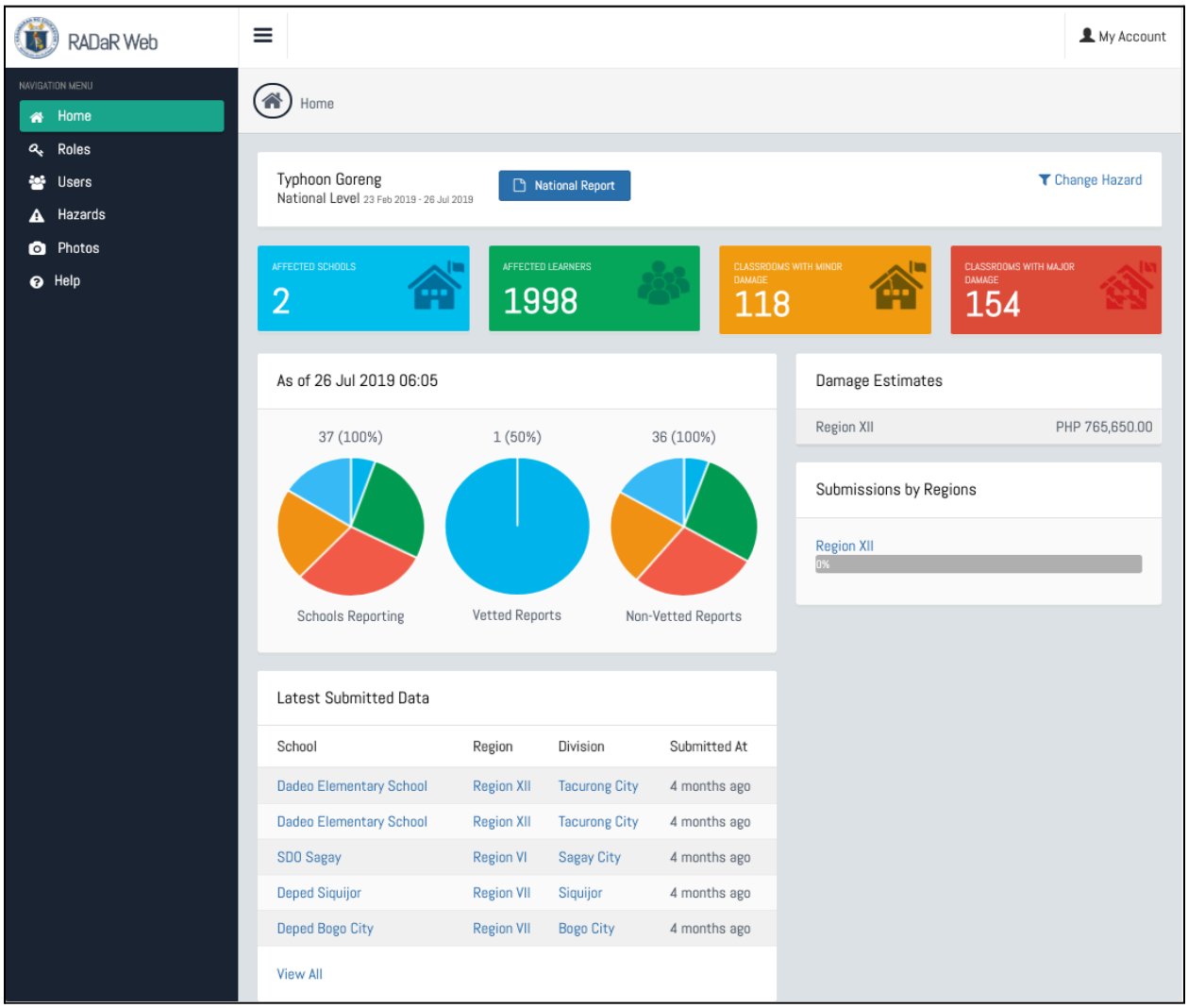
(Note: The User Manual screenshots are those of the *SurveyAdmin* who is granted all Portal *Permissions*.)



Landing Page

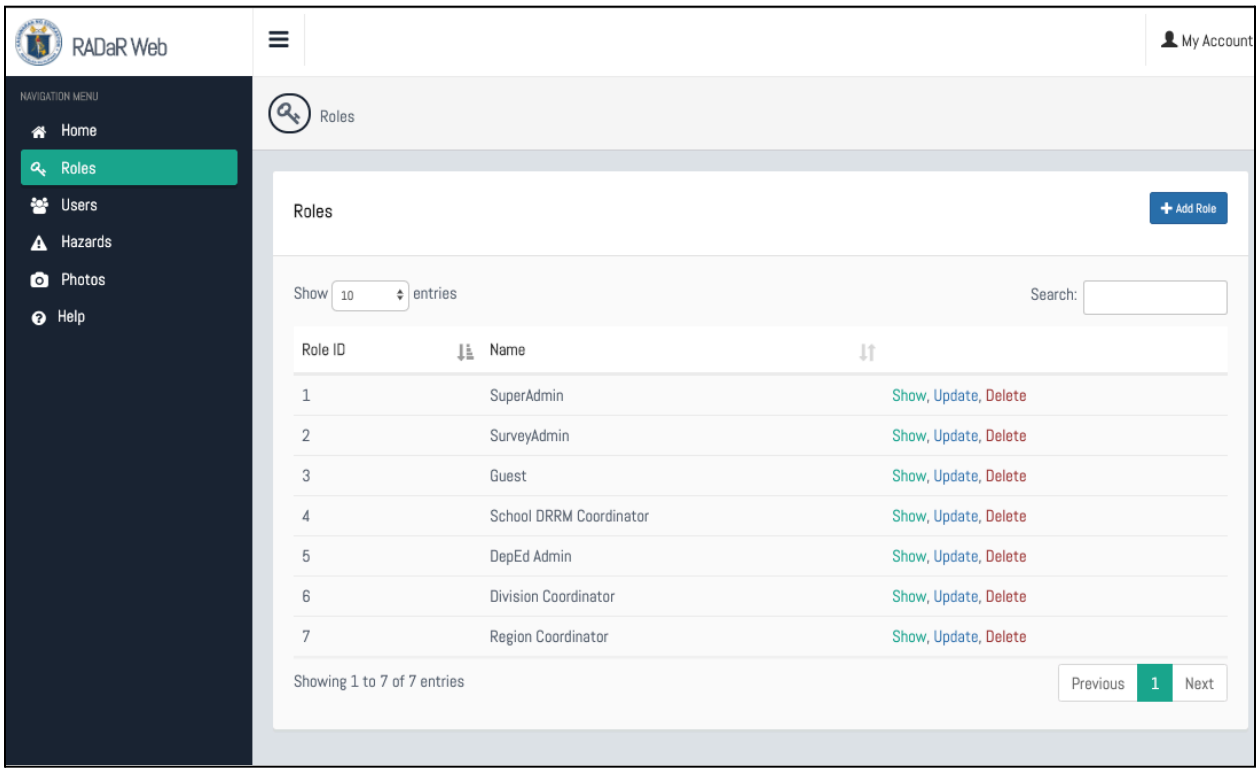
To login to the RADaR-DS Portal, the user enters his/her credentials and presses the *Login* button.

Top level menu choices are on the left margin of all Portal windows. They are *Home, Roles, Users, Hazards, Photos* and *Help.* Section 4 provides further information on each Portal page in the context of two user Roles, namely the DRRMS staff with the SurveyAdmin Role and the Division DRRM Coordinator.



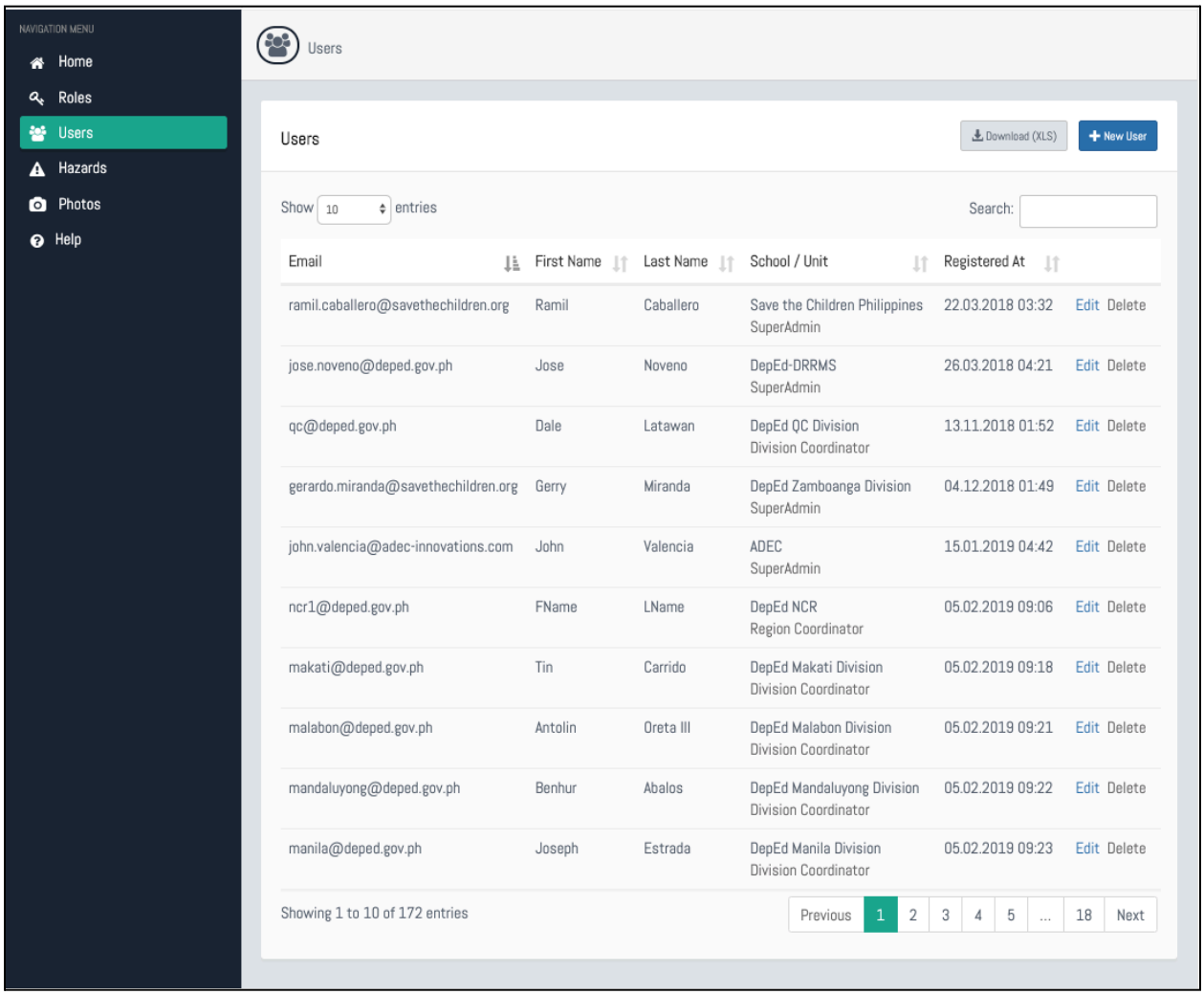
Home page

The *Home* page of the Portal is a dashboard which displays the most current information on the selected hazard.



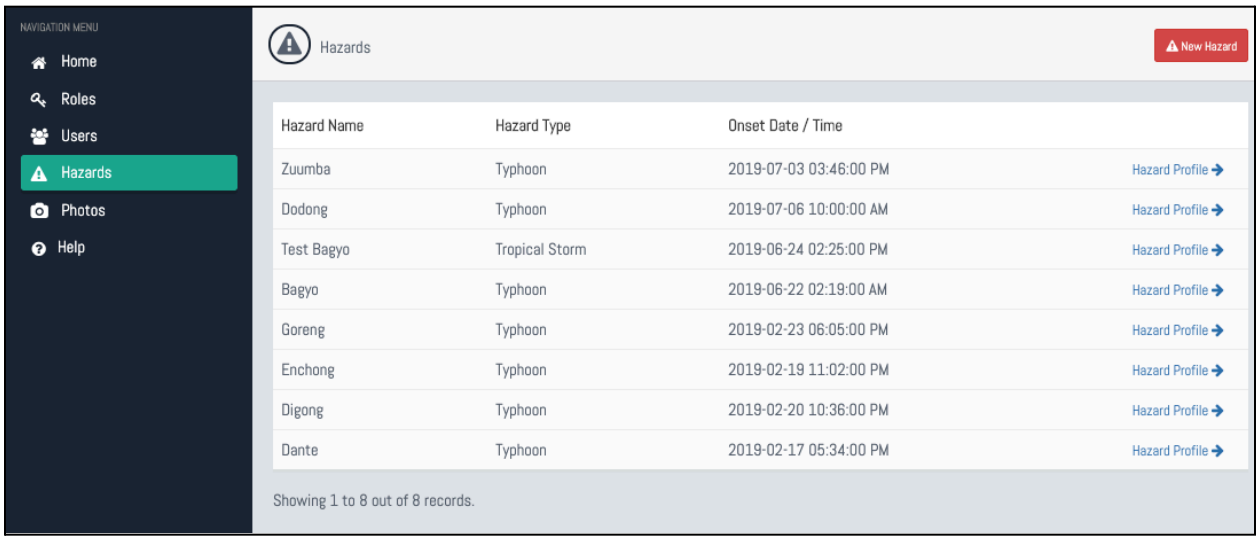
Roles page

Active *Role* assignments are listed on the *Roles* page. Whereas the *SurveyAdmin* is authorized to Show, Update or Delete a particular *Role*, a *Guest* cannot see the *Roles* page at all.



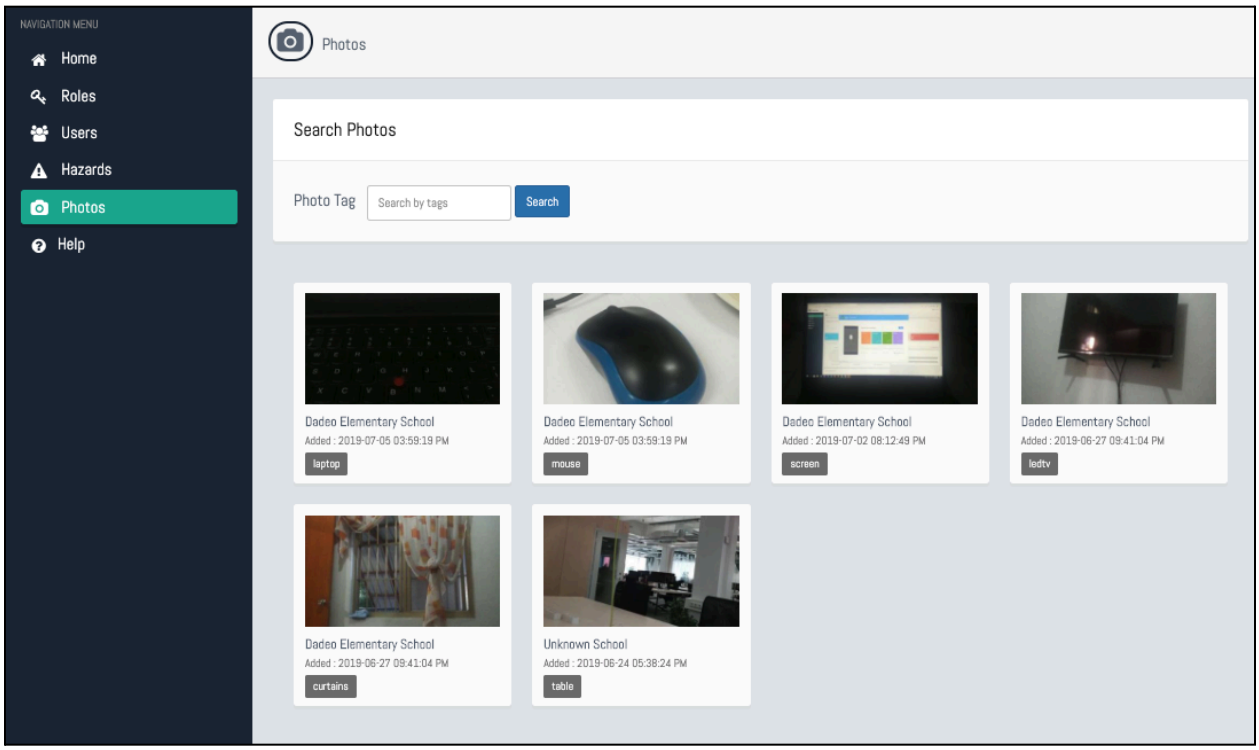
Users page

Users page lists all the Portal users by Email, Full Name, School/Unit, as well as date and time of Registration. *SurveyAdmin* has the required permissions to Edit or **Delete** a *User* record.



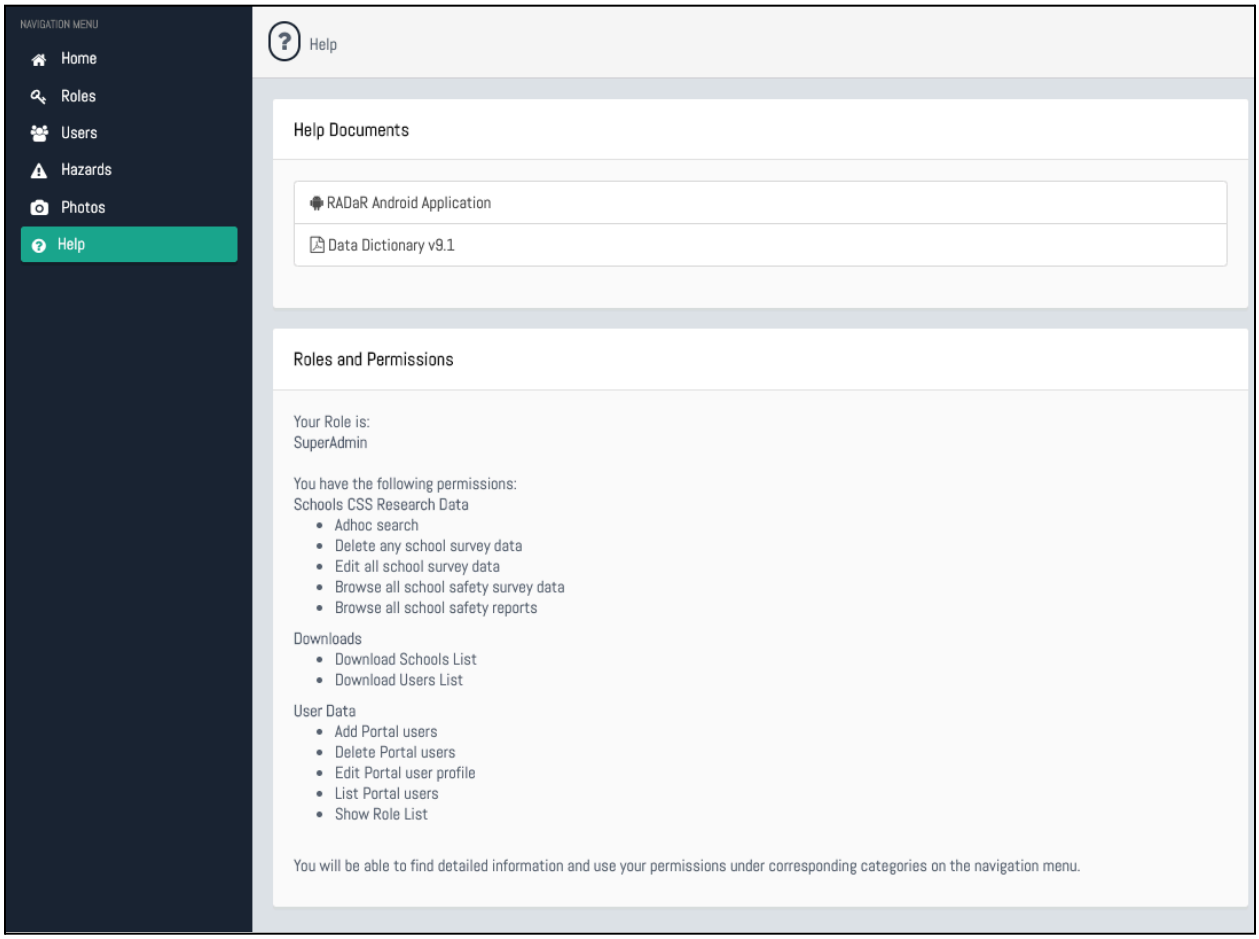
Hazards page

Hazards page lists all the active hazards by Type and Onset Date/Time.



Photos page

All photos submitted by schools are displayed on the *Photos* page. All Portal users have access to the *Photos* page.



Help page

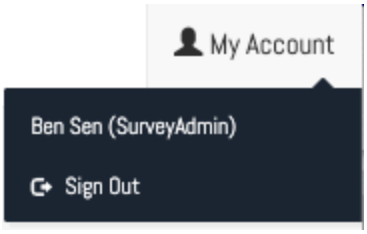
Help page contains the Help Documents as well as the latest RADaR mobile App. It also names the user's *Role* followed by the list of the Permissions granted to that *Role*.

3.5 Exiting the System

3.5.1 The App

Exiting the RADaR-DS mobile App is accomplished by closing the App like any other. Since every few seconds the App automatically saves the data entered by the user, only after the damage information is validated and submitted to the RADaR-DS server, data entry pages are cleared ready for another submission.

3.5.2 The Portal



The My Account button on the upper right corner of each Portal page reveals the name of the active user followed by the *Sign Out* option. When clicked, the *Sign Out* option terminates the Portal session and takes the user to the landing page at philippines.riskrapps.net.

4. Using the System

This section walks users with three different Roles through the steps they typically take to accomplish selected tasks they are responsible for. These users are the *DRRMS Staff*, the *School DRRM Coordinator* and the *Division DRRM Coordinator*. Each Use Case is demonstrated below with associated screenshots.

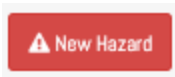
4.1 DRRMS Staff

DRRMS Staff is assigned the SurveyAdmin Role which has the highest level of authorization on the RADaR-DS Portal. The SurveyAdmin is the one to i) Add Roles as necessary; ii) to launch a new RADaR-DS response episode by defining a New Hazard and to Add Areas of potential impact to the initial Hazard area; iii) to End Response when the Hazard has existed an area; and finally iv) to Archive Hazard data and remove all associated data from Portal pages.

4.1.1 Add Role

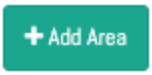
The + Add Role button on the upper right corner of the Roles page opens the User Group Form which allows the user to name the Role and check the boxes by the Permissions this Role has access to.

4.1.2 New Hazard



The New Hazard button on the upper right corner of the Hazards page opens the New Hazard form where the user names the hazard, selects the type from the Hazard Type drop-down menu and enters the Onset Date and Time.

4.1.3 Add Area



The Add Area button is on the Hazard Profile page which is reached from the Hazards page by clicking on the Hazard Profile link on the right margin of a hazard entry. When the user clicks on this button the Select Areas field is displayed. Once the area is selected from the drop-down menu, the user

clicks on the blue Request RADaR button which triggers the Portal to send SMS invitations to the schools within that geography to report on the impact of the said hazard.

4.1.4 End Response

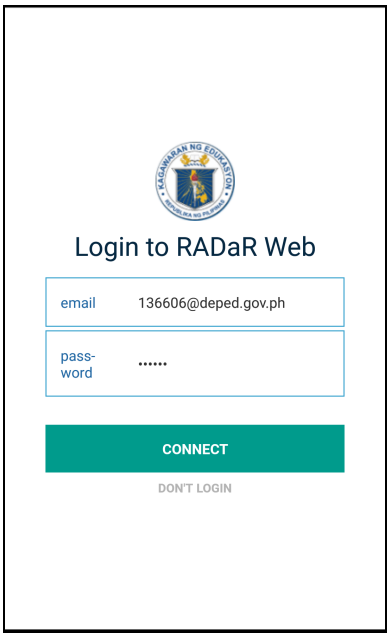
At the top of the Hazard profile page is the blue End Response button. By clicking on this button, the SurveyAdmin ends the disaster response episode which stops all follow-up SMS messages to schools that have either not responded to the invitations or have incomplete submissions.

4.1.5 Archive Hazard

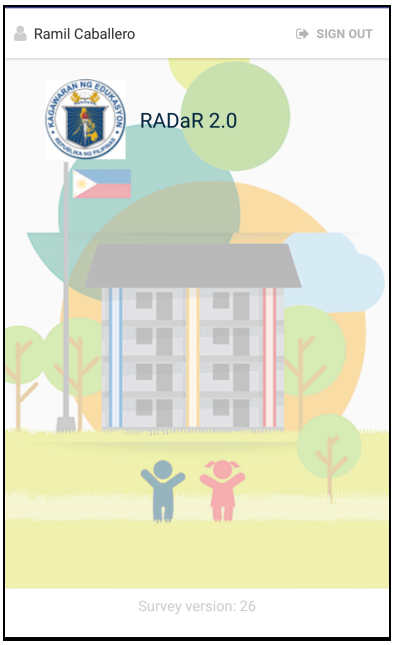
When DRRMS completes all the follow up tasks after the end of the response, the Archive Hazard button on the Hazard Profile page removes all the data from the Dashboard and other pages pertaining to the subject hazard. The data remains in the RADaR database for future analysis.

4.2 School DRRM Coordinator

4.2.1 Singing in

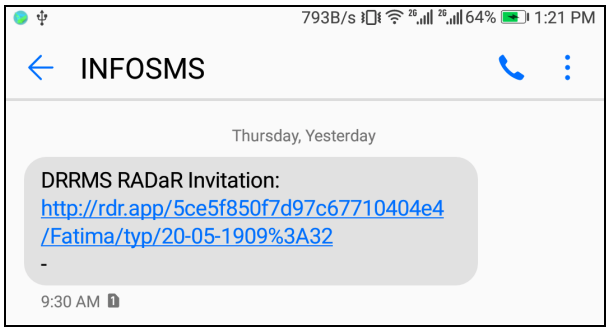


After launching the RADaR-DS App for the first time, the School DRRM Coordinator must enter his/her credentials to sign on to the RADaR-DS Information and Communications Technology (ICT) environment. Sign on credentials are stored by the App and do not need to be re-entered the next time the App is launched.



Until sign out, these credentials identify the user by the name displayed on the upper left corner of the landing page.

4.2.2 SMS Notification



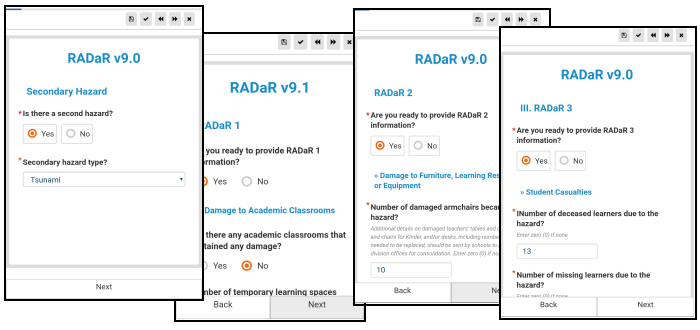
When the School DRRM Coordinator receives a DRRMS RADAR Invitation by SMS, clicking on the link launches the App which will populate it with the name of the hazard for which damage reports are expected by DepEd/DRRMS.

Embedded in the SMS message is the name of the Hazard damage reports are associated with as well as the credentials of the School DRRM Coordinator who is responsible for submitting RADaR information.

Clicking on the orange button with the name of the Hazard will open the questionnaire pages where damage estimation questions are answered and photos are taken.

If there are other hazards for which the School DRRM Coordinator is expected to submit RADaR information on, additional orange buttons with the names of the declared hazards will appear on this page. The School DRRM Coordinator should pay careful attention to selecting the correct hazard name for the RADaR information being reported.

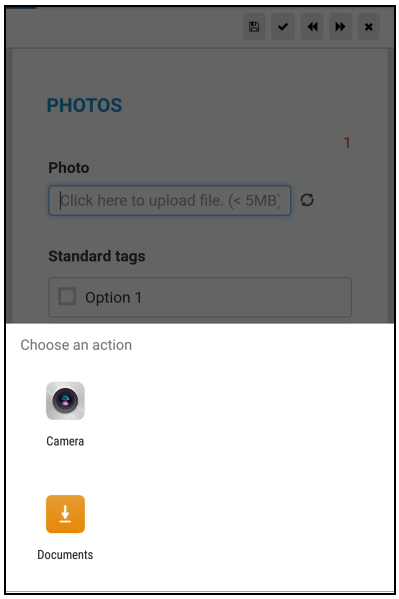
4.2.3 RADaR 1-3 and Photos



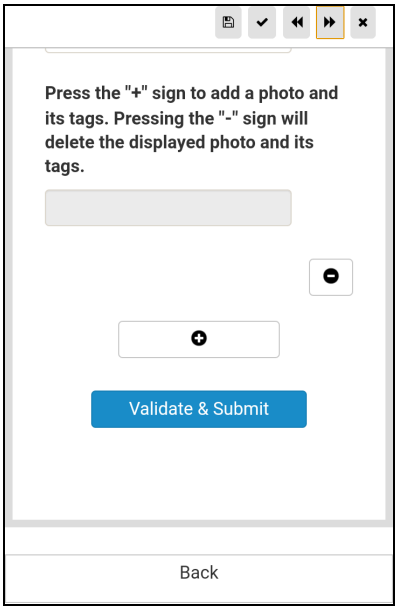
On the following pages of the mobile App, three sets of questions are posed for the School DRRM Coordinator to answer, namely RADaR 1, 2 and 3 questions covering structural damage, damage to equipment and casualties, respectively.

The last page of the App allows the user to take as many photos as relevant to supplement the answers. These photos can be taken by the camera or selected from the Gallery application of the mobile phone.

Photos can only be transferred to the RADaR-DS servers over the Internet.



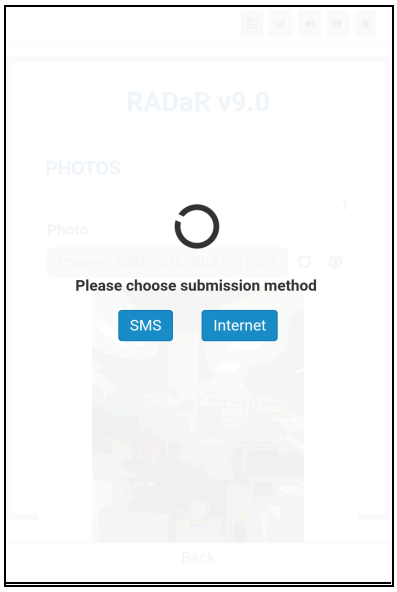
4.2.3 Validate and Submit



At the bottom of the Photos page is the blue *Validate & Submit* button. RADaR information cannot be queued for transmission unless this button is pressed by the School DRRM Coordinator.

4.2.3 Transmission Method

Based on the wireless communications options available at the time, on the last page of the mobile App, the School DRRM Coordinator decides to use either *SMS* or *Internet*. Internet transmission is the preferred method of transferring all the data including the photos. SMS



method only transfers the textual answers. However, especially after a disaster SMS service is more likely to be available or restored sooner.

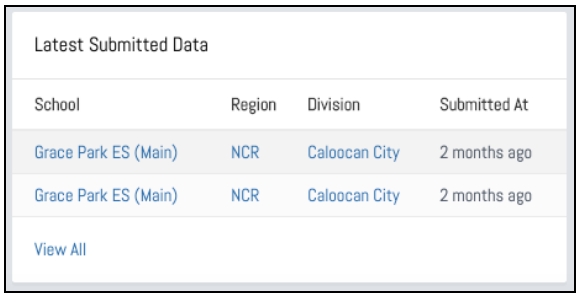
Once data transmission is completed, the App returns to the first page where the submission is acknowledged with a clear message.

During the hazard response period if conditions change or there is additional information available, School DRRM Coordinators are encouraged to update their RADaR information by pressing the orange button again for another round of answers. Once the response period ends, further transmissions will not be taken into account by DepEd/DRRMS.

4.3 Division DRRM Coordinator

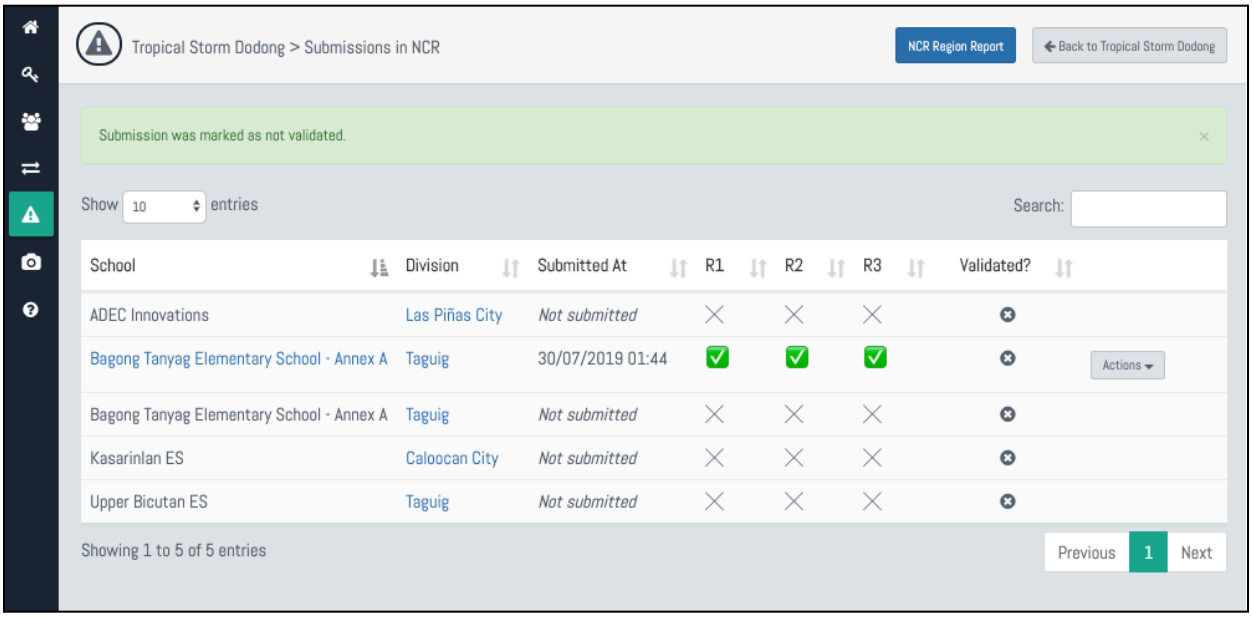
Division DRRM Coordinators are tasked to follow up on undelivered SMS messages and incomplete RADaR submissions from invited schools. *Incomplete* submissions are those which do not have the answers to all three sets of required RADaR questions. Division DRRM Coordinators are also to validate *Completed* RADaR submissions before the information is considered final by DepEd/DRRMS. The following sections outline the steps the Division DRRM Coordinator follows to fulfill these responsibilities.

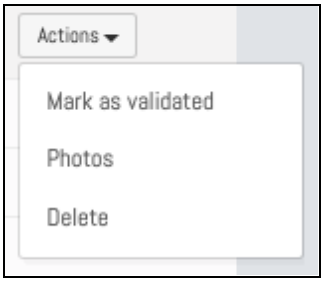
4.3.1 Validation



The *Latest Submitted Data* pane of the Dashboard on the Home page of the Portal lists the schools that have submitted their RADaR. Clicking on the Region or the Division name opens another window with more detailed information on the submissions from that geography. Those schools

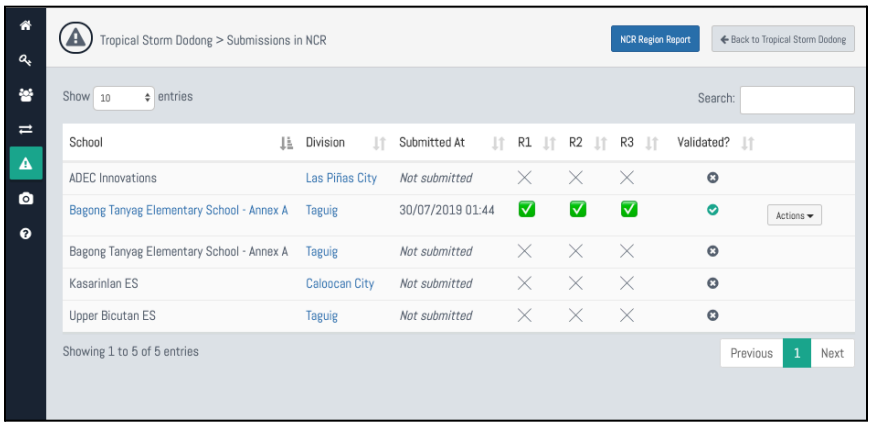
with completed submissions have green checkmarks for all three sets of RADaR information followed by a pull-down menu named *Actions*. Incomplete submissions do not have the *Actions* button.





By clicking on the *Mark as validated* option of the *Actions* button, the Division DRRM Coordinator validates *Completed* submission which puts a green checkmark for that school under the *Validated?* Column.

The *Actions* button options for validated schools change to *Mark as not validated*.

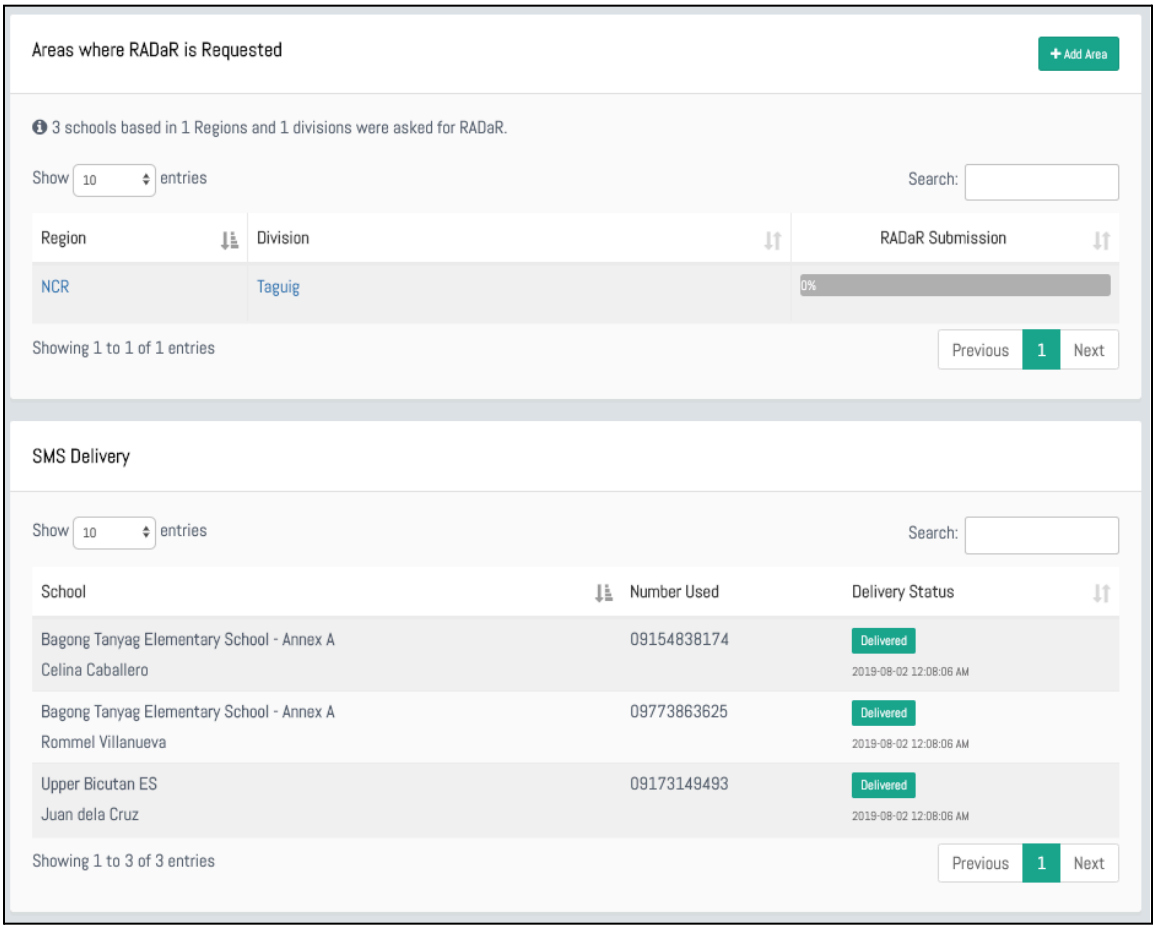


The remaining *Actions* button options take the user to the *Photos* page for that school or deletes that school's submission.

4.3.2 Identifying schools with missing information

The list of schools invited to send their RADaR is also used by the Division DRRM Coordinator to identify those schools which need to be followed up on with. In the example above, all but one school must be contacted to send their damage assessments.

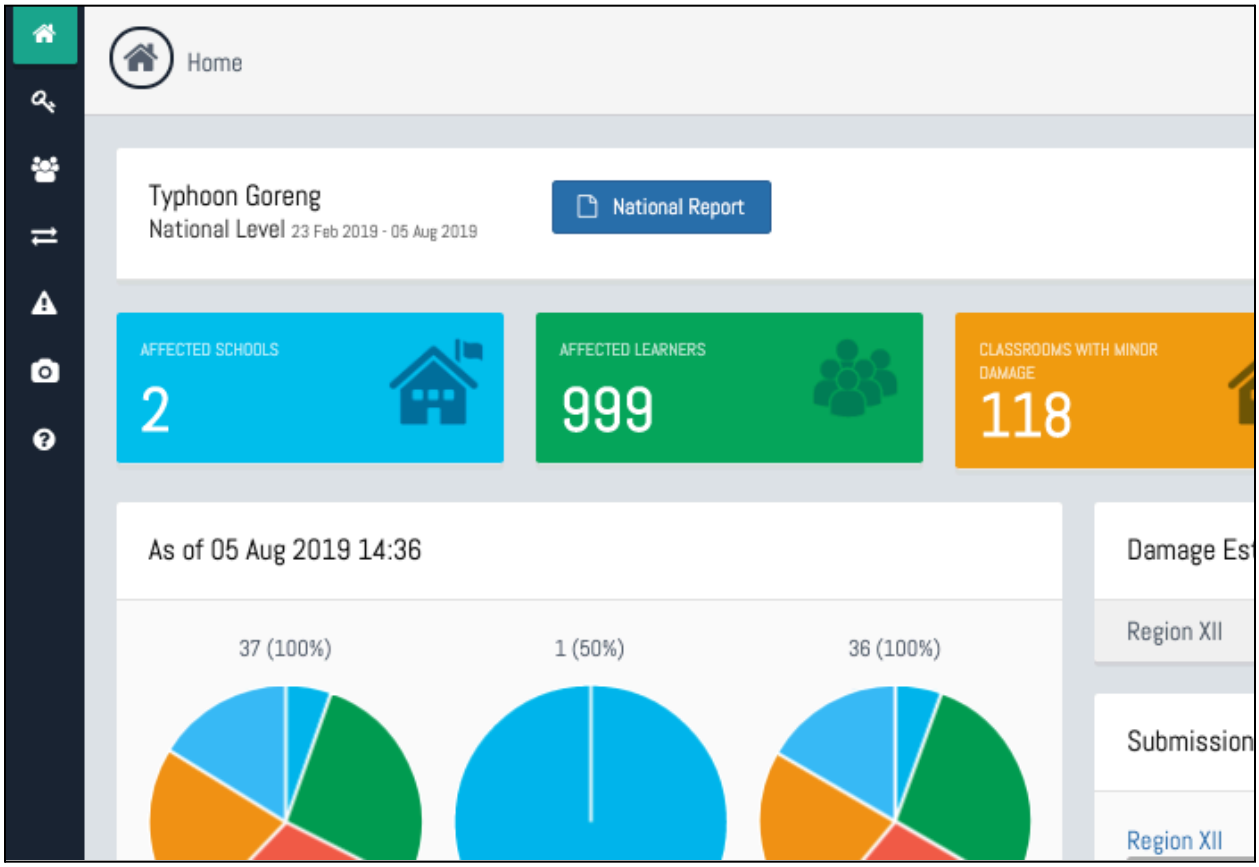
On the Hazard Profile page there is information for the DIvision DRRM Coordinator to help determine if the SMS invitation to a school failed to arrive at its destination which may be the reason why the school has not submitted its damage assessments. In the example below, all SMS invitations to the schools located in division Taguig of region NCR have been delivered (i.e. Delivered). An unsuccessful delivery is indicated with Failed .



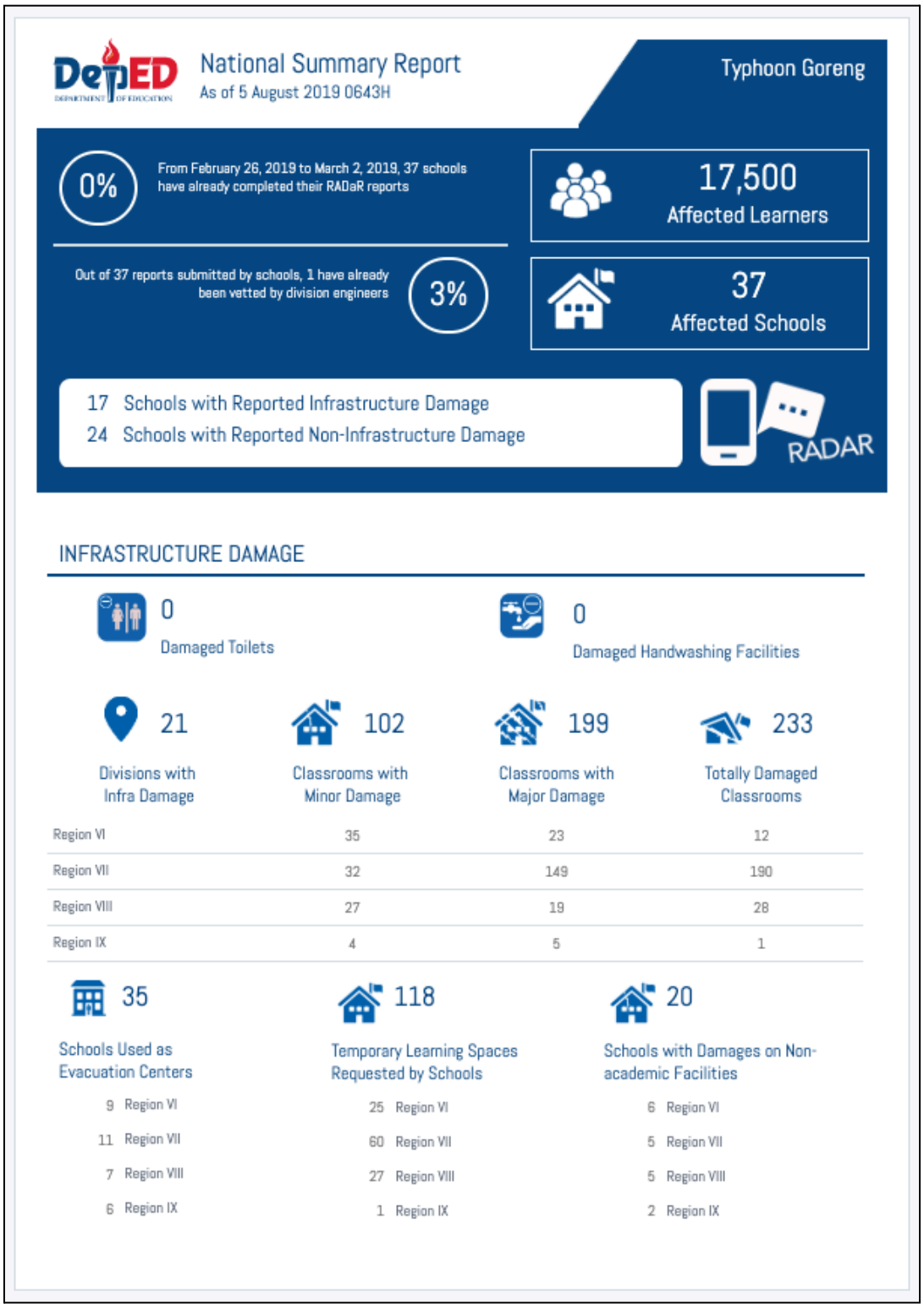
5. Damage Reports

RADaR-DS Portal produces four damage reports. These reports are delivered on demand and reflect the most current information for a particular school or geographic area. Except for the school damage report, the national, regional and division reports are accessed by pressing a report button on related pages. Report examples are provided below together with how they are accessed.

5.1 National Report



The national report for a hazard of interest is accessed by pressing the *National Report* button with a blue background on the *Homepage* of the Portal located to the right of the hazard name. The first page displays Infrastructure Damage totals. The second page has non-infrastructure damage information.



DepED
DEPARTMENT OF EDUCATION

National Summary Report

As of 5 August 2019 0643H

Typhoon Goreng

0%

From February 26, 2019 to March 2, 2019, 37 schools have already completed their RADaR reports

17,500
Affected Learners

Out of 37 reports submitted by schools, 1 have already been vetted by division engineers

3%

37
Affected Schools

17 Schools with Reported Infrastructure Damage
24 Schools with Reported Non-Infrastructure Damage

RADAR

INFRASTRUCTURE DAMAGE

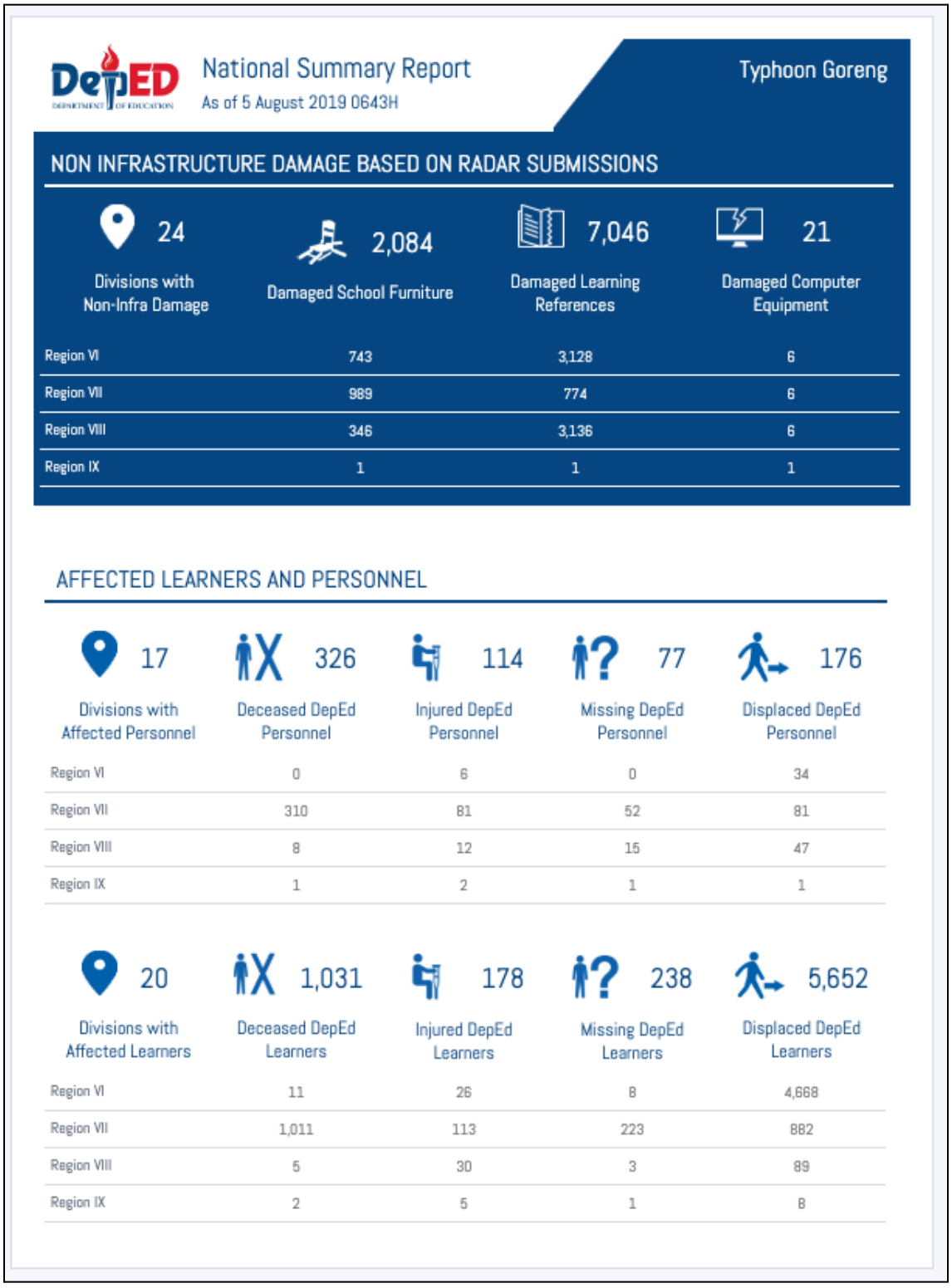
0
Damaged Toilets

0
Damaged Handwashing Facilities

21	102	199	233
Divisions with Infra Damage	Classrooms with Minor Damage	Classrooms with Major Damage	Totally Damaged Classrooms
Region VI	35	23	12
Region VII	32	149	190
Region VIII	27	19	28
Region IX	4	5	1

35	118	20
Schools Used as Evacuation Centers	Temporary Learning Spaces Requested by Schools	Schools with Damages on Non-academic Facilities
9 Region VI	25 Region VI	6 Region VI
11 Region VII	60 Region VII	5 Region VII
7 Region VIII	27 Region VIII	5 Region VIII
6 Region IX	1 Region IX	2 Region IX

Page 1 of National Report



DepED
DEPARTMENT OF EDUCATION

National Summary Report
As of 5 August 2019 0643H

Typhoon Goreng

NON INFRASTRUCTURE DAMAGE BASED ON RADAR SUBMISSIONS

24	2,084	7,046	21
Divisions with Non-Infra Damage	Damaged School Furniture	Damaged Learning References	Damaged Computer Equipment

Region VI	743	3,128	6
Region VII	989	774	6
Region VIII	346	3,136	6
Region IX	1	1	1

AFFECTED LEARNERS AND PERSONNEL

17	326	114	77	176
Divisions with Affected Personnel	Deceased DepEd Personnel	Injured DepEd Personnel	Missing DepEd Personnel	Displaced DepEd Personnel
Region VI	0	6	0	34
Region VII	310	81	52	81
Region VIII	8	12	15	47
Region IX	1	2	1	1

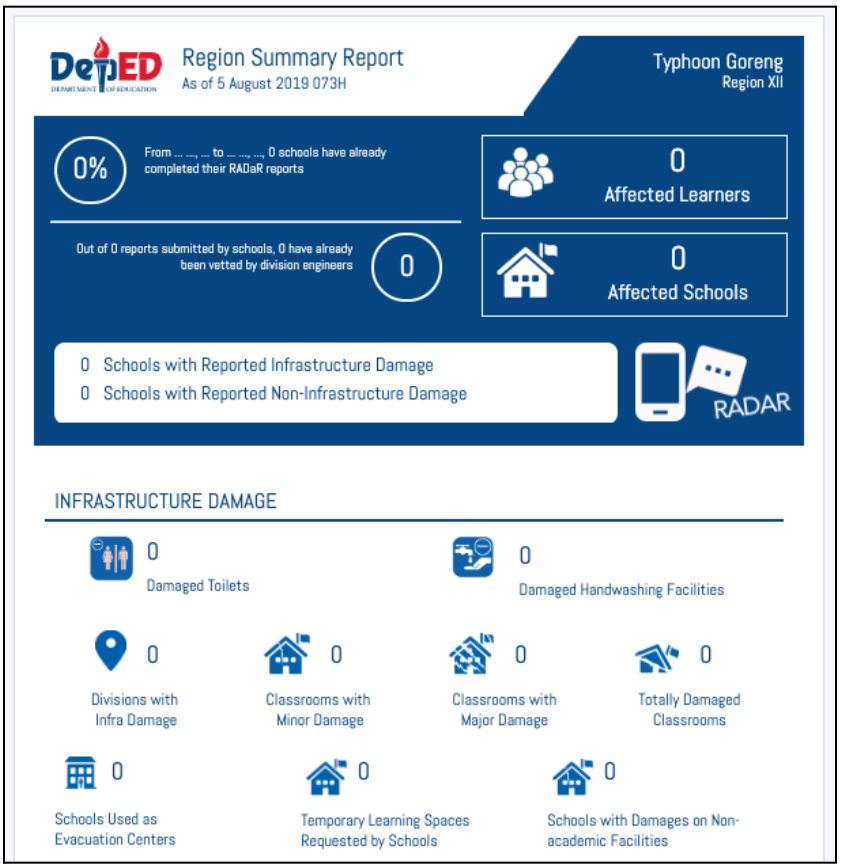
20	1,031	178	238	5,652
Divisions with Affected Learners	Deceased DepEd Learners	Injured DepEd Learners	Missing DepEd Learners	Displaced DepEd Learners
Region VI	11	26	8	4,668
Region VII	1,011	113	223	882
Region VIII	5	30	3	89
Region IX	2	5	1	8

Page 2 of National Report

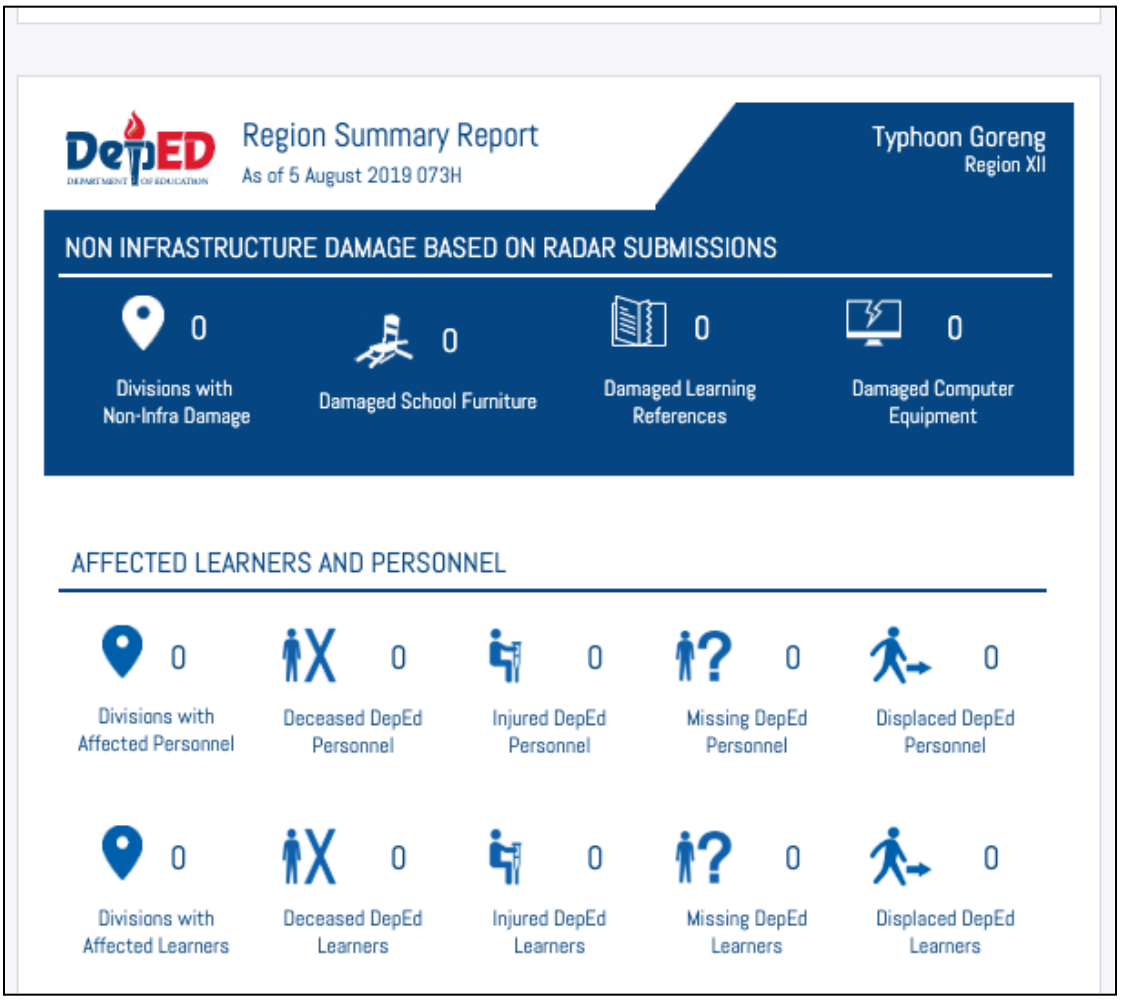
5.2 Region Report

Regional damage report button is on the page reached from the *Dashboard* (i.e. *Home* page) by pressing the name of the region which is in blue text. Pressing the Region *[name of region]* Report button will open the damage report for that region.

The Region Report has two pages containing the same sections as the National Report.



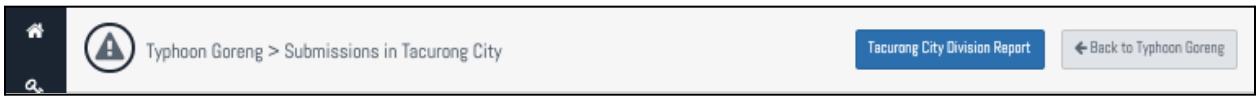
Page 1 of Region Report

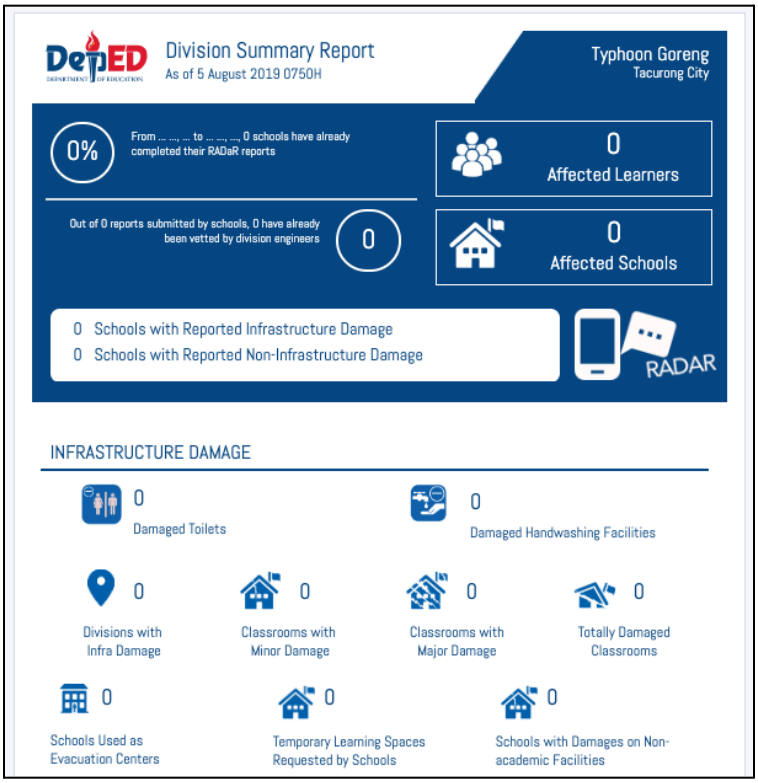


Page 2 of Region Report

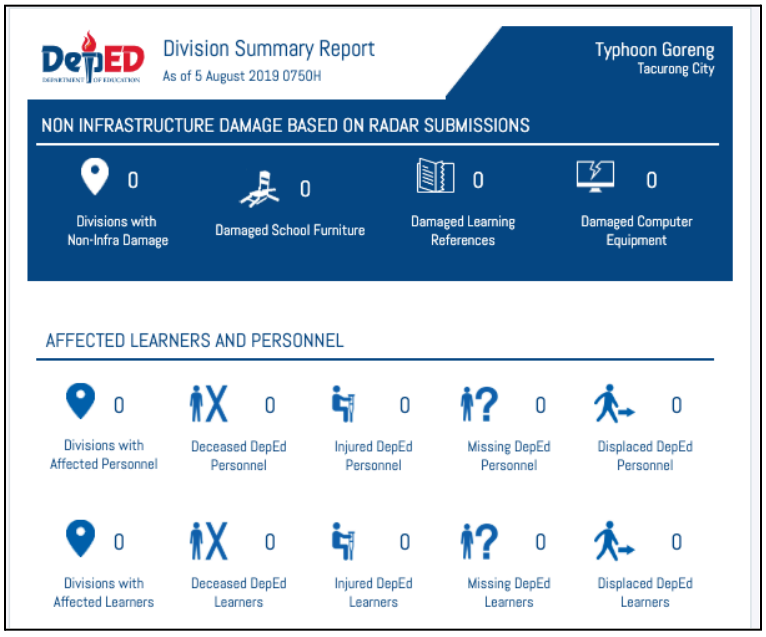
5.3 Division Report

Division damage report button is on the page reached from the *Dashboard* (i.e. *Home* page) by pressing the name of the division which is in blue text. Pressing the Region *[name of division]* Report button will open the damage report for that region.





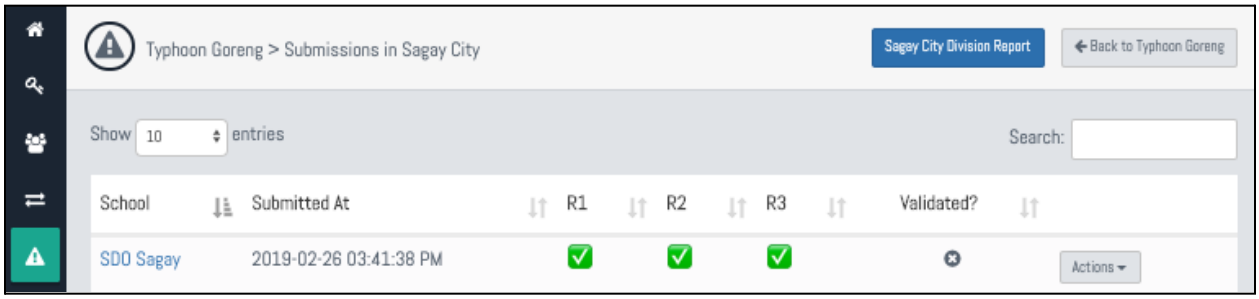
Page 1 Division Report

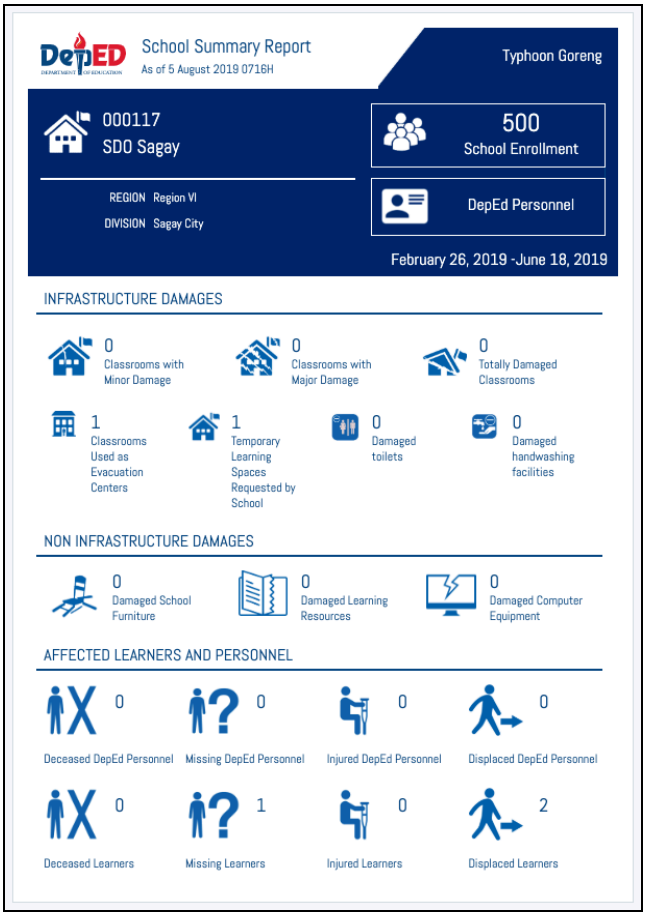


Page 2 of Division Report

5.4 School Report

On any page of the Portal where the name of the school appears in blue text, the school report can be accessed by pressing the name. The second page of the report contains damage photos.





Page 1 School Report

Page 2 School Report

6. Troubleshooting and Support

In case of error messages and/or if you need technical support, contact the responsible persons listed below:

Contact	Organization	Phone	Email	Role	Responsibility
<Contact Name>	*<Organization>*	*<Phone>*	*<Email>*	*<Role>*	*<Responsibility>*