SEAMEO-Japan ESD Award

Theme for 2012: Education for Disaster Risk Reduction

Supporting Partners:

Bangkok Office
Asia and Pacific Regional Bureau for Education

Bank of Tokyo-Mitsubishi UFJ

Submission Form of SEAMEO-Japan ESD Award

The last day for submission of entries: 10 August 2012

PART I: Details of Your School

1. Name of your school: TIBAGAN NATIONAL HIGH SCHOOL (TNHS)
2. Full address: TIBAGAN, BUSTOS, BULACAN , PHILIPPINES
3. Postcode: 3007
4. Country: PHILIPPINES
5. Telephone number (country code+city code+telephone number):
   63+044+7611321
6. Fax number (country code+city code+fax number): 63+044+7611321
7. Name of the Head Master/ Principal/ School Director:
   MR. NILO A. ABOLENCIA
8. Name of Teacher Coordinators:
   MRS. ELENITA V. TUCIO / MRS. MIRASOL H. AQUINO
9. Email address: tibagan_nhs@yahoo.com / prffwc_ffb@yahoo.com
10. School website (if available): http://tibagantnhsshine.webs.com/ related website: www.bulacanshine.webs.com
11. Educational level (Such as Kindergarten 1 to Grade/Year 9):
    GRADE 7 to YEAR II to IV
12. Number of teachers in your school:
    35 Teaching staff and 8 non-teaching personnel
13. Number of students in your school: 1,274
14. Please provide the name of teachers and students who were/have been involved in the planning and implementation of this school activity/programme on Education for Disaster Risk Reduction.

    Teachers:
    a) Elenita V.Tucio – Tibagan National High School
    b) Mirasol H. Aquino – Tibagan National High School

    Students:
    a) Ma. Lourdes H. Tadeo
    b) Marc Ace Vincent Zulueta
    c) Marlyn Matucinio

d) Alyssa Mae DL. Camiña
e) Kemuel Art D. Raymundo
f) Please see attached file "shine attendance-july2011.jpeg" for more student members

PART II: Information about the School's Activity/Programme on Education for Disaster Risk Reduction

The information of part II from no.1 to 11 should be no longer than **eight** pages long (A4 type, Arial font, size 11 point). A half to one page A4 of the project summary should be included.

1. Title of the school's activity/programme on Education for Disaster Risk Reduction

School Hydrological Information Network (SHINe)

2. Summary of the activity/programme (a half to one page A4)

In responding to the need for more awareness on hydrometeorological related disasters mainly floods, SHINe or the School Hydrological Information Network seeks to address the adverse effects of climate change in the most vulnerable areas of the Province of Bulacan (Philippines). The project supports the Department of Education's (DepEd) program of a "climate change-enhanced curriculum" and is consistent with the underlying principle that disaster awareness should begin in schools.

The schools are provided with digital rain gauges and/or river stage monitors (manual staff gauges) if the school is adjacent to a river; and a tropical cyclone tracking map. Selected students are oriented, trained and supervised to complement the program. The students also receive further inputs on topics of climate change and related disaster risk reduction issues. The program aims that the increased awareness to climate change instilled in the students will be echoed or transferred to their peers, families and eventually to the whole community.

The program seeks to create an information/data network vital to disaster risk reduction. The data and information collected can also be used in a variety of ways including infrastructure development, farm planning and agriculture development.

The schools in the remote upland areas (upstream of river basin) were the first eyed for implementation of the project as these are the areas likely to experience the immediate effects of impending floods and landslides. To date, a total of eleven (11) secondary level schools and about 430 students are now involved in the program annually. The SHINe group activities of Bulacan province can be accessed through its website at www.bulacanshine.webs.com.

The School Hydrological Information Network has basically the following features:

- A school-based hydrological and meteorological (rainfall, river stage and also flood stage; tropical cyclone tracking, etc.) observation network mainly for disaster preparedness and awareness for the school; the database can be used for research purposes, infrastructure and agricultural endeavours, and possibly for commercialization, etc.
- A support for community information through the Community-based (Local) Flood Warning System and the community's disaster awareness programs.

SHINe's main objective is to enhance disaster awareness of the school populace; prevent loss of life and protect property by achieving and maintaining a high-level of school preparedness. It shall work hand-in-hand with the Local Government Unit's (LGU) Disaster Risk Reduction and Management Councils, particularly with their CBFWS (Community-Based Flood Warning System) or the local flood warning system of the community. The program is particularly more important to areas that are vulnerable and prone to floods, flash floods and even landslides.

The Tibagan National High School (TNHS) became a part of SHINe program last July 2011.

3. Background information or reasons why the school initiated this activity/programme

Floods are the natural disaster that most often affects the province of Bulacan. A wide area of the province is inundated annually. The provincial government of Bulacan, particularly its Provincial Disaster Risk Reduction and Management Office (PDRRMO), under the guidance of the Pampanga River Flood Forecasting and Warning Center (PRFFWC) of the Philippine Atmospheric, Geophysical and Astronomical Services Administration (PAGASA), maintains and operates a network of rainfall, river and flood stage observation stations within the province as part of its flood disaster mitigation and management program.

In response to the increase in the frequency and severity of disasters in Bulacan during the last five years, particularly those relating to hydrometeorological origin, the PDRRMO and the Department of Education (DepEd) in Bulacan initiated the School Hydrological Information Network or SHINe in the last quarter of 2008. SHINe was adapted on the idea and concept provided by PRFFWC, which lends active support to the program initiatives.

With the growing concern on Global Warming and its adverse impacts to the environment and an extreme change in climate, it is but timely that schools, particularly the secondary and hopefully later the elementary levels, get seriously involved in this issue in order to be able to understand what the future situations will be, and in response possibly formulate (doable) mitigating or adaptable ways at their own capacity and level in addressing this issue.

4. Objectives/goals of the activity/programme

SHINe's general objectives are to:

1. Enhance disaster awareness of the school populace through regular hydrological monitoring, and maintain a high level of school preparedness at all times, thereby preventing loss of life and damage to property.
2. Provide timely hydrological information, whenever possible, and coordinate with the PDRRMO, and municipal and "barangay" (community) Disaster Risk Reduction and Management Councils (DRRMCs) for efficient operations of the local flood warning system in the province.
3. Develop long-term strategies on the provincial and eventually at the national levels based on the data and information collected from the network of SHINe schools.

The true essence of SHINe is disaster awareness through the school's hydrolometeorological (rainfall and tropical cyclone tracking) monitoring activities. It also empowers the school community to protect, prepare them and make themselves resilient against the disastrous effects of floods, in particular. The community, the LGU and the school are in the best position to undertake preparedness measures against disasters brought about by heavy and prolonged rains, and effects of incoming tropical cyclones in their vicinity.

5. Period of time when this activity/programme was/has been implemented

SHINe started with 3 schools in the last quarter of 2008. It is a continuing / sustainable program with 11 schools now already part of the network within the Bulacan province. Tibagan National High School (TNHS) became part of the SHINe program in July 2011.

6. Activities (Short-term actions and strategies of implementation of the short-term actions)

SHINe is actually an idea program of the PRFFWC and was initiated by the Bulacan Provincial government (Local Government Unit) through its Provincial Disaster Risk Reduction & Management Office in coordination with the provincial Department of Education. Therefore, the program is actually a coordination activity between the LGU, the school and the community.

The general steps in the organization of the SHINe program for Tibagan National High School are

given below:
Key steps that led to the implementation of SHINe in Tibagan National High School and mainly in the province of Bulacan:

1. Creation and organization of SHINe Technical Working Group (TWG)

The SHINe TWG is chaired by PDRRMO of the Bulacan provincial government, which initiated the program. The TWG is composed of other provincial, regional and national agencies such as the provincial Department of Education and the provincial Planning and Development Office (PPDO), the Office of Civil Defense in the Region (in particular Region 3 for Bulacan Province), the PRFFWC of PAGASA, the municipal and barangay DRMMCs and the officials of the chosen SHINe schools.

While the TWG oversees the establishment of SHINe in the schools and the conduct of their activities, the PDRRMO and PRFFWC are the real work force behind the involvement of each school that is tagged to be part of the program.

2. Selection of SHINe school/s and adoption of a Memorandum of Agreement (MOA) between the PDRRMO, DepEd and selected school/s for data and information exchange

The TWG initially selects the schools where SHINe would be established. The first schools eyed were those in the upstream of the river watersheds in the province's mountainous areas, specifically in the San Miguel, Maasim, and Angat Rivers, all lying on the eastern side.

The rationale behind the choice of schools in the upstream of watersheds was to be able to augment rainfall observations at upstream sections and buy lead time for warning to the low-lying areas in times of typhoons and other adverse weather conditions. However, in the long run, it is envisioned that all schools within the province will eventually be part of the SHINe program.

3. Acquisition of the digital rain gauges, materials for the staff gauges and information boards such as maps for Tropical Cyclone (TC) tracking, and presentation supplies for SHINe group orientation / workshops

The PDRRMO exercises sole responsibility in acquiring the rain gauges and other equipment needed as per recommendation by the PRFFWC.

4. Installation of digital rain gauges and/or river gauges and information boards in the SHINe schools

The PDRRMO installed the rain gauges in a strategic location within the school grounds as per the recommendation of the PRFFWC. Likewise, staff gauges were also installed in schools that are adjacent or near rivers for river monitoring.

The schools provided an information board as their counterpart material in the program. The information board is used for posting the TC tracking map and announcing SHINe-related activities in the school. The board will also be the medium used for warnings and other disaster-related information that needed to be relayed to the school populace whenever necessary.

5. Formation of the SHINe groups that would undertake orientation and training in rainfall and river stage observation, TC tracking and data exchange

The initial group was composed of about 30 students, ten each from first to third year levels. Members were oriented on climate change and typhoon-flood disaster awareness and mitigation, and trained by the PRFFWC in the observation of rainfall and river stage measurements. They also had to undergo a workshop organized by the PDRRMO with PRFFWC as workshop leader on TC tracking and plotting the TC's path onto the information board.

The idea behind 30 students is that one student per day shall be responsible for observing and recording rainfall and/or water level at designated times. The group may elect a leader and fills in other positions for better organization and management of SHINe activities. Eventually, the group will grow into a total of 40 students after 1 year when a batch of incoming freshmen comes in.

6. Regular monitoring and recording of hydrological data (rainfall and river stages), and monitoring and tracking of TC as it moves over the Philippine Area of Responsibility by each SHINe group

This is the main activity of SHINe program. SHINe group members observe rainfall and/or river stage levels regularly, according to a pre-arranged schedule. During normal weather conditions, the data is transmitted to the PDRRMO on a monthly basis. However, during inclement weather conditions, the transmission of data is hourly, if possible, or at any time possible during the event. The information is relayed to the PDRRMO and local DRMMCs by phone or SMS. At any moment during a typhoon, the PDRRMO ensures that the phones of SHINe group members carry the minimum phone loads to sustain SHINe data transmission.

7. Comeback visitation by PDDRMC to SHINe schools

The comeback visitations serve as the mechanism for feedback from the SHINe group regarding SHINe activities and issues, as well as the concerns and problems encountered during monitoring. It also serves as the venue for the members' developmental abilities on public speaking. For the PDRRMO, on the other hand, the comeback visits are necessary to ensure the program's sustainability and continuity even if there has been no occurrence of a flood in the province for a period of time, other than ensuring the continuous provision of observed hydrological data.

8. Creation of SHINe group websites and newsletters; regular meetings and presentations

The SHINe groups are encouraged to create their own websites to post timely information during adverse weather conditions in their area of concern, but also for updates on their activities. In addition, the SHINe groups are also encouraged to release newsletters within the school or network as a presentation of their activities.

The SHINe group is expected to present their activities lined up in relation to disaster awareness and mitigation to other class sections in the school and in one Parents-Teachers Association (PTA) meeting as a way of disseminating information on flood disaster awareness and mitigation throughout the community.

9. Training of selected incoming freshman for the SHINe school groups

After a school year of activities has passed, ten incoming freshmen are selected to fill in for the next batch of observers. The senior members act as the facilitators and conduct the orientation and training to the new members. The senior members guide and manage the group's activities and sees to the growth and development of the group in relation to the school and the community.

10. Regular maintenance of equipment and analysis of rainfall and / or water level data

The PDRRMO is responsible for the maintenance of all equipment:
-- The rain gauges and river gauges installed in the different schools and along the different points of the river channels if there are any. Likewise, it is the PDRRMO's, under the guidance of the PRFFWC, responsibility for checking, reviewing and analyzing the database of rainfall and water levels. The information processed is vital not only as research material but as basis of updates of early-warning alerts regarding floods and possibly landslides within the province of Bulacan.

11. Conduct of SHINe school conference

The PDDRMO shall organize an annual conference that will focus on SHINe school group dynamics to harmonize the network of school groups into one cohesive unit that will continually support the flood disaster awareness and mitigation activities of the province. The conference also serves as an opportunity for the various SHINe school groups to socialize with one another. Various activities that encourage the groups' socialization and integration are being planned, including friendly competitions on essay-writing, poster making, etc.

The event will highlight each school's achievements and accomplishments. The conference will also be a means of sustaining the SHINe school group as this will be a learning activity that the respective school groups shall prepare for annually.

To date, there had already been two (2) conferences conducted so far, December 2010 and December 2011. Related links: 2011 Conference - http://bulacanshine.yolasite.com/2nd-shine-conference-2011.php 2010 Conference - http://bulacanshine.yolasite.com/1st-shine-conference-2010.php.

Tibagan National High School was able to participate in the 2nd SHINe conference held in Malolos City, Province of Bulacan last December 2011.

7. Resources used for implementing the activity/programme

The PDRRMO is the main fund resource provider for the program. It acquired the rain gauges and provided one set for each of the schools involved in the program. Other materials for monitoring include monthly rainfall data sheet, maps for Tropical Cyclone (TC) tracking, and presentation supplies during SHINe group orientation / workshops.

Cellular phones loads are provided as well by PDRRMO when a SHINe group intends to send data during inclement weather to the former.

The SHINe bulletin board is the school's counterpart responsibility where the map for tracking TC and posting of disaster related information, such as suspension of classes and the likes; it also serves as an information board for the group's various activities and plans.

8. Monitoring and evaluation mechanism and results

Daily recording of rainfall is the prime activity during normal weather while hourly monitoring takes place during inclement weather where one member of SHINe Club per day is assigned to record rainfall, whenever possible. This allows not only seniors but also freshmen, sophomores and junior students to be involved aside from serving as their orientation and training to the program. The latter activity however is non-obligatory so as not to put the students in harm during inclement weather condition.

Records of rainfall are sent monthly through email to the PDRRMO and PRFFWC except during tropical cyclones where results are sent hourly through text, whenever possible. These results are used as a means for disaster preparedness and awareness not only inside the school but also for the community's disaster preparedness and awareness activities.

The members of SHINe group of Tibagan National High School participated in the SHINe annual conference which serves as a venue to interact and be updated with the SHINe groups from other schools. This conference also help, prepare and develop the students in enhancing their abilities to become cooperative, responsible and most of all to become a productive citizen of the nation in the future.

9. List of partners, local government bodies, companies or development agencies who participated in the planning and implementation, including their roles in the activity/programme.

Name of Partners	Roles or contributions
a) Provincial Government of Bulacan (Local Government Unit)	Primary funding source of the program
b) Provincial Disaster Risk Reduction & Management Office of Bulacan (PDRRMO)	Implementation of the program; coordinates the inter-school SHINe activities
c) Pampanga River Basin Flood Forecasting & Warning Center (PRBFFWC)	Main project proponent (the group behind the program idea / developed activity programs); lends active technical support
d) Department of Education (Provincial Division)	Program support

e) Local Disaster Risk Reduction & Management Office (Municipal level)	Coordinating support in the PDRRMO's activities in the community level
f) Regional Disaster Risk Reduction and Management Council (Region 3) / Office of Civil Defense Region 3	Participates in annual activities such as in the SHINe conference, coordinates other disaster preparedness activities in relation with the SHINe objectives
……	

10. Benefits/impacts of the activity/programme to teachers, students and the community

SHINe Program offers a lot of benefits to teachers, students and especially to the community. The program equips the beneficiaries with a high-level of disaster awareness through hydrometeorological monitoring activities, most importantly, preparedness on how to respond on the disastrous effects of floods in particular. The dissemination of information is a way to educate people, make them aware and prepare them for any possible natural hazards. Through this program students are also able to fulfill their social responsibility in the society by helping, through daily observation, in their own way to their community. The impact of the SHINe program to the society (the community) is to provide additional information during times of inclement weather affecting the area covered, in particular the province of Bulacan.

The activities being implemented by the SHINe group provides its members awareness on how to operate hydrological monitoring instruments, how to make themselves resilient in times of disaster, and be empowered to prepare and protect their lives during such times.

11. Plan for sustainability and plan for the future

SHINE Sustainability program:

1. To sustain their activities, SHINe school groups maintain its pool of members by choosing and recruiting 10 incoming students at the beginning of every school year to replace graduating group members. Candidates for honors are especially encouraged to join. New members are oriented on disaster awareness and preparedness in particular to floods and typhoons; climate change issues, and a workshop on the activities of the group and their responsibilities as members. Officers are also maintained for the group organization.
2. Comeback visits by the PDRRMO, DepEd representatives, and the PRFFWC during the school year for the school SHINE group's activity presentation to the visiting body that includes their summary of monthly rainfall observations, activity plans, etc. (please see key implementation step no. 7 in Part II No. 6)
3. Year-end annual SHINe conference that serves as a venue for inter-school dynamics and a social function for all the schools involved within the province. (please see key implementation step no. 11 in Part II No. 6)

Plans for the future:

The Tibagan National High School SHINe group intends to conduct the following activities:

1. Seminar for the Parents through one of its PTA meetings
   Conducting a seminar for the parents is one way to inform them about the SHINe program and to involve them in disaster preparedness and mitigation.
2. Develop a Website
   The planned website is mainly for information dissemination as a way for students and the community to be updated about whether there is flood within their area. It will also be a source of information for research through the data uploaded in the site whenever possible.
3. Link with the local government unit (LGU) and other stakeholders
   To involve the community by linking with the local government unit (LGU) in order to expand activities to not only include disaster awareness but also environmental protection through clean-up drives specifically in the areas surrounding the Bustos Dam, an adjacent irrigation reservoir that is very close to the school. The LGU may also help provide financial and manpower assistance for the expanded activities of SHINe.
4. Cross visitation and interaction with other school SHINe groups. Discussions with other

SHINe schools for possible replication of the program at other schools within the province that are not yet part of the program.

2. List of attachments such as a copy of learning/ teaching materials, samples of student worksheet, manual, etc.

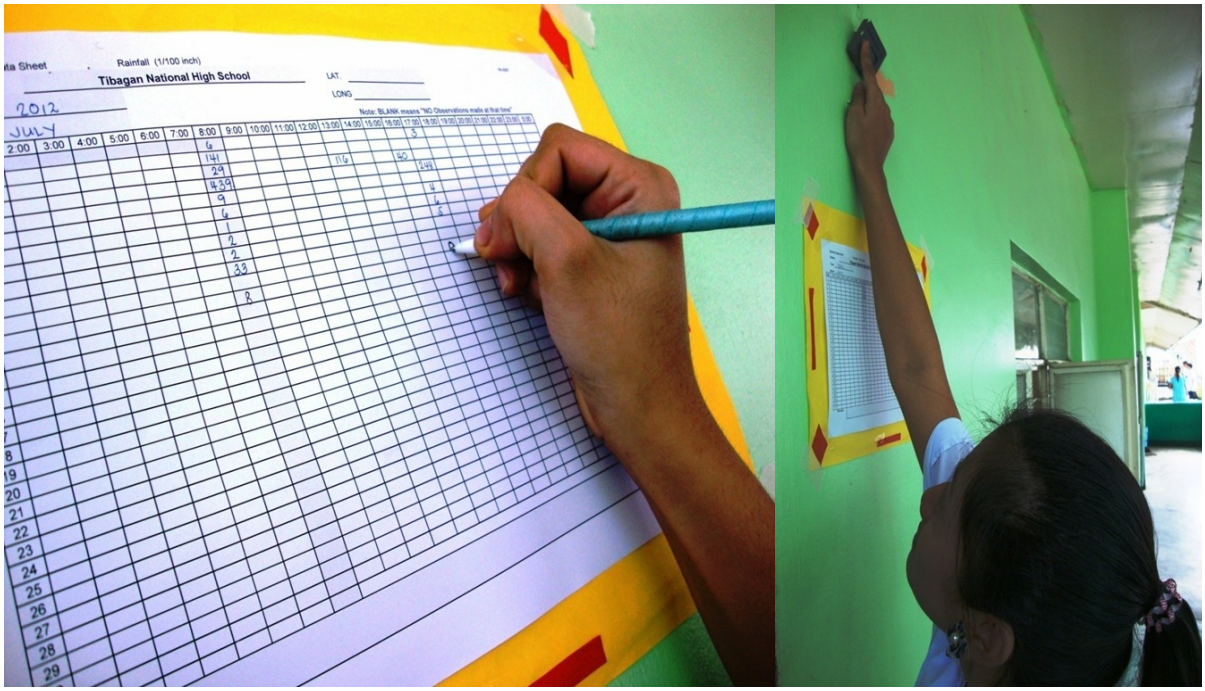
Attachment 1) ….. SHINe Handout.doc Attachment 2) ….. sample data sheet-tibagan-july-2012.xls Attachment 3) ….. Tibagan NHS SHINe presentation.pdf Attachment 4) ….. shine attendance-july2011.jpeg Attachment 5) ….. 2nd SHINe Conference-Dec2011-1.pdf Attachment 6) …….

3. Photos related to the activity/programme (The school can provide the related photos as many as you can)

Photo1

Orientation on Hydrometeorological hazards affecting the country was given to the first batch of member students of Tibagan National High School in connection with the Project SHINe for the school undertaken last August 2011. The group was composed of first year to fourth year students, ten each for every year level.

Photo 2



The TNHS SHINe member observers were given orientation on rainfall observations using an automatic tipping-bucket rain gauge attached to a digital counter for their daily monitoring and reporting. Above, a member observer writes down the observed rainfall for a particular time and on designated times on a regular basis whenever possible.

Photo 3

TNHS SHINe adviser, Ms. Elenita V. Tucio, conducts an orientation for the new members of the school's SHINe group.

Photo 4

Members of TNHS SHINe group pose with their organization advisers after the end of the orientation and reorientation of new and old members, respectively. The activity also served as a venue for social gathering between members of the group.

Photo 5

A SHINe group member explains to fellow members the longitude and latitude point boundaries of the Philippine Area of Responsibility (PAR) in connection with the orientation on how to track tropical cyclones within the PAR. After the explanation, members are given a workshop on actual tropical cyclone track plotting.

Photo 6

A representative of the Pampanga River Basin Flood Forecasting and Warning Center (PRBFFWC) briefs the TNHS SHINe members on issues pertaining to typhoons and other weather disturbances affecting the country.

Photo 7

The present Tibagan National High School SHINe group members together with the group's adviser (far right) Ms. Elenita Tucio, in one of the comeback visit in the school last July 2012.

Photo 8

The information board at the Tibagan National High School situated at the lobby of the school's guidance building. A big tropical cyclone map is situated on top of the schools information activities in pictures.

Photo 9

The TNHS SHINe members doing presentations as follows: (left) during the 2nd conference on School Hydrological Information Network (SHINe) last December 2011 in Malolos, Bulacan; (right top and below) during the comeback visit at their area by PDRRMO-Bulacan and PRFFWC just last July 2012.

Photo 10

The Tibagan National High School delegation to the 2nd conference on School Hydrological Information Network (SHINe) last December 2011 being handed their certificate of appreciation for having had an active participation in the said event. They were also provided with a First Aid kit by the Bulacan-PDRRMO for their school's clinic needs.

Photo 11

Delegates of Tibagan National High School SHINe group and their group advisers during the 2nd conference on School Hydrological Information Network (SHINe) last December 2011 pose with the Director of the Office of Civil Defense and chairman of the Regional Disaster Risk Reduction and Management Council Ms Josefina Timoteo (middle front row), and members of the Bulacan-PDRRMO and PRFFWC.