

DFID – GFDRR Challenge Fund

PHASE II FINAL REPORT TEMPLATE: INCLUDING MONITORING SELF-ASSESSMENT

NOTE: This report covers both Phase II of the project, as well as the additional (two-month) Sustainability Award phase.

I. Name of project, target country(ies), USD amount, time frame of Phase II

Forecasting to Communication to Action: Enabling Institutions to Manage Storm Surge Risks (Phase II and Sustainability Award)

Phase II:	10/1/2016 to 2/8/2018	\$109,629
Sustainability Award:	2/1/2018 to 4/8/2018	\$20,000

II. Description of tool, approach, toolkit

a. Was it demand-led? If yes, how?

It was partly designed independently of the local stakeholders (by the project team) and refined in discussions with the stakeholders.

In Bangladesh, the project partner, BDPC, worked closely with the government disaster preparedness agency, the CPP (Cyclone Preparedness Programme), in developing a toolkit and tutorial that was suited for communities in coastal communities (specifically, Barguna and Mongla). Aside from translating the toolkit, tutorial, and workshop into Bengali, parts were simplified to what the stakeholders perceived as appropriate (e.g., the cyclone tracking lesson was deleted, since locals did not access weather forecasts directly). Also, the tutorial was presented verbally and not in written form, as the stakeholders were cognizant of the lower literacy rates in the coastal communities. In the workshop in Dhaka, the written tutorial was used.

In the Philippines, discussions with the Department of Education led to the reworking of the tutorial into a series of classroom lesson modules. The modules were prepared mainly by the project partner, PHHAC and a representative of DepEd. This has created an additional option (made available in the project portal) for school principals and teachers to use in designing lessons. The decision to target schools was part of a larger idea of Democratizing Risk Communication. The idea came out of the gender analysis (see below) that indicated that some community members can be isolated from channels of communication. The response is to identify ways to have every member of a community be potential participants in risk communication (including schoolchildren).

The latter, Sustainability Award, phase of the project, detailed discussions with the local stakeholders revolved around adoption and dissemination of the toolkit (discussed below), more than refinement of its design.

- b. Did you work with local beneficiaries in Phase II to develop your tool? If yes, how many local beneficiaries and how were they involved?

In Bangladesh, 16 community leaders, agency staff, and NGO staff helped BDPC design the workshop and assessment (from Barguna and Dhaka).

In the Philippines, help with Toolkit design came mainly from the project team members and not from beneficiaries. However, staff from the Philippine Department of Education met with team members on April 20, 2018 and had initial suggestions for the lesson module for K-12 (with plans to work closely in the future to finalize the lessons).

- c. What is 'new'? In other words, what did Challenge Fund monies support in Phase II?

The following improvements/innovations emerged from the Phase II project:

- the Toolkit and Tutorial were refined, adding content
- the Online Portal was much improved, with a number of webpages created (address: <https://www.environmental-communication.space/>)
- the Gender Report was prepared (<https://www.environmental-communication.space/download>)
- digital narratives from storm surge survivors were recorded and uploaded on the Online Portal (<https://www.environmental-communication.space/digitalnarratives>)
- workshop material (that can be used by others) were prepared for the Philippine and Bangladesh contexts (in Tagalog, Visaya, and Bengali), including an assessment instrument (address: <https://www.environmental-communication.space/learningmodule>)
- the Tutorial was translated into teaching modules for the classroom and pilot tested in the Philippines (address: <https://www.environmental-communication.space/learningmodule>)

- d. How does it support risk identification and decision-making?

The toolkit supports risk communication, which is what happens after risks are identified and assessed. It supports decision-making by community residents, who need sufficient understanding of the hazards posed and the options for action.

- e. Describe the degree to which it is openly-available and how users can access it.

All the project resources can be freely accessed and downloaded from the online portal, which is found at <https://environmental-communication.space> and, additionally, the tutorial can be taken online and used for workshops.

- f. Discuss how it enables (or will enable) users to make more effective disaster management and resilience decisions.

An important part of decision-making is making the forecasts and other information regarding an incoming tropical cyclone available to communities and local agencies. Beyond availability of information, local stakeholders should understand and be able to act on the knowledge in effective ways. The project's risk communication toolkit is aimed at translating technical knowledge into forms that everyone in the community should be able to use and pass on. This then allows maximum dissemination of the message. The goal is that every community member be aware of the risks and be able to take effective action (e.g., weighing the options of staying at home or evacuating). The project drew from the experience gained in large tropical cyclones and storm surges in Bangladesh and the Philippines where, despite reasonably accurate forecasts of the threat of storm surge, communities were seemingly caught unprepared.

III. Description of partnerships (active in Phase II, but which could have started in Phase I), in particular those involving local partners.

Did you work in partnership(s) with a local partner(s)? If yes, please provide the name(s) of the local partner(s) and the nature/strength/sustainability of the partnership.

Phase II involved developing close ties with the local partners. The first set of partners, below, include those organizations that were part of the project team.

Bangladesh: Bangladesh Disaster Preparedness Center (BDPC)

BDPC made a commitment to continue disseminating the toolkit approach, even after project completion. While BDPC and NYU have an interest in seeking continued grant funding, BDPC's director committed to championing toolkit implementation with the government Cyclone Preparedness Programme (CDP) regardless of funding. BDPC is discussing, with NYU, how workshops could be mobilized for the Rohingya refugees in Cox's Bazar over the next six months.

Philippines: PH Haiyan Advocacy Cooperative (PHHAC)
Center for Disaster Preparedness (CDP)

PHHAC committed to continuing toolkit dissemination even after project completion. They made a commitment, for example, to conduct a demo of the tutorial for Department of Education

(DepEd) managers in late April (after the project end date) and intend to continue working with NYU in institutionalizing the toolkit within DepEd on this in the future, regardless of future grant funding.

The next list of partners, below, include those organizations that were not part of the project team but interacted with the team and made a commitment to support and disseminate the toolkit.

Bangladesh: Cyclone Preparedness Programme (CPP)

CPP made a commitment to adopting and disseminating the Toolkit. Its letter of commitment is attached to this report as Addendum A. It is requesting that the project team find additional resources to conduct four additional workshops, at least one being with the Rohingya refugees in Southeast Bangladesh. The work with the Rohingya would be a short-term effort covering six months of 2018, while the longer-term effort involves disseminating the Toolkit approach within the CPP.

Philippines: Department of Education (DepEd)
Office of Civil Defense (OCD)
PAGASA
Quezon City Disaster Risk Reduction Management Office
Leyte Provincial Disaster Risk Reduction Management Office

DepEd is adopting the toolkit at the regional level (Leyte Province). At the national level, DepEd also has the intention of promoting the toolkit among its school districts (see letter of intent in Addendum B). This means working with the project team (NYU and PHHAC) even after the project completion date.

The Office of Civil Defense contacted Lejano with a request to meet regarding how to promote the Toolkit among its staff and field officers (see Letter in Addendum C). In OCD's letter, they expressed an interest in adopting the Toolkit and suggested a Memorandum of Understanding with the project team. The OCD oversees the National Disaster Risk Reduction Management Center (NDRRMC) and its regional and local offices.

The Leyte Province and Quezon City Disaster Risk Reduction Management Offices are promoting the toolkit among its members. A workshop was held for the Leyte office, and a meeting and short presentation of the online portal done for the Quezon City office. The team will continue talks with the National Disaster Risk Reduction Management Office even after project completion.

IV. Description of capacity building of local stakeholders.

Did you conduct training in Phase II for local communities or beneficiaries in the use of your tool? If yes, please describe the type of the training and the number/type of beneficiaries trained. Did you measure change in knowledge as a result of your training? If yes, please provide results. Did you follow up in any way after the training to see if what you discussed was put into practice? If yes, please explain.

Workshops were held in the Philippines and Bangladesh to train local stakeholders (community residents and agency staff) in using the Toolkit. This also served as a demonstration of the learning

activities revolving around the Toolkit. All the workshop material, assessment instruments, assessment results, and workshop notes are available at this address:
<https://www.environmental-communication.space/learningmodule>

The following workshops were conducted with both community residents and agency staff.

Philippines: Workshop in Balangiga, Samar Province (July 13, 2017)
Workshop in Tacloban, Leyte ((September 20, 2017)

Bangladesh: Workshop in Ayla Patakata, Barguna ()

In addition, the workshop was translated into a six-lesson classroom module and pilot tested among sixth graders in Leyte, Philippines,

Detailed information on each workshop is as follows.

Philippines

For the second phase of the project dubbed “Storm Surge Risk Communication”, the Center for Disaster Preparedness (CDP) led the conduct of several trainings to pre-test the toolkit and generate recommendations to further enhance it. From July to November 2017, CDP has organized trainings at various levels- barangay, municipal, city, provincial, and national. Representatives from different sectors, which include women, older persons, persons with disabilities, youth, civil society, and government, were invited to participate in the said workshops. Specifically, the provinces covered by the trainings were Eastern Samar and Leyte. At the national level, CDP invited members of the Disaster Risk Reduction Network Philippines (DRRNetPhils) and representatives from the Office of Civil Defense (OCD) and Philippine Atmospheric, Geophysical, and Astronomical Services Administration (PAGASA). Each of the training activity was conducted for one whole day and utilized various participatory methodologies such as interactive discussions, small group activities, workshops, and simulation exercises. A total of 66 individuals were trained on the use of the toolkit.

The project conducted three training sessions: Balangiga LGU & PO, the DRRM Training for Tacloban City, Palo, Leyte, and Tanuaun, Leyte and the Grade 6 Science Teachers and students.

The first two trainings were spearheaded by CDP, while the School workshop was facilitated by the PH Haiyan Advocacy Cooperative. In the case of DepEd, a workshop on Storm surge risk communication was conducted last November 15, 2017 at the AS Conference Hall of University of the Philippines Visayas Tacloban College. A total of 45 participants attended the workshop, specifically 41 students and three (3) Science teachers from Sto. Niño SPED Center and 1 representative from DepEd Region VIII.

Bangladesh

A ‘Coastal Literacy Workshop’ was organized in Phase II by Bangladesh Disaster Preparedness Centre (BDPC) and New York University (NYU), in cooperation with the Cyclone Preparedness Programme (CPP) at Ayla Patakata Union in Barguna, a district that was devastated by Sidr in 2007 and Aila in 2009. The objective of the workshop was to apply a model toolkit developed by

NYU for risk communication that prescribes more effective strategies for early warning messages with a special focus on women. The workshop aimed to improve the text of the early warning messages disseminated by CPP at the community level. It provided relevant and comprehensive messages on disaster preparedness to enable the at-risk community better handle crisis and empower them in general.

27 participants, who were selected at least a week in advance of the workshop and 11 national and local level officials including Directors of CPP attended the workshop in Barguna (or 38 participants in all). In order to comprehend the level of understanding of the participants on the existing early warning system and their opinion on evacuation during disaster emergency period, a pre-survey was conducted before the workshop as per the format prescribed by NYU, followed by a post survey after the event.

A follow-up workshop was conducted at the national level at Dhaka, the capital. This was attended by national staff of the CPP, the Ministry of Disaster Management and Relief, and other agencies, along with residents from Barguna. This included the CPP Director, Mr. Ahmadul Haque and Ms. Dilruba Haider, director of the UN Women Bangladesh Country Office. Most importantly, the Director of CPP stated that CPP is planning of institutionalize the toolkit to further strengthen their performance. A total of 45 people attended the workshop in Dhaka.

Assessment

Pre- and post-surveys were conducted in the workshops. The survey forms for (in English) are shown in Addendum D and survey results for the Philippines shown in Addendum E. Due to small sample sizes, the Samar and Leyte workshop results were combined.

Statistically significant improvements in responses (90% confidence, post compared to pre survey) among workshop participants in Leyte were obtained for the following items:

- aggregate score on test of principles learned in the workshop (e.g., elements of a message)
- willingness to use map to assess areas vulnerable to storm surge
- willingness and ability to translate technical bulletins into everyday language
- willingness and ability to contextualize technical bulletin into implications for local residents
- willingness and ability to interpret hazard map and translate into implications for local residents
- increase in level of responsibility (for risk communication) assigned to local officials

BDPC project partners administered the pre and post surveys in Bangladesh but were of the opinion that the survey results could not be used. There were problems administering the survey: first, difficulty in interpreting how to use the likert scale and, secondly, lack of time meant the survey was rushed.

In the case of the DepEd pilot class, because some of the survey questions were thought to be too complicated for the sixth graders, most of the assessment questions were not included.

- V. **Did you leverage private or public sector resources?** If yes, please describe the source of the leverage as well as the total USD amount of combined cash and in-kind contributions. If relevant, please describe the nature of your relationship with the source(s) of leverage.

Raul Lejano contributed \$3,464.66 from his individual travel account (a schoolwide faculty subsidy provided by the NYU Steinhardt School) to travel to Bangladesh and the Philippines in October, 2017 to conduct workshops and meetings related to the Phase II project.

VI. How did your project consider gender in any aspect of project planning or implementation? Was a gender analysis or assessment conducted? If yes, did your project address any gap identified in the assessment? If yes, please describe how. All Phase II projects are required to integrate gender into their work. *Please use what you wrote in your inception report on gender as the starting point for this section.*

The project team prepared a Gender Report, which investigated pathways by which women in Tacloban City, Philippines and Barguna, Bangladesh, experienced heightened vulnerability to storm surge. The report, entitled Addendum D: Report on Gender and Extreme Weather Events, can be downloaded from the online portal at this address:

<https://www.environmental-communication.space/download>.

In response to the findings of the Gender Report, the project team sought to better integrate gender into its workshops in the following ways:

In the Philippines, tutorial/workshops in Samar and Leyte involved segments where participants practiced crafting messages that were contextualized and tailored to women in the community. This is discussed in the Gender Report. CDP experimented with having people craft messages that appealed to women in the community, the youth, and other sectors. Furthermore, when also asked the participants to craft sector-specific warning messages. When the participants localized and dramatized the messages, among the targeted sectors were women, children and youth, older persons, and persons with disabilities. The participants were able to develop messages that are sensitive to the needs of these sectors. This exercise of crafting messages specific to a particular group (e.g., female heads of households) was a refinement that was added to the Toolkit approach.

CDP ran the workshops as a “train-the-trainers” forum. All of the trainers from CDP are female, which may help with outreach among women in the communities. One of the lessons is that risk communication is always done with a specific voice, and choosing spokespersons needs deliberate planning.

In Bangladesh, the tutorial/workshop in Barguna conducted discussions with a panel of women who discussed how the emergency response program did not consider women's needs, especially with regard to the state of evacuation centers. Women from Barguna requested a special workshop group for the female community leaders, which BDPC incorporated into the workshop design.

The women’s group began discussing improvements in the operation and set-up of the cyclone shelters. Improvements included security, a special partitioned area, separate facilities, etc. This type of discussion, revolving around the shelter, is something added to the workshop design. Comments and suggestions regarding the cyclone shelter and evacuation plan came from the women’s group as well as the Bangladesh coordinator for the UN Women’s council, Ms. Dilruba Haider. These include the following points:

- Use of local dialect
- Area specific/ localized language: For instance, cyclone will be most dangerous for Aila Patakata.
- To announce that the cyclone will be way more dangerous than the previous cyclone (so that people do not take it lightly by comparing it with the earlier ones, when nothing happened).
- Mention that the shelter has adequate facilities for women (many women avoid going to the shelter in fear of their safety and uncleanness)

- Address people by their identity (use words such as mothers, uncles etc)
- The people should be assured that their house would be looked after once they leave for the shelter
- Some women do not venture into schools, mosques, or markets, so how will they hear about warnings and emergency preparedness?
- Provisions are needed at the shelters for chickens and other livestock which some women raise.
- Measures, such as encouraging women to keep at hand a shalwar kameez (traditional dress but more comfortable) instead of a saree for quick evacuation, will be needed.
- Some women will not leave any elders and may stay home because of the difficulty of transporting the latter; for this reason, assurances and provisions for their elderly parents will be needed.

The following is an example of a message developed by the women's group (improving upon a default technical bulletin):

This is a special early warning message to let everyone know that danger signal 10 has been hoisted for a cyclone coming this way. Please leave your house immediately and go to the cyclone shelter. Do not think about saving your assets and just go to the shelter at once to save your lives. The shelter has adequate facilities for everyone including elders and mothers. Your houses will be looked after once you leave for the shelter. The flood (referring to storm surge) is really dangerous and can raise the water level by 10 to 15 feet. Please bring your neighbors and the people around you to the shelter.

Lastly, in Phase II, the team interviewed six women (four from Leyte, Philippines and two from Barguna, Bangladesh), each survivors of recent storm surge events. These were digitally recorded, transcribed, and uploaded to the online portal at this address:

<https://www.environmental-communication.space/digitalnarratives>

One motivation for this was to demonstrate how digital narratives could be used to convey the experience of extreme weather events to others who had not experienced it. A second reason was to highlight the pathways by which some women are vulnerable to extreme weather.

Incorporating these videos into training workshops is an addition to the Toolkit approach –at present, it has involved simply showing brief portions of the videos, since each of them takes up at least five minutes (these are the edited ones; we have footage that runs much longer). We hope to make increasing use of these videos in future workshops. Moving forward, the team is interested in exploring the use of digital narratives further. This would mean developing more narratives from women experiencing vulnerabilities to extreme weather and climate change (tentatively called The Cassandra Project).

Additional information on how gender was incorporated into project design and implementation can be found in the Gender Report.

VII. Discussion of how tool or approach can be brought to scale in the future.

The material needed to train people to use the Toolkit is available through the online portal. We have conducted demonstration workshops for various organizations on how to train people to use the Toolkit. The hope is that these organizations can then promote the use of the Toolkit and encourage their staff to use the material online to conduct training workshops (or to do the training online). In the Philippines, the Department of Education is in the process of adopting the Toolkit, and accompanying tutorial (composed of six lesson modules, available online) as an optional resilience and sustainability track that schools can use to meet their science curriculum requirements. Several provincial and municipal Disaster Risk Reduction Management Program offices in the Philippines are adopting the Toolkit as well, and we are communicating with the national office for more widespread dissemination.

The main focus of the outreach in Bangladesh is the Cyclone Preparedness Programme (CPP) which oversees all emergency response programs in the country. The CPP director has made a commitment to adopting and promoting the Toolkit (see Addendum A), requesting a few more workshops to “train the trainers”. The team is making a commitment to conduct additional workshops beyond the project period

–see BDPC’s report for Phase III, appended separately.

Diffusion of the Toolkit approach throughout these organizations (and across into other organizations in these networks) would occur simply by communication, from one office to another within the organization, of the availability of the material online. The project team is seeking ways to be on ‘standby mode’ in case any office would like a demonstration workshop. These occasional workshops would be funded through project director Lejano’s individual faculty subsidy program or other source of stopgap funding.

In Bangladesh, the CPP agreed to promote the Toolkit and wrote us to request additional training workshops for CPP staff. In addition, he requested help with risk communication among the Rohingya refugees. This latter project is under development.

In the Philippines, institutionalizing the Toolkit is occurring less with PAGASA and concentrating more on the Department of Education (DepEd) and the Office of Civil Defense (OCD). With DepEd, the focus is on offering the risk communication training workshops as a classroom module that can be used by teachers to fulfill science curriculum requirements. OCD is the agency that oversees the National Disaster Risk Reduction and Management Council, which is in charge of emergency response and preparedness. OCD sent a letter, recently, requesting an orientation to the Toolkit, which they would like to use in their own field training. The updated report will include OCD’s letter. Memoranda of Understanding may be signed between these agencies and NYU to continue the collaboration.

VIII. What were main points of learning from this phase of the project?

Phase II involved refining the Toolkit, completing and populating the online portal, designing and conducting training workshops, conducting interviews of storm surge survivors, creating digital narratives for the portal, and preparing the gender analysis. In the process, there were several points of learning.

Contextualization: We learned more about how the Toolkit needs to be adaptable/modifiable by its users. BDPC, the Bangladeshi partner, modified the Toolkit and Tutorial in a number of ways. They removed the portion about map interpretation, since they said it was not pertinent to the situation in coastal Bangladesh. They also delivered the toolkit completely in verbal fashion, not using the written material at all, in Mongla (on the coast), owing to the lower literacy rate there. In contrast, they used all the material in Dhaka. The assessment instrument was found hard to interpret. So, contextualization involved more than simple translation into the local language. Another point of learning came in translating the Toolkit for use in the classroom –a half day exercise needed to be expanded (and simplified) to shorter modules covered over the course of a week in class.

Vulnerability: The interviews with female survivors of Typhoon Haiyan and Cyclone Nargis reinforced some of the general insights from the literature but allowed us to understand how vulnerability comes about in a more thorough way. There were also some new insights, such as how social isolation, social underprivilege, and passiveness intersect, and how individuals do not correspond to social stereotypes (e.g., echoing conventional ideas when talking about women in general but not when talking about themselves).

Simplicity: Several stakeholders (nonprofits, education department) commented favorably on the simplicity of the Toolkit’s approach, saying it suited their needs well. The same was heard from the CPP in Bangladesh. On the other hand, the opposite was heard from the Department of Science and Technology in the Philippines –i.e., that it was too simple and did not cover some technical aspects like uncertainty.

IX. Additional Monitoring Data regarding Tool Uptake

- a. Is your tool openly available to the broader user community? If yes, please provide the name of the platform.

All the resources are meant to be public accessible and downloadable from this website:

<https://environmental-communication.space>

- b. How many downloads of your tool have occurred throughout both Phase I and Phase II? How is this being measured?

Website usage was analyzed, using google analytics, and the report can be found in Addendum F. Summary statistics are found in the table below

- c. How many decision makers have accessed your tool throughout Phase I and Phase II? Of these, how many access your tool on a regular basis? How is this

measured? (it can be through conversations, email, direct observation or another way)

The online portal was not yet complete in Phase I, so stakeholders only began accessing it online in Phase II. Data on access and downloads, using google analytics, from the online portal (<https://environmental-communication.space>) was obtained for the months of January, February, and March, 2018, and are as follows:

Month	Access (Hits)	Number of Downloads
January 2018	123	91
February 2018	528	407
March 2018	558	376

The increase in access and downloads in the months of February and March were undoubtedly influenced by an email outreach the team conducted, contacting organizations around the world and inviting them to use the website, during the Sustainability Award Phase of the project (which occurred during these months).

- d. Have any policies, plans or investments been informed/influenced by your tool? If yes, please provide a bit more detail on how your tool has informed/influenced investment/policy/plans; if possible, provide USD amounts of local budgetary changes or other investments. If the influence was policy-based, please describe the policy change your tool informed. If the influence was in planning, please provide detail.

There are no financial allocations that can be measured vis-à-vis plans and investments. But several steps forward can be described. Discussions with organizations in the Philippines and Bangladesh show these organizations are starting to incorporate the Toolkit into their own training programs, which means that their resources go into dissemination the Toolkit. For now, they are each requesting training and orientation workshops for their management and staff. With the DepEd in the Philippines, the intent is to adopt the Tutorial as a series of lessons, which serves as a module on resilience. Such a module can be used by public school teachers to meet science curricula requirements in the environment area. With regard to OCD, we are meeting with them in May to work out an MOU which will talk about collaborating on disseminating the Toolkit among its regional offices. We will get more detail about this in May.

In Bangladesh, most of the dissemination work revolves around the CPP, the emergency preparedness agency. CPP intends to mainstream the Toolkit, though we have yet to meet and get details on how mainstreaming would proceed. Maybe it will entail a few additional workshops for CPP team leaders, after which they can then attempt to do the workshops on their own in the field offices. In the future, we will increase our outreach among one or two NGOs apart from BDPC. At

any rate, BDPC, through its director, Saidur, is making a commitment to keep working with NYU in the future.

- e. Was your sustainability goal for the project achieved? Please provide the metric used and explain the results achieved.

The following goals were achieved:

- Pilot testing and refinement of the Toolkit and associated training workshops. In addition, some data on Toolkit effectiveness was obtained –first, from the surveys conducted among Typhoon Haiyan survivors and, secondly, from pre- and post-surveys conducted with workshop participants in Leyte and Samar, Philippines (Addendum E).
- Completion of an online portal and populating it with freely downloadable content that future users can access to adopt and implement the Toolkit. This allows continuity of the dissemination of the Toolkit, provided Lejano can maintain the site as well as communication between the project and potential users. Lejano is planning to source small amounts of funding each year for site maintenance.
- Obtaining tentative agreement with several organizations, tasked with disaster risk prevention, in the Philippines and Bangladesh, to adopt and promote use of the Toolkit. These are the Cyclone Preparedness Programme in Bangladesh, and in the Philippines, the Department of Education and Office of Civil Defense in the Philippines. Letters from these organizations are provided in the Addenda.

- f. Do you have an exit strategy for your project? If yes, please explain.

The team has an exit strategy. By, first, making all the resources (Toolkit, Tutorial, Workshop Designs) available online and, second, by demonstrating how to conduct the workshops to relevant organizations, it is hoped that these organizations will adopt and disseminate the material on its own. Part of this seems to be proving true, in that agencies are making a commitment to adopt and spread use of the toolkit among its offices. On the other hand, some of the agencies are requesting additional workshops from the project team to further instruct their field agents on how to use the Toolkit and run the Workshops. The main beneficiary organizations are the Cyclone Preparedness Programme in Bangladesh, the Department of Education in the Philippines, and the Provincial and Municipal Disaster Risk Reduction Management Offices in the Philippines.

In addition, a number of organizations have said that they would like to start using the Toolkit. These organizations are listed in the Online Portal at this address:

<https://www.environmental-communication.space/project-4>

Lastly, the project team continues to seek funding to continue the training workshops and toolkit development work. For example, Lejano received an NYU global research grant of \$10,000 to promote the K-12 curriculum dissemination work across the Department of Education in the Philippines (with plans to bring it to other countries).

X. Please detail how the budget was spent through the course of phase II?

Two tables are provided below, for Phase II (approximately one year in duration) and for the Sustainability Award (two months).

PHASE II

	<i>GFDRR Funding</i>	<i>In kind Funding</i>	<i>Other Funding</i>	Total Funding
CONSULTING SERVICES (fees, travel, per diem)	63923.27	0	0	63923.27
TASK TEAM SUPERVISION (List key personnel and their related expenditure) Raul Lejano Pan Pan Sandra Ajaps	23,837.49 5,272.43 6,695.15	0 0 0	0	35,805.07
DISSEMINATION (Translation, editing, publication, etc.)				
LOGISTICS (Training, workshops, consultations, etc.)	2,585.00	0	0	2,585.00
GOODS AND WORKS				
OTHER Travel (Air Fare, Per Diem) (please specify): Indirect Cost	7,314.55	3,464.66	0	10,779.21
TOTAL				113092.55

SUSTAINABILITY AWARD

	<i>GFDRR Funding</i>	<i>In kind Funding</i>	<i>Other Funding</i>	Total Funding
CONSULTING SERVICES (fees, travel, per diem)	10,598.55	0	0	10,598.55
TASK TEAM SUPERVISION (List key personnel and their related expenditure) Pan Pan Sandra Ajaps	3,741.92 3,741.92	0 0 0	0	7,483.84
DISSEMINATION (Translation, editing, publication, etc.)				
LOGISTICS (Training, workshops, consultations, etc.)	495.88	0	0	495.88
GOODS AND WORKS				
OTHER Travel (Air Fare, Per Diem) (please specify): Indirect Cost	1,421.75	0	0	1,421.75
TOTAL				20,000

- XI. Please attach any additional project related documents you may have to the final report.

Also attached, separately, are the final reports (Phase II and the Sustainability Award, Phase III) for the project partners, Bangladesh Disaster Preparedness Center, Center for Disaster Preparedness, and the PH Haiyan Advocacy Cooperative.

The Toolkit, Workshop material, Gender Report, and other project output can be found and downloaded at the Online Portal: <https://environmental-communication.space>

ADDENDUM A
Letter from Cyclone Preparedness Programme (Bangladesh)



ঘূর্ণিঝড় প্রস্তুতি কর্মসূচি (সিপিপি)
CYCLONE PREPAREDNESS PROGRAMME (CPP)



শুধুমাত্র বাংলাদেশ সরকার ও বাংলাদেশ রেড ক্রিসেন্ট সোসাইটি-এর যৌথ কর্মসূচি
A Joint Programme of Government of Bangladesh and Bangladesh Red Crescent Society

Memo no. 03.06.0000.000.28.009.18- ৭৭৭

dated: 21-03-2018

Prof. Raul Lejano, PhD
Associate Professor
Steinhardt School of Culture, Education and Human Development
New York University
New York, NY 10003 USA

Dear Prof. Raul Lejano,

I would like to express my thanks and gratitude to you for developing the Toolkit for "Forecasting to Communication to Action: Enabling Institutions to Manage Storm Surge Risks (Phase II)" and getting that tested in Bangladesh.

You are aware that the Cyclone Preparedness Programme (CPP) has over 55,000 Volunteers, 10 male and 5 female in every village in the coastal belt and offshore islands of Bangladesh. These community volunteers are responsible for dissemination of early warning against approaching cyclones and other services e.g. evacuation to shelters, conduction of rescue operations, provision of first-aid and post disaster relief and rehabilitation support.

You would appreciate to know that we have successfully used your Toolkit through a Workshop conducted in a remote area under the district of Barguna, where I was present. Based on the output of that workshop, a national-level meeting was organized in Dhaka with all the key actor institutions in the field of disaster management (e.g. Ministry of Disaster Management and Relief, Department of Disaster Management, International Federation of Red Cross and Red Crescent Societies, Bangladesh Red Crescent Society) under the Chairmanship of Mr. Satya Brata Saha, Additional Secretary of the Ministry of Disaster Management and Relief.

We are now convinced that using your Toolkit we can improve our current messages given to the communities by making more localized, personalized, dramatized and women-friendly. While I am going to mainstream the learning from these exercises into CPP, I would request you to please try to mobilize some additional resources to conduct at least four more workshops in different regions of our coastal belt with communities at risk, CPP volunteer leaders and sheltered Rohingya communities in Bangladesh.

Once again, Prof. Raul Lejano, thank you very much for your interest in and support to improve the cyclone and storm surge warning messages in Bangladesh.

Yours Sincerely,

Ahmadul Haque
Director (Admin)

ADDENDUM B
Letter from Department of Education (Philippines)

Joseph V. Gutierrez <joseph.gutierrez@deped.gov.ph>

Mar 25

to lejano, veulitocasas48

Sir:

Greetings!

This is with reference to your letter addressed to **Sec. Leonor Magtolis Briones**, dated February 26, 2018, conveying information about the implementation of the project **Forecasting to Communication to Action: Enabling Institutions to Manage Storm Surge Risks**.

The Department of Education expresses interest on the implication of the said project to the vulnerability reduction and resilience building efforts especially in the Science and Disaster Readiness and Risk Reduction curriculum. Similarly, DepEd will look into the possibility of adopting the lesson modules developed from the program as a resource material for the aforementioned learning areas.

We would be glad to meet you in the morning of April 20, 2018 at the Department of Education-Central Office. We will be glad to discuss DepEd matters related to the program you have implemented. We will appreciate a demonstration of the learning module during the meeting. Thank you.

--

Joseph V. Gutierrez

Senior Education Program Specialist
Curriculum Standards Development Division
Bureau of Curriculum Development
Department of Education

ADDENDUM C

Letter from the Office of Civil Defense (OCD), Philippines



REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF NATIONAL DEFENSE

OFFICE OF CIVIL DEFENSE

Camp Gen. Emilio Aguinaldo, Quezon City, Philippines

DR. RAUL LEJANO

NYU Steinhardt School
239 Greene Street, Room 424 New York University
New York, NY 10003 USA

Thru: MS. JESUSA GRACE J. MOLINA

Research, Knowledge Exchange and Management Program Head Center for Disaster Preparedness (CDP)

Dear **Dr. Lejano:**

The Office of Civil Defense (OCD) Capacity Building and Training Service (CBTS) had a meeting with Ms. Jesusa Grace J. Molina of CDP to discuss about the **Storm Surge Risk Communication Project Phase II including the Toolkit for Risk Communication** last 03 April 2018 at the CBTS Room, Camp Aguinaldo, Quezon City. Ms. Molina eagerly introduced the toolkit, its accessibility, and how the OCD can contribute to its enhancement and widespread dissemination to the regions. Several ways forward were agreed during the meeting and one of which is the possible forging of partnership with your organization through a Memorandum of Understanding (MOU). The MOU can include training on Risk Communication including the step-by-step instructions on how to use the toolkit, as well as the enhancement of the session guides.

Additionally, the OCD has forged a partnership with Action Against Hunger to enhance and develop the DRRM Knowledge website of the National Disaster Risk Reduction and Management Council (NDRRMC). We propose that the toolkit be also shared in the website for wider dissemination of information, especially to the regions.

In this regard, may we respectfully request that these proposals be discussed during a small meeting with you this coming May. May we also request for an orientation that will be attended by the OCD Management, regarding the Storm Surge Risk Communication Project Phase 11, specifically the Risk Communication Toolkit.

For other queries or concerns, your staff may contact Ms. Alyssa Aimee S. Batie of OCD Capacity Building and Training Service (CBTS). Ms. Batie can be reached at (02) 912- 4832 and cbts@ocd.gov.ph. Thank you and our best regards.

Very truly yours,

For the Administrator, OCD:

A handwritten signature in blue ink, appearing to read 'S. Juangco'.

DIRECTOR SUSANA G. JUANGCO, RN, MPH

Director 111, Cap city Building and Training Service Office of Civil Defense

Telefax: OCD Capacity Building and Training Service (+632) 912-4832; (+632) 421-1926

Office of the Administrator, OCD (+632) 912-2424

Email: cbts@ocd.gov.ph; ocddrrmc_trainng2018@gmail.com Website: www.ocd.gov.ph

ADDENDUM D
Training Workshop Survey/Assessment Form

Questionnaire

Name [Required]:

Gender:

Office:

Village:

Part I.

1. Do you receive typhoon warnings? [Yes or No]

2. If your answer in question 1 is "Yes", where does the warning(s) usually come from?

3. Do you receive storm surge warnings? [Yes or No]

4. If your answer in question 3 is "Yes", where does the warning(s) usually come from?

5. If you receive a warning about typhoon, usually would you know the extent of storm surge? [Yes or No]

6. If a typhoon/ storm surge warning(s) is disseminated, are the most vulnerable sectors such as women, persons with disabilities, children and youth and older persons able to receive the message? [Yes or No]

Part II.

___ 7. Which among the following is NOT an element to be considered in an effective warning message?

- | | |
|---------------------------|---------------------------------|
| a. Sender | c. Highly technical information |
| b. Location / local areas | d. Recipient |

___ 8. Which among the following is NOT an element to be considered in an effective warning message?

- | | |
|--------------|----------------------|
| a. Resources | c. Timing |
| b. Guidance | d. Event/Description |

___ 9. A storm surge is: _____

- a. a landslide due to the strong rain.
- b. a rise in level of water on the coast due to strong winds pushing the water onto the land.
- c. flooding due to water coming from the mountain, river, or lake, due to continuous rainfall.

d. tsunami brought about by an earthquake.

- | | |
|------------------|-------------------|
| a. Upland areas | c. Riverine areas |
| b. Coastal areas | d. Lowland areas |

The barangay received bulletin that says "2 m. storm surge in E. Samar". No other information was given. What will you do? Put a number in each blank below according to the following numbering scheme: 1 = I probably will not do it, 2 = there is a small chance I will do it, 3 = there is a 50% chance I will do it, 4 = I will probably do it, 5 = It is very important that I do it.

- ___i. Ask the barangay which areas are more vulnerable to storm surge.
- ___ii. Look at a map of E. Samar to see which areas might be vulnerable to storm surge.
- ___iii. Await more detailed bulletins and advice from PAGASA and the LGU.
- ___iv. Tell others in the community the information (2 m. storm surge) even if it is lacking.

Which among the would you do to interpret technical messages? Put a number in each blank below according to the following numbering scheme:

1 = I probably will not do it, 2 = there is a small chance I will do it,
3 = there is a 50% chance I will do it, 4 = I will probably do it,
5 = It is very important that I do it.

- ___i. Await clearer and better instructions from PAGASA / LGU.
- ___ii. Rewrite the information using everyday, non-technical terms.
- ___iii. Comment on what the bulletin means directly for the people you are communicating with.
- ___iv. If map is provided, interpret the map & tell others what it is saying about their particular location.
- ___v. Add more information about possible effects of the event.

13. How great is the responsibility, of each person or organization listed below, in spreading messages about a typhoon and storm surge? Write a score according to the following scheme:

1 = no responsibility, 2 = small responsibility, 3 = optional but would be good for them to participate,
4 = much responsibility, 5 = great responsibility

- _____ National Weather Agency (PAGASA)
- _____ Local Government Office or Office of the Mayor
- _____ You yourself
- _____ Governor's Office
- _____ Your neighbors

Part III.

The following lists some suggestions. Assign a score to each suggestion according to the following scheme:

1 = no effect, 2 = small effect, 3 = medium effect,

4 = large effect, 5 = absolutely needed

		<u>Score (1 to 5)</u>
14.	It will help if a warning message will be directly addressed to someone or a group of people or directly identifies which group or community is being affected.	_____
15.	It will help if a warning message will include information on common evacuation issues and/or status of designated evacuation centers.	_____
16.	It will help if a warning message will only include a map and not a written message.	_____
17.	It will help to test how effective a map is, and whether or not people interpret it correctly.	_____

Part IV. (Note: This part is only needed for the post-survey.)

18.	Were objectives of the activity met? If yes/no, why?	_____ _____
19.	Which among the lessons/ exercises conducted did you find most applicable in your context? Why?	_____ _____ _____
20.	Which among the lessons/ exercises conducted did you find most challenging in your context? Why?	_____ _____

ADDENDUM E
Assessment Results for Samar and Leyte Provinces (Philippines)

SAMAR AND LEYTE COMBINED DATA SET RESULTS

For tables 1 and 2, all respondents with no post test were not included.

Table 1 Distribution of Responses Combined Samar and Leyte Respondents (n=27)

Item	Pre Test		Post test	
	No.	%	No.	%
Q1: Do you receive typhoon warnings?				
Yes	27	100.0	27	100.0
No	0	0.0	0	0.0
Q3: Do you receive storm surge warnings?				
Yes	22	81.5	25	92.6
No	4	14.8	2	7.4
No Answer	1	3.7	0	0.0
Q5: If you receive a warning about typhoon, usually would you know the extent of storm surge?				
Yes	21	77.8	27	100.0
No	5	18.5	0	0.0
No Answer	1	3.7	0	0.0
Q6: If a typhoon/storm surge warning is disseminated, are the most vulnerable sectors such as women, persons with disabilities, children and youth and older persons able to receive the message?				
Yes	23	85.2	25	92.6
No	2	7.4	1	3.7
No Answer	2	7.4	1	3.7

Table 2 Distribution of Responses Combined Samar and Leyte Respondents

Item	Pre Test		Post test	
	No.	%	No.	%
Q2: If your answer to question 1 is yes, where does the warning usually come from?				
	n=27		n=27	
tv	15	55.6	13	48.1
radio	7	25.9	10	37.0
internet/social media	4	14.8	6	22.2
text	4	14.8	7	25.9
PAGASA	9	33.3	11	40.7
NDRRMC/MDRRMO/CDRMMO/OCD	7	25.9	10	37.0
P.I.A	1	3.7	1	3.7
newspaper	1	3.7	0	0.0
word of mouth/family and friends	1	3.7	1	3.7
	n=22		n=25	

Q4: If your answer to question 3 is yes, where does the warning usually come from?

tv	13	59.1	11	44.0
radio	6	27.3	9	36.0
internet/social media	1	4.5	2	8.0
text	2	9.1	4	16.0
PAGASA	8	36.4	13	52.0
NDRRMC/MDRRMO/CDRMMO/OCD	2	9.1	9	36.0
LGU	1	4.5	3	12.0
neighbors/family/friends	1	4.5	1	4.0
Barangay official	1	4.5	0	0.0
Bulletin	1	4.5	0	0.0

*multiple response

- For table 3, all respondents with no post test were not included. Further, respondents with no answers for a specific item in either or both pre and post test were not included in the analysis, hence the different values of n.
- Score Q7-10 is the number of correct answers out of 5 from items 7 to 10.

Table 3 Comparison of Pre and Post Survey Results for Items Q7 to Q17 (Samar and Leyte)

Item	Pre			Post		P-value	
	n	Mean	SD	Mean	SD	Paired T-test	Wilcoxon Signed Rank Test
Score Q7-10	26	3.62	1.2	4.12	1.07	0.02482	0.02376
Q11_i	23	4.17	1.19	4.57	0.79	0.1192	0.1371
Q11_ii	23	3.83	1.27	4.61	0.66	0.00503	0.01066
Q11_iii	23	4.65	0.65	4.78	0.42	0.3282	0.3741
Q11_iv	23	3.78	1.46	3.39	1.50	0.2499	0.2821
Q12_i	23	4.82	0.39	4.78	0.42	0.7143	0.7768
Q12_ii	23	3.30	1.43	4.57	0.59	0.001219	0.003165
Q12_iii	22	3.32	1.39	4.27	0.83	0.001015	0.002614
Q12_iv	23	4.26	1.01	4.57	0.59	0.06948	0.08041
Q12_v	23	3.87	1.25	4.22	0.90	0.2571	0.2319
Q13_i	21	4.71	0.64	4.81	0.40	0.493	0.5716
Q13_ii	21	4.76	0.44	4.9	0.30	0.08286	0.1489
Q13_iii	21	4.43	0.98	4.52	0.60	0.6657	0.803
Q13_iv	21	4.48	0.81	4.48	0.68	1.000	1.000
Q13_v	21	4.00	1.10	4.1	1.09	0.493	0.5297
Q14	26	4.62	0.50	4.58	0.64	0.8019	0.8028
Q15	26	4.31	0.97	4.42	0.70	0.4777	0.6078
Q16	26	3.04	1.43	3.08	1.52	0.9095	0.9423
Q17	26	3.62	1.2	3.42	1.36	0.4766	0.4974

ADDENDUM F Online Portal Usage Data

Site Visits (January to March, 2018)

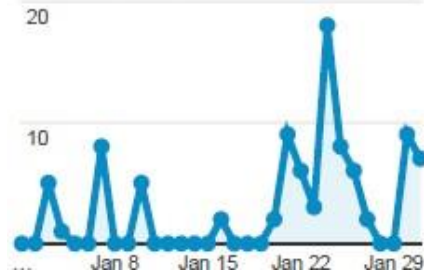




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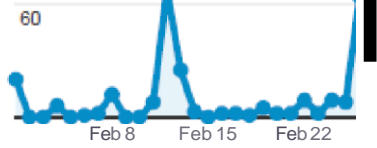
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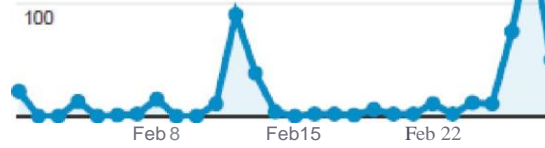
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