



# **SCHOOL HYDROLOGICAL INFORMATION NETWORK**

# **HANDBOOK 2020**

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## ABOUT THE HANDBOOK

The SHINe (School Hydrological Information Network) Handbook was written and developed in response to PGB-PDRRMC SHINe Program and projects for the year 2019. This handbook encourages interest for school groups and others who are not well-versed to the program and with intent in coming up with such program.



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# APPENDIX B

## RAINFALL DATA OBSERVATION SHEET

Monthly Data Sheet		Rainfall (1/100 inch)																LAT.		LONG					
Station:		BUNSURAN NATIONAL HIGH SCHOOL, PANDI																							
Year:		2019																							
Month:		NOVEMBER																							
																				Note: BLANK means "NO observations made"					
Day	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	
1								27									10								
2								4									2								
3								0									0								
4								69									0								
5								13									0								
6								0									0								
7								0									0								
8								0									0								
9								4									67								
10								1									0								
11								1									0								
12								0									0								
13								0									0								
14								0									0								
15								10									0								
16								0									2								
17								0									0								
18								14									0								
19								0									0								
20								1									0								
21								0									0								
22								0									0								
23								0									6								
24								3									10								
25								22									4								
26								59									0								
27								0									4								
28								0									0								
29								0									0								
30								27									4								
31								10																	
1																									
Remarks:																									

Notes on this excel data form	
Just input the data corresponding the day-row and time-column as per observations made.	
1	Enter the necessary information on the yellow-colored cells
2	This form shall be filled-up following the meteorological day (met day) format that is: met day starts at 8:01 am of day 1 and ends at 8:00 am of day 2 All 8:00 am of all the days shall be filled-in (as much as possible)
3	Observation made at 8:00am shall be placed under the column 8:00 and reading from 8:01 to 9:00 shall be placed at the column 9:00 and corresponding to day row when that observation was made.
4	It is understood that all blanks indicate no observations were made and the reading placed on a cell indicates the rainfall covering the blank cell/s before that cell with a value on it.
5	For months with 31 days, the 24-hour met day shall end at 8:00 am of day 1 of the following month; for 30 days, 8:00 am of day 31 shall be the end of the met day; for the month of February, the 28th day shall end on the 29th and if 29 days the 8:00 am of the 30th day shall be the end of the met day
6	The green-colored cells indicates the rest of the met day from the previous day.
7	Worksheets "mm" and "summ" are locked so no need to input any data therein
8	Any questions/suggestions regarding the excel worksheet, please e-mail me at <a href="mailto:prffwc_ffb@yahoo.com">prffwc_ffb@yahoo.com</a>

# INTRODUCTION

With the growing concern on Global Warming and its adverse impacts to the environment and an extreme change in climate. The School Hydrological Information Network (SHINe) as one major program of the PDRRMC-Bulacan came –up with a particular activity of creating a handbook or manual as a type of reference work which is a collection of information and instructions that is intended to provide a ready reference or set of notes that will served as a guiding platform not only for the school group but also for other groups that is not well-versed to the program, or groups who are interested in coming up with such program.

This SHINe handbook or manual shows a general holistic view of the program with emphasis on how the program is being carried-out with related info materials raising the school’s awareness on disaster risk reduction (DRR) particularly hydro meteorological-related disasters .

The design and content of this project material supports the Department of Education’s (DepEd) thrust in its program on “climate change” enhanced curriculum consistent with the underlying principle that disaster awareness should begin in schools.

It is hoped that through this material, every reader or beginner will learned about the concepts of SHINe program providing enough information that will eventually guide them in coming up with similar program or project enhancing and improving its process.

# SUMMARY

As SHINE project, this handbook shows a general holistic view of the program, its history, objectives, and activities with emphasis on how the program is being carried-out or implemented.

The handbook provides related information materials which covers topics on, hydrometeorological concepts such as common weather systems affecting the Philippines, Classification of tropical cyclones, Tropical cyclone wind signals, Typhoon tracking, Hazards associated with tropical cyclones and Flood mitigating measures written in brief, concise but comprehensive manner.

Also in this handbook, implementation steps of the program are prearranged with matrix starting from the MOA signing, creation of SHINE organization and Group, orientation of members, installation of rain gauge, process of rain gauge observation up to consolidation and submission of rain gauge data and analysis to concerns offices of DRRM.

Finally, this handbook also contributes other necessary information materials related to the objectives, targets and projects for implementation as well as analysis and lessons learned as to how SHINE program can help the school in its DRRM activities.

# APPENDIX A

## MEMORANDUM OF AGREEMENT FORM (MOA)

### MEMORANDUM OF AGREEMENT

#### KNOW ALL MEN BY THESE PRESENTS:

This Memorandum of Agreement made and entered into this \_\_\_\_\_ day of \_\_\_\_\_, 2019 by and between:

The Provincial Disaster Risk Reduction and Management Office (PDRRMO), herein represented by its PDRRM Officer, Felicisima L. Mungcal, herein referred to as the "First Party",

-and-

The Municipal Disaster Risk Reduction and Management Office (MDRRMO) of Pandi, Bulacan herein represented by its Action and MDRRM Officer Raymon O. Austria herein referred to as the "Second Party",

-and-

The Bunsuran National High School, Bunsuran, Pandi, Bulacan, herein after represented by its Principal, Dr. Nancyrita C. Cubol herein referred to as the "Third Party",

#### WITNESSETH:

#### TERMS AND CONDITIONS

##### Section I: Title and Nature

1.1 This agreement is entitled "School Hydrological Information Network (SHINE)". This involves a joint undertaking between Bulacan PDRRMO, the Pandi MDRRMO and the Bunsuran National High School, Bunsuran, Marilao, Bulacan, to mutually agree on coordinating and to share and exchange resources, manpower and information to help mitigate flood disasters within the province of Bulacan.

##### Section II: Roles and Responsibilities

2.1 Specific obligations of PDRRMO or the First Party: Under this agreement, the First Party shall perform the following tasks:

2.1.1 Conduct seminar-workshop/s on hydrological observations and related subjects, trainings, refresher seminars and the likes to the Third Party;

2.1.2 Provide the Third Party a Philippine Map for tracking Tropical Cyclones; rain gage, staff gage and flood marker related materials and other associated materials for hydrological observation;

2.1.3 Provide severe weather and flood bulletins and other related information whenever the situation warrants to both the Second and Third parties.

2.1.4 Provide the necessary funds and other materials related to the conduct of the SHINE program whenever needed.

2.2 Specific obligations of the Pandi MDRRMO or the Second Party. Under this agreement, the Second Party shall perform the following:

2.2.1 Assist in the conduct of seminar-workshop/s on hydrological observations and related subjects, trainings, refresher seminars and the likes to the Third Party;

2.2.2 Assist in organizing related seminar-workshop/s on hydrological observations and related subjects, trainings, refresher seminars and the likes to other secondary schools within their municipality in coordination with the First Party.

2.2.3 Disseminate severe weather and flood bulletins and other related information provided by the First Party to their constituents within the municipality.

# GLOSSARY

## ACRONYMS

**AWS-** Automatic Weather Station

Community-based Flood Mitigation & Management Program

**DRRM-** Disaster Risk Reduction and Management

**ITCZ-** Inter Tropical Convergence Zone

**LDRRMC-** Local Disaster Risk Reduction and Management Council

**MDRRMO-** Municipal Disaster Risk Reduction and Management Office

**PDRRMO-** Provincial Disaster Reduction and Management Office

**PRFFWC-** Pampanga River Flood forecasting Warning Center

**SHINe-** School Hydrological Information Network

**TC-** Tropical Cyclone

**TD-**Tropical Depression

**TS-** Tropical Storm

**STS-** Severe Tropical Storm

**TY-** Typhoon

**STY-** Super Typhoon

**TCWS –** Tropical Cyclone Warning Signals

**Hydrology-** study or knowledge of water and /or the water cycle

**Meteorology-** study of atmosphere focusing on weather processes and forecasting

**Weather-**is the atmosphere's condition at a particular place over a short period of time

**Climate-** refers to the weather pattern, using statistical data, of a place over a long enough period of time.

**Weather Systems-** the movement of warm and cold air across the globe

**Hazards-**agent that can cause harm or damage to humans, property, or the environment.

**Risk -** defined as the probability that exposure to a hazard will lead to a negative consequence

**Floods-** an overflowing of a large amount of water beyond its normal

**Rain gauge-** also known as an udometer, pluviometer or an obometer, an instrument used to gather and measure the amount of liquid precipitation over an area in a pre-defined period of time



# BULACAN PROFILE

Bulacan has a total land area of 262,500 hectares or roughly 14 percent of the total area of Central Luzon, the biggest Philippine island, and 0.9% of the country's total land area. The province has 21 municipalities, 3 component cities and 569 barangays. Malolos in the southwestern part is the capital of the province. Of the 21 municipalities and 3 component cities of the province, Doña Remedios Trinidad (DRT) is the biggest municipality having a total land area of about 93,298 hectares or almost 36 percent of the provincial land total. DRT is followed by the municipalities of San Miguel and Norzagaray with land areas representing more than 6 percent of the provincial total. Obando, on the other hand, has the smallest landmass with only 1,458 hectares or 0.56 percent of the entire area of Bulacan.

## Terrain

Bulacan lies in the southern portion of the fertile plains of Central Luzon. The area is drained by the Angat and Pampanga rivers. The Sierra Madre mountain range forms the highlands of Bulacan in the east and is a protected area known as the Angat Watershed Forest Reserve. Angat Lake, which was formed by the Angat Dam is located in that area. The highest point in the province at 1,206[18] meters is Mount Oriod, part of the Sierra Madre.

## CLIMATE

November to April is generally dry while wet for the rest of the year. The northeast monsoon (amihan) prevails from October to January bringing in moderated and light rains. From February to April, the east trade winds predominate but the Sierra Madre (Philippines) mountain range to the east disrupts the winds resulting to a dry period. From May to September, the southwest monsoon (habagat).

The hottest month is May having an average temperature of 29.7 °C (85.5 °F) while the coldest is February with an average temperature of 25.1 °C (77.2 °F).



Hydrometeorology studies the atmosphere focusing on weather processes and forecasting with knowledge of water and water cycle.

## **A. Common Weather Systems affecting the Philippines**

Weather systems are the movement of warm and cold air across the globe. These movements are known as low-pressure systems and high-pressure systems. High-pressure systems are spinning masses of cool, dry air. High-pressure systems keep moisture from rising into the atmosphere and forming clouds.

The Philippines are affected by the following common weather systems:

**THUNDERSTORM**- are small,intense weather systems that produce strong winds, heavy rain, lightning and thunder which forms from warm moist air and along cold fronts

### **COLD FRONT**

- \* transition zone where a cold air mass is replacing a warmer air mass
- \* generally move from northwest to southeast. when passing,
- \* lifted warm air ahead of the front produces cumulus or cumulonimbus clouds and thunderstorms.

### **MONSOONS** - monsoon"

- \* is a weather pattern; a monsoon has a different name in each country that it affects.
- \* in the Philippines, the Summer Monsoon (West or southwest winds) is called the Habagat (ha-bag-at) and the Winter Monsoon (North or northeast winds) is called the Amihan (a-me-han).

### **INTER-TROPICAL CONVERGENCE ZONE (ITCZ)**

\* a belt of low pressure which circles the Earth generally near the equator where the trade winds of the Northern and Southern Hemispheres come together.

### **TROPICAL CYCLONE (TC) (Bagyo)**

- \* also called typhoon or hurricane
- \* intense circular storm or low pressure system with minimum sustained winds of 35 kph
- \* Winds are most damaging to structures but most casualties result from flooding

## **B. Classification of TC in the Philippines:**

- \* Tropical Depression (TD) – winds less than 61 kph
- \* Tropical Storm (TS) – winds of 62 kph to 88 kph
- \* Severe Tropical Storm (STS) – winds of 89 to 17 kph
- \* Typhoon (TY) – winds Of 118 to 220 kph
- \* Super Typhoon (STY)- winds greater than 220 kph

# SHINE IN ACTION

## SHINE SCHOOL GROUP PROJECTS



SCHOOL INFORMATION BOARD



PROTOTYPE RAIN GAUGE



Poster and Logo Making for SHINe School



SHINe Investigatory Project

## SCHOOL SHINe CLUB INIITIATIVE PROJECTS



Bunsuran NHSchool's Mini-Forest



Bunsuran NHS Material Recovery Facility as part of "Bote mo School Supplies Mo!" Project



Disaster Preparedness tarps/maps



Disaster Preparedness tarps/maps



# PROGRAMS AND ACTIVITIES

## SHINE Orientation and Echo-seminar



Orientation of SHINE to New School Beneficiary by Representative from PDRRMO and MDRRMO



Echo-seminar and school – based orientation of new SHINE club



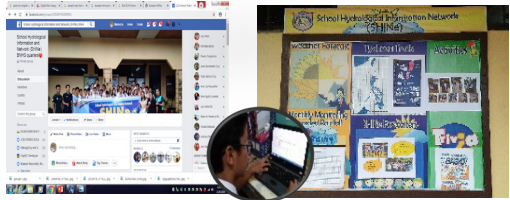
Election of SHINE Club organization and members during the revisit and presentation

## CAMPAIGNS AND INITIATIVES



SHINE in Action disaster awareness room to room campaign and clean-up drives.

## DAILY ACTIVITIES



Monitoring and updating of SHINE information board, weather forecasting and observations.

## SHINE CONFERENCE

Members of the club participate inschool dynamics and contests



### C. Tropical Cyclone Wind Signals (TWCS) in the Philippines

TCWS No. 1 – A TC may threaten or affect the locality. Winds of 30 to 60 kph may be expected in at least 36 hours (1.5 days) on first issuance.

TWCS No. 2 – A TC may threaten the locality. Winds from 61 kph to 120 kph may be expected in at least 24 hours on first issuance

TWCS No. 3 – A TC will affect the locality. Winds from 121 kph to 170 kph may be expected in at least 18 hours on first issuance

TWCS No. 4 – A strong Typhoon will affect the locality. Very strong winds of 171 to 220 kph may be expected in at least 12 hours on first issuance.

TWCS No. 5 – A very strong typhoon will affect the locality. Very strong winds of more than 220 kph may be expected in at least 12 hours on first issuance

### D. Hazards Associated with Tropical Cyclone

Strong winds- immediate TC hazard to affect a community

Storm surge-due to winds of TC and the low pressure area

Landslides-influenced by intensity of rains, soil characteristics,slope,land cover,infiltration,groundwater level, etc.

Floods and Flashfloods – due to rainfall volume,basin and river characteristics,etc; other anthropogenic related causes such as drainage problems,informal settlers atc.

### E. Floods

Types as to effects:

- \* River overflowing(riverine)
- \* Due to accumulation of rain water (Ponding)
- \* Dam releases and dam breaks
- \* Coastal flooding-high tide,storm surge &tsunami
- \* Flashflood

### F. Flood Mitigating Measures

Structural mitigating measure: dam dikes, levees, cut-off channels, retarding basins, etc.

Non-structural mitigating measures; Zoning, reforestation, evacuation, sandbagging, hazard mapping, dredging( declogging & desalting works),adaptation issues, ubiquitous flood hazard mapping signs, Flood forecasting & warning systems (FFWS), Community –based early warning systems, etc.

# BRIEF SHINE HISTORY

The Community-based Flood Mitigation & Management Program (CBFMMP) for the Province of Bulacan was conceived by PRFFWC in 2004. School Rainfall Observation Network (SRON) was a proposed in-line activity to CBFMMP and was initialized in 2006. Later SRON was renamed to School Hydrological Observation Network (SHON) and eventually changed to School Hydrological Information Network (SHINE).

The program was partially held-off due to numerous disasters that struck the province of Bulacan in 2007-2008. In the last quarter of 2008 SHINE was implemented in three (3) upland situated secondary schools of Bulacan as an augmentation to the rainfall observations of the CBFMMP.

The program was well accepted in these schools such that it further expanded to six (6) more secondary schools . Mid-year of 2010, OXFAM, an international NGO, recognized the activity as an innovative program and one of the good practices for Disaster Risk Reduction (DRR) and Climate Change Adaptation (CCA).

In December 06, 2010 the first SHINE Conference was held in Hiyas Convention Center, City of Malolos, Bulacan. With more schools being selected as beneficiaries of the program so did the annual conferences continued and has now become a regular activity of SHINE for Bulacan Province. The conferences were also an avenue for various orientations to DRR activities such as Basic First Aid, Water Safety, Fire Suppression and lately this 2014 conference, a brief orientation to Child's Rights and Basic Self-Defense.

Early part of 2013 the PGB through the PDRRMO had a tie-up program with Save the Children's project "ENCORE" (Enhancing Community Resilience to Disasters). More schools were made part of SHINE as a result of this. SHINE was also replicated in the Municipality of Baggao , Cagayan through the DILG's GO-FAR program in some 11 schools, and lately they (Baggao Municipality) had their own conference as well.

To date, on it's 10th annual conference, a total of 37 schools, 30 secondary and 7 elementary levels in the province of Bulacan; some just recently started in the third quarter of 2019 are the members and beneficiaries of this worthwhile project.

# IMPORTANCE OF SHINE PROGRAM /ACTIVITIES

The program create an Information / Data Network that is vital in disaster risk reduction. The data and information collected can be used in many ways such as:

Bases for decision making during Inclement Weather (Dissemination of Early Warning, Declaration of no classes, etc)  
for research purposes  
infrastructure development  
agricultural related,  
and in many other fields of applications.

The program was of great help to enhance and augment the data of the local disaster councils gathered from the local flood warning system managed by the PDRRMO.

The province's proneness to flood is continually being addressed by the provincial government through structural and non-structural means, and on both annual and long-term basis. SHINE, which is managed by the PDRRMO, is one of the nonstructural approaches that proved effective in terms of flood disaster awareness and mitigation.

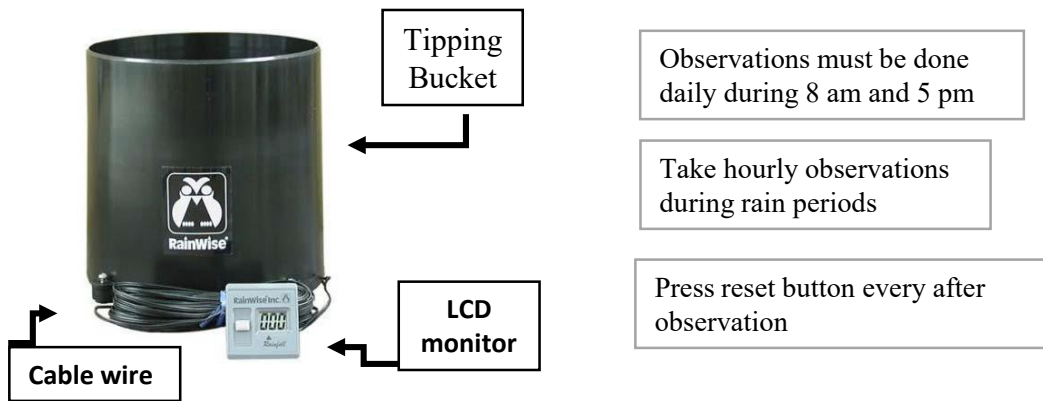
The program instill climate change awareness to the student expecting that such awareness will be shared / transferred to their friends and family and eventually to the community.

Convening of all beneficiaries through annual conference as important activity of the program establish school networking and camaraderie while learning from the experiences of other schools

# RAIN GAUGE UNDERTAKINGS

A rain gauge (also known as an udometer, pluviometer, or an ombrometer) is an instrument used by meteorologists and hydrologists to gather and measure the amount of liquid precipitation over an area in a predefined period of time.

## PARTS OF THE DIGITAL ELECTRONIC RAIN GAUGE



### Procedure for Observation

During normal days (no inclement weather condition) observations shall be at 8 am and 5 pm of all weather elements (or rainfall); a time-to-time observation can also be done just to be aware if there is a possibility of a thunderstorm (for AWS); always note changes in the weather elements being shown in the monitor; the AWS can provide a 3 to 6 hour advance forecast.

During inclement weather conditions, hourly observations particularly pressure reading (for AWS) should be done; pressure is a good indicator for passing tropical weather disturbances.

Other elements should also be noted as a means of relating the effects of the oncoming weather condition (for AWS)

During passage of Tropical Cyclone it is important to check pressure before, during and after its (possible) passage whether near/adjacent or close to your area (for AWS)

### MAINTENANCE:

Clean the AWS/Rain Gauge every 6 months or whenever necessary.

Clean when there's no rain. Do not forget to reset the LCD after cleaning the gage with water

Replace the LCD monitor battery after a year or whenever necessary.



# SHINE FEATURES AND OBJECTIVES

Consistent with the underlying idea that “ Disaster awareness begins at school and in home”. The School Hydrological Information Network (SHINE) is one major program empowering the school populace ( students, teachers & school officials ) threatened by hydro meteorological –related hazards to act in sufficient time and in appropriate manner so as to reduce the possibility of personal injury, loss of life, damage to property and environment as per observations made at their own local monitoring by achieving and maintaining high level school preparedness and address the issues on global warming.

The true essence and main objective of SHINE is enhancing disaster awareness thru the school’s hydro meteorological monitoring activities, enabling them to protect and make themselves and the community resilient against the disastrous effects of floods as it works hand in hand with the LDRRMO which are in best position to undertake preparedness measures against disasters brought about by heavy rains.

The School Hydrological Information Network has basically the following features:

- A school-based hydrometeorological-related disaster monitoring system (within their area / community) as part of its school disaster awareness program;
- A school-based hydrological (rainfall, river stage and flood stage; tropical cyclone tracking, etc.) observation network mainly for disaster preparedness and awareness; the database to be used for early warning purposes; for research purposes; for possible commercialization and more.
- A support for community information through the Community-based (Local) Flood Warning System and the community’s disaster awareness programs.

The program is particularly more important and of great help to areas that are vulnerable and prone to floods and flashfloods.

# SHINE IMPLEMENTATION STEPS

1

- Signing of Memorandum of Agreement (MOA)
- ( PGB-PDRRMO, School-DepEd & LGU-C/MDRRMO )

2

- Creation of SHINE Organization and Group
- Election of Officers, List of members and advisers

3

- Conduct of SHINE member's orientation and meetings
- Attendance of members, advisers and facilitator from LDRRMO

4

- Installation of Rain gauge in the school by the LDRRMO
- Putting signage to the LCD monitor to identify the program activity
- Giving instructions on its proper operation, observation and maintenance

5

- Start of Rain gauge observation and monitoring in school by the SHINE members using RR-form data provided by the LDRRMO

6

- Consolidation and Submission of Rain Gauge Data to different offices via emails. (includes summarized data obtained daily/monthly total observations )

7

- Development of SHINE FB Page or Website, School Information board and SHINE Club headquarter.

8

- Involvement and attendance to annual SHINE Conference

PERSONS RESPONSIBLE	DATE OF IMPLEMENTATION	SOURCE/FUNDS
SHINe Club officers and members Shine Club advisers	Year-round	SHINe Club
SHINe Club officers and members Shine Club advisers	Year-round	SHINe Club
SHINe Club selected officers and members Shine Club advisers PGB-PDRRMO School-DepEd LGU-C/MDRRMO	( Schedule of Conference)	SHINe Club PGB-PDRRMO School-DepEd LGU-C/MDRRMO

**Other SHINe possible enhancement activities**

- ✓ Audio-Video of the Program,documentation of the program
- ✓ Produce a relationship between the prototype rain gauge and the installed rain gage
- ✓ Possible correlation between rainfall and water level data for flood prone areas
- ✓ Produce other manual type weatger element measuring instruments
- ✓ Do some monthly rainfall average(if there's enough data)
- ✓ Adopt a school program for echo-seminar of the SHINe program
- ✓ Distribution of prototype rain gauges within the community and do observations,plotting and mapping within the community

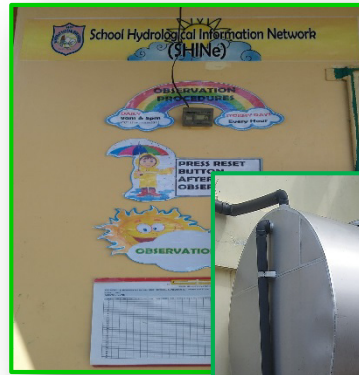
Continuation of Implementation matrix

STEPS	ACTIVITY	OUTPUT
6. Consolidation and Submission of observed rain gauge data to the LDRRMO	Daily monitoring and provision after observation of 8am or hourly or 3-hourly if there's an inclement weather Monthly submission of rainfall data forms by e-mail to different LDRRMO	Updated rainfall data observation sheet
7. Development of SHINE FB page or webpage and uploading of observations	Creation of School SHINE FB page and webpage if the school is capable. Uploading of observations, informations, and declarations Uploading of Club activities and accomplishments	School SHINE FB page or account SHINE FB group
8. Annual or bi-annual SHINE Conference	Organizing School SHINE conference in coordination with LDRRMO Attending and participating SHINE annual conferences undertaken by the PGB-PDRRMO Presentation from agencies, school dynamics, contest etc.	Attendance in School-based SHINE conference Involvement and Participation in Annual SHINE conference Accomplishment reports School dynamics and contests

**Other activities undertaken in a SHINE program**

- ✓ Engage students to fabricate prototype monitoring gauge and tie-up observations with the standard one
- ✓ Sustainability: Students workout some simple presentations to be presented and uploaded after 3-4 months which includes data observations and explanation on the data (graphical), presentation on the prototype instrument and compared with the data from the installed one, issues on data etc. and presentation about programs of the School SHINE group/club

# FIVE (5) BASIC SHINE ACTIVITIES



**MATRIX OF IMPLEMENTATION STEPS**  
**PROJECT TITLE: SCHOOL HYDROLOGICAL INFORMATION**  
**NETWORK ( SHINE)**

<b>STEPS</b>	<b>ACTIVITY</b>	<b>OUTPUT</b>
1. MOA Signing and SHINe Orientation to new School beneficiary	Conduct of SHINe orientation seminar in the school and signing of MOA as new beneficiary and members of the project.	Memorandum of Agreement between PGB-PDRRMO, School-DepEd & LGU-C/MDRRMO
2. Creation of SHINE organization in school	Undertaken during the SHINE member's orientation and presentation of club accomplishments in the presence of representatives from PDRRMO/MDRRMO	List of <b>SHINe officers</b> (President, Vice President, Secretary, Treasurer, PRO and Representatives) List of members Club advisers
3. Installation of rain gauge or "gauge"	Installing Rain gauge and placing signages to identify the program activity inside the school undertaken by the LDRRMO with the support of School officials/students before the orientation	Installed rain gauge and signages in strategic place inside the school
4. Creation, development and updating of an Information Board	Setting Info- Board strategically located in the school by the SHINe group officers and members of the school for viewing TC location and track, PSWS info etc.	Information Board strategically located in the School, updated by the assigned/scheduled SHINe members
5. Daily observation of rainfall or AWS and maintenance of the rain gauge	Scheduling of students to do the reading even during weekends and holidays (non-obligatory) Preparing a schedule for cleaning and maintenance of rain gauges	Students Schedule of daily observation 8 am and 5pm and hourly during inclement weather

PERSONS RESPONSIBLE	DATE OF IMPLEMENTATION	SOURCE/FUNDS
PGB-PDRRMO School-DepEd LGU-C/MDRRMO	October	PGB-PDRRMO Benefaction
SHINe Club members Club advisers Representatives from PDRRMO/MDRRMO	October	SHINe Club PGB-PDRRMO endowment
SHINe Club members Club advisers Representatives from PDRRMO/MDRRMO Representative from DepED	October	PGB-PDRRMO Benefaction
SHINe Club officers and members Shine Club advisers	Year-round	SHINe Club
SHINe Club officers and members Shine Club advisers Other school staffs	Year round	SHINe Club