

Part 3

Objective of Part 3

Part 1 and Part 2 of the Main Report described the proposed policies by the JICA Study Team for recovery and reconstruction and the recovery and reconstruction plans of the model areas such as Tacloban City, Palo, Tanauan, Basey and Guiuan Municipalities as the result of technical support in terms of a comprehensive planning approach by the JICA Study Team, respectively.

The above comprehensive planning approach for five LGUs had been done until September in 2014. The results of the five LGUs were presented by the LGU officials such as responsible planning officers in the JICA Seminar held in November 17, 2014. The most of the presentation contents by the LGUs were a kind of challenges which they had not experienced or tested by themselves.

Just two weeks later the JICA Seminar, the super typhoon Ruby approached the five LGUs territory. Because the typhoon Ruby was reported as a super typhoon by media, and significant storm surge occurrence was forecasted by the GOP for some coastal areas. The five LGUs responded to the typhoon Ruby considering the JICA Seminar presentation. As a result, early evacuation was successful in the five LGUs as well as other remaining LGUs in the target area.

In addition, the LGUs made substantial progress on social sector and economic sector after September 2014 by their own initiatives.

The JICA Study Team analyzed the LGUs response to typhoon Ruby and the progress of social and economic sectors in January 2015 and summarized the lessons learned. At the beginning of March when was the marking of 1st year of the JICA Study, the JICA Study Team organized the 2 days forums in order to share the output of the Study and the outcomes by the five LGUs inviting representatives from relevant central governments. The Part 3 of Main Report Volume 1 describes the activities from October 2014 to March 2015 as explained in the above.

The purpose of Part 3 of the Main Report Volume 1 is to introduce the output from the target LGUs, especially from the model areas based on the input by the JICA Study Team as described in Part 1 and Part 2.

Chapter 1 describes the monitoring and follow up situation in the model areas after October 2014 until January 2015. The current planning status in the model areas, the response of the model areas to the recent typhoon disaster as the outcome of the JICA Project, and the recent situations on the social sector and the economic sector are described.

Chapter 2 describes the general overview of the outcome from pilot projects such as the Japan Grant aide project and the Quick Impact projects (QIPs) that have been planned, designed and implemented since last year. In addition, the discussion in the JICA Forum on March 2 and March 5, 2015 is shown as an opportunity to confirm the outcome of the JICA Project among JICA and the stakeholders in the Philippines.

Chapter 3 is the recommendation based on the discussion during the 1st year period of the JICA Urgent Development Study.

Chapter 1 Monitoring and Follow-up Situation for Model Areas

1.1 Planning Status in Model Areas

1.1.1 General

LGU(s) have been mandated by some guidelines to consider the hazard assessment mainstreaming climate change in various planning process such as CLUP after Typhoon Yolanda. At the same time, most of the LGUs are facing the end of the period of present local plans such as CLUP. In parallel to the above, the JICA Study Team proposed some fine tuning of the existing local plans by September 2014 based on the hazard map interpretation in the course of technical support for planning in the model areas.

The LGUs in the model areas are planning to implement some projects and update the existing plans after 2015.

Table 1.1-1 Status of Local Plan in Model Areas

LGU	CLUP	CDP	DRRM	Remarks
Tacloban	Validity: 2013-2022 To be updated based on HLURB guidelines after Yolanda		Approved in 2012	UNHABITAT support for CLUP
Palo	Validity: 2001-2010 To be updated based on HLURB guidelines after Yolanda		Validity: 2013-2017	
Tanauan	Validity: 2010-2019 To be updated based on HLURB guidelines after Yolanda	Validity: 2010-2016	Approved by SB	
Basey	Lost (under preparation)	N/A	Lost (under preparation)	
Guiuan	Validity: 2003-2012 To be updated based on HLURB guidelines after Yolanda		Lost?	UNHABITAT support for CLUP

Source: JICA Study Team

In general HLURB has been providing technical support to the affected LGUs to prepare revised/new CLUPs by providing four modules of seminars having ideally more than ten officers from each LGU who are in charge of the related fields of CLUP since December 2014. According to the participants, the set of seminars intend to complete LGUs' CLUP preparatory work by May 2015 before the next national election campaign commencing from June 2015.

At the same time, OPPAR has commenced the Master's Degree Program with scholarship support by USAID in December 2014 subjecting one officer from each affected LGUs who are in charge of Planning or DRRM to foster capable personnel to monitor and to verify the projects implemented under CRRM within their own jurisdiction. The program is designed to prepare a complete set of credible CLUP documents by November 2015 envisaging the documents to be authorized by the current executives and legislative representatives of respective LGUs.

Their programs incorporate the procedures established by the supplementary guideline in August 2014.

The other issue critical in the preparation of the CLUP documents is the population census on the affected areas conducted by PSA-NSO (National Statistical Office, Philippines Statistical Authority). The results of the census are yet to be released. Since certain items of the CLUP documents have to be prepared with the official numbers officially released by PSA-NSO, the official release timing of the results is critical for the timely or immediate preparation of the CLUP documents.

There is side information that the modification of the CDRA process in actual implementation considering the time and resource burden to the implementer, LGUs.

1.1.2 Conditions of Each LGU

All LGUs have been requested to update the CLUP by considering the situation after the typhoon Yolanda, in particular the CDRA process stipulated by the Supplemental Guideline of HLURB. Their target is to finish the CLUP matters in 2015 or early 2016 before the election, because some of the Mayor (for example, Tacloban) at last term.

Regarding the "CLUP matters" it includes CDRA incorporation and other revision that needs to be done after typhoon Yolanda, because as of the moment baseline data that will be generated from CBMS or PSA are still not available. They need this data before they finalize some of the plans so it delays the process.

If LGUs are really mandated to conduct CDRA process it will take them a really long time, because for Tacloban City even with the assistance from UNHABITAT it already took them a long time. Especially about Basey Municipality, the process of data collection is still taking them sometime, so it is uncertain that they can reach their target, unless they do alternative measures.

Table 1.1-2 shows the specific status of CLUP preparation in the model area. The common issues are the necessity of technical assistance and funding, while each LGU has been starting some works on it. Their schedule is affected by such issues and the HLURB new guideline, etc.

Table 1.1-2 Status of CLUP in Model Areas

LGU	Status of CLUP in Model Areas
Tacloban	<p>-Right now, they are doing all the planning and validation in parallel and according to CPDO it's just a matter of putting things together in the end.</p> <p>-The Ecological Profiling is being updated as of the moment, they are still waiting for the official data coming from the PSA.</p> <p>-UNHABITAT's technical assistance ended already February 28, 2015. They've turned over the data and CBMS to the city. But there's a possibility that USAID will also help in the technical assistance, but still there are no formal decision yet.</p>

Palo	-Still in conducting the CBMS right now, they haven't reached the half yet
Tanauan	-ditto
Basey	-They've started data gathering, but they've encountered problem with gathering data and manpower
Guiuan	-They are still preparing for the CBMS, because they encountered delay release of funding. -They will start the data collection middle of April 2015. -Their target to finish the CBMS, hopefully in 2015

Source: JICA Study Team

Regarding the CDP, since they have started doing it, but as of the moment still waiting for some of the data and they are focused on CLUP preparation.

Other specific conditions of each LGU are as follows,

(1) Tacloban

The LGU Tacloban has been conducting CDRA Process according to the Supplementary Guideline, since its CLUP documents, which were prepared and endorsed by the regional HLURB for the national level approval before it was hit by Typhoon Yolanda. Currently it has become obvious that the documents have to be adjusted according to the analyses and development plans based on the post Yolanda conditions as well as the CDRA process.

It has been dispatching participants to the OPPAR program while it has not sent participants to the HLURB program.

(2) Palo

The LGU Palo has commenced the CLUP process according to the conventional procedure.

It has been dispatching participants to the programs held by HLURB and OPPAR to incorporate the new procedures into the current preparatory works.

(3) Tanauan

The LGU Tanauan has commenced the CLUP process according to the conventional procedure.

It has been dispatching participants to the programs held by HLURB and OPPAR to incorporate the new procedures into the current preparatory works.

(4) Basey

The LGU Basey has started the preliminary work such as training participation for the required survey in Provincial programs.

Although it has been dispatching the participants to both programs, the CLUP preparatory activities seemed to be under a pre-planning stage.

(5) Guiuan

The LGU Guiuan has been preparing the new CLUP documents with necessary survey arrangements under the Guiuan Recovery and Sustainable Development Group framework. It seems that the preparatory activities have become stagnant due to the unavailability of the population census results at the preferable timing that has already passed.

The LGU has been dispatching participants to the programs held by HLURB and OPPAR.

Guiuan's LDRRM Plan has already been prepared to be shown to the Sanguniang Bayan Members to furnish and was scheduled after April 2015.

1.2 JICA Seminar / Mini Workshop

1.2.1 2nd JICA Seminar on November 17, 2014 in Tacloban

The JICA Seminar was held in Tacloban on November 17, 2014 as the 2nd Seminar during the Study. This seminar was aimed to report the progress of QIPs and the result of the technical support on planning for the recovery and reconstruction in the model areas.

QIPs by JICA have received great attention in eleven LGUs in Leyte, Samar and Eastern Samar to promote the process of reconstruction for the restarting of economic activities, reconstruction of daily lives and strengthening of government organizations' capacities in implementing supportive measures.

QIPs, which have been conducted as practical and concrete examples of recovery and reconstruction implementation, were well recognized among the LGUs and regional offices of the central governments in the Seminar.

The JICA Study Team also has worked together in a collaborative workshop manner as technical assistance for five LGUs in terms of fine tuning the present recovery and reconstruction plan, whose output will be input for the updating of mandated local government plans such as the Comprehensive Land Use Plan and DRRMP. The outcomes of the five LGUs were summarized in Chapter 2 in Part 2 of this report.

In the seminar, representatives from the five LGUs (Administrator, MPDO and Mayor) made presentations on the result of the collaborative workshop with the JICA Study Team. While the contents of the workshop are quite comprehensive, composed of a wide variety of sectors, the presentations by the five LGUs were done in a compact manner.

At the end of the seminar, the hazard maps (storm surge, flood and tsunami) made by the JICA Study Team were handed over to eighteen LGUs with a hard copy and a soft copy, aiming at further application in the scientific map based planning by thirteen LGUs other than the five LGUs.

1.2.2 Hazard Map Mini Seminar on February 3-4, 2015 in Tacloban

Among the targeted eighteen LGUs of the JICA Study, five LGUs, Tacloban, Palo, Tanauan, Basey and Guiuan, were selected as model areas and have been given the technical support on comprehensive planning on recovery and reconstruction including the interpretation of JICA hazard maps.

In order to share the experience of the collaborative work with the five model LGUs with the remaining thirteen LGUs in terms of how to interpret and use hazard maps (Storm Surge, Flood and Tsunami), the JICA Study Team held a series of mini seminars in February 2015, which were organized by OCD Region VIII in association with the Leyte Province Planning Development Office. The dates and the targets of the mini seminar are as follows:

- February 3, 2015 targeting LGUs in Samar and E. Samar Provinces
- February 4, 2015 targeting LGUs in Leyte Province

During these two days, the JICA Study Team explained the preparation of JICA hazard maps and their application to disaster risk reduction management based on the activities in the workshop in 2014 (refer to Part 2 of Main Report Volume 1).

At the end of the mini seminar on February 4, 2015, the JICA Study Team requested the planned activities using hazard maps from the participants from LGUs in Leyte Province. The LGUs' (Palo, Tacloban and Tanauan) activities are shown in Table 1.2-1. Other LGUs in Leyte are shown in the attachment of Part 3.

Table 1.2-1 Planned Hazard Map related Activities of LGUs in Leyte Province

PALO			
ACTIVITY	BY WHOM	WHEN	HOW
1. Review/Revisit CLUP mainstreaming CCA & DRR & integrating the 1:10K scale hazard maps	MPDO	February-December 2015	By the LGU through assistance from other agencies/INGOs
2. Capacity Building on DRRM for children & youth (IEC through video presentations and print media)	MDRRMO DEPED	March 2015	Awareness raising among school children through comic designs in coordination with school personnel
3. DRRM goes to Purok level system (making communities resilient to disasters)	MDRRMO Barangay Officials	February-April 2015	-Risk Assessment -Identification of evacuation centers -creation of BDRRMC
4. Creation of Evacuation Transport route and evacuation plan	MDRRMO MPDO DepEd	March 2015	LGU with the help of JICA
TACLOBAN CITY			
ACTIVITY	BY WHOM	WHEN	HOW
1. CLUP revision adapting updated hazard maps and mainstreaming CCA & DRRM	CMO, CPDO, CDRRMC, CHDO	September 2014-February 2015	In partnership with JICA & UN HABITAT
2. Formulating updated	CDRRMO, DEPED,	February 2015-	In coordination with

Evacuation plans using hazard maps	CHDO, CSWDO	March 2015	IOM, Catholic Relief Service (CRS), World Vision, Plan International
3. Capacity building for all CDRRMC	CDRRMO	February 5, 2015	In partnership with World Vision as the funding agency
4. Construction of Elevated roads along coastal areas in Tacloban City with reference elevation Magsaysay boulevard	CDRRMO, CPDO, CEO, City Architecture	June 2015- June 2017	Upon the commitment of JICA
5. Construction of Resilient prototype Build-Back Better evacuation center	CDRRMO, CPDO, CEO, City Architecture	2015 May- 2016 May	Approved commitment worth 60M by UNDP
6. Capacity Assessment of Evacuation Center (EC)	CDRRMO, DEPED, CHDO, CSWDO	Feb 2015	In partnership with IOM

Tanauan			
ACTIVITY	BY WHOM	WHEN	HOW
1. Review/revisit LDRRM plan integrating the 1:10,000 scale hazard maps	MDRRMO/MDRRMC & Department Heads	February 5, 2015- April 15, 2015	Conduct seminars/workshops with different partners
2. Educate members of the LDRRMCs of the different hazard maps (storm surge, tsunami, flood, typhoon, earthquake, landslide etc.)	MPDO/MDRRMC	Last week of March 2015	Conduct orientation/seminars with different partners
3. Down to the barangay level and formulation of Incident Meeting Team (IMT) through Incident Command System (ICS)	BDRRMC MDRRMO/OCD	April 2015 (1 st week) February 5- April 15, 2015	Conduct orientation/seminars with different partners
4. Conduct Information Education Communication (IEC) on the importance and utilization of hazard maps to the teachers and School Heads	MDRRMO/MPDO/Teachers/ UNICEF	Last week of May 2015	Conduct orientation/seminars with different partners
5. Conduct DRRM training to teachers Down scaling to students/pupils	Teachers/ School Administrator	April 5, 2015 SY 2015-2016	Seminar workshop with different partners
6. Review/revisit CLUP integrating the 1:10,000 scale maps	MPDO CLUP TWG with GIZ/ UNICEF	Sept-December 2015	Seminar workshop with different partners

Source: JICA Study Team

It is understood that the hazard maps will be reflected into the various local plans, such as LDRRMP and CLUP, by LGUs themselves.

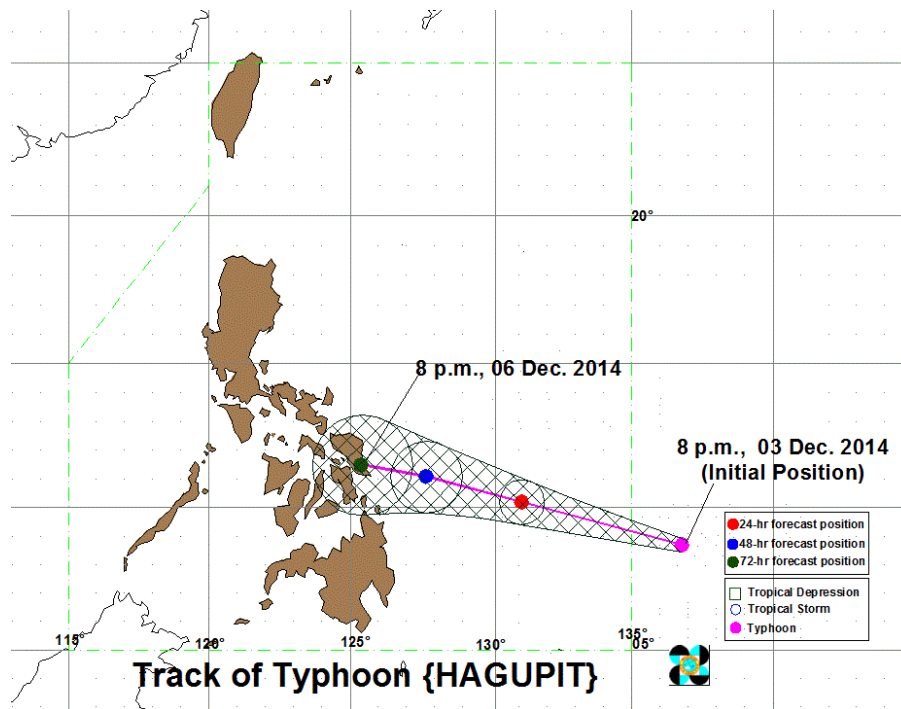
1.3 Response of Model Areas to recent typhoons

1.3.1 General

On the evening of December 6, 2014, the Typhoon Ruby (International name Hagupit) made its 1st

landing on Eastern Samar to threaten the Northern and Eastern Samar provinces. Prior to landfall, NDRRMC issued SitRep No.1 Preparedness Measures for Typhoon “Ruby”(Hagupit) on Dec.4 8AM, 2014 and was issued a total 27 times until Dec.19, 2014 as SitRep No.27.

Figure 1.3-1 is the forecasted track of typhoon Ruby by PAGASA at the time of Dec.3, 2014. According to this, the typhoon Ruby was forecasted to land on Leyte and Samar islands on Dec.8, 2014, whose track was quite similar to that of typhoon Yolanda.



Source: PAGASA Home Page

Figure 1.3-1 Forecasted Track of Typhoon Ruby on Dec.3, 2014

At the time of Dec.4, 2014, the typhoon Ruby was expected to have maximum sustained winds of 175 kph near the center and gusts of up to 210kph. Some typhoon forecasts showed the development of the typhoon whose lowest pressure was around 920 hpa and the tracking route covering Eastern Visayas. Table 1.3-1 is the public storm warning signal level by NDRRMC for the Leyte, Samar and Eastern Samar provinces. While Leyte Province was keeping level #2, Samar and Eastern Samar were given level #3 on the evening of Dec.6, 2014 which was just before landfall on Easter Samar.

Table 1.3-1 Signal Level issued by NDRRMC during Typhoon Ruby

Date/Time	Leyte	Samar	E. Samar
Dec.4 8PM	#2	#2	#2
Dec.5 8 PM	#2	#2	#2
Dec.6 6 PM	#2	#3	#3
Dec.7 6 PM	#1	#2	#1
Dec.8 6 PM	No warning signal	No warning signal	No warning signal

Note: #3 winds of 100-185 kph is expected in at least 18 hours

Note: #2 winds of 61-100 kph is expected in at least 24 hours

Note: #1 winds of 30-60 kph is expected in at least 36 hours

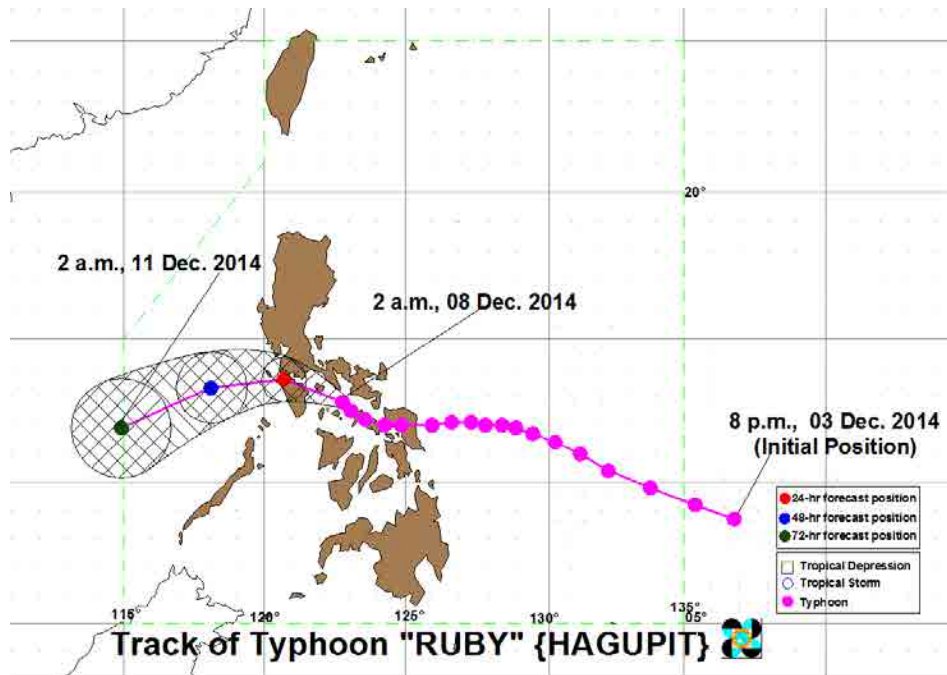
Table 1.3-2 is the number of affected barangays, families and people in the JICA Study Target LGUs according to NDRRMC SitRep No.27.

Table 1.3-2 Number of Affected Barangay, Families and People by Typhoon Ruby

Province	LGU	Affected		
		Barangay	Families	Persons
Samar	Basey	18	2,866	13,667
	Marabut	24	150	750
E. Samar	Balangiga	13	3,148	15,740
	Giporlos	18	3,970	19,860
	Guiuan	60	1,420	71,000
	Lawaan	18	3,480	17,396
	Mercedes	16	1,851	9,276
	Quinapondan	25	3,903	19,519
Leyte	Abuyog	16	1,039	5,195
	Dulag	3	1,150	4,150
	Macarthur	2	44	220
	Mayorga	16	4,375	15,597
	Palo	32	2,861	9,985
	Tacloban	138	14,633	74,073
	Tanauan	54	367	1,892
	Tolosa	18	853	3,285
Total		471	46,110	281,605

Source: NDRRMC SitRep No.27

The actual track of typhoon Ruby, which was called as very strong typhoon, is shown in Figure 1.3-2. The landing point was shifted to the northward of the Samar Island, compared with the forecast on Dec.3, 2014, to result into less affect for the coastal area along the Leyte Gulf. Significant storm surge just like the Yolanda was not observed or reported in the Leyte Gulf because the center of the typhoon was not located in the Leyte Gulf.



Source: PAGASA Home Page

Figure 1.3-2 Actual and Forecasted Track of Typhoon Ruby on Dec.8, 2014

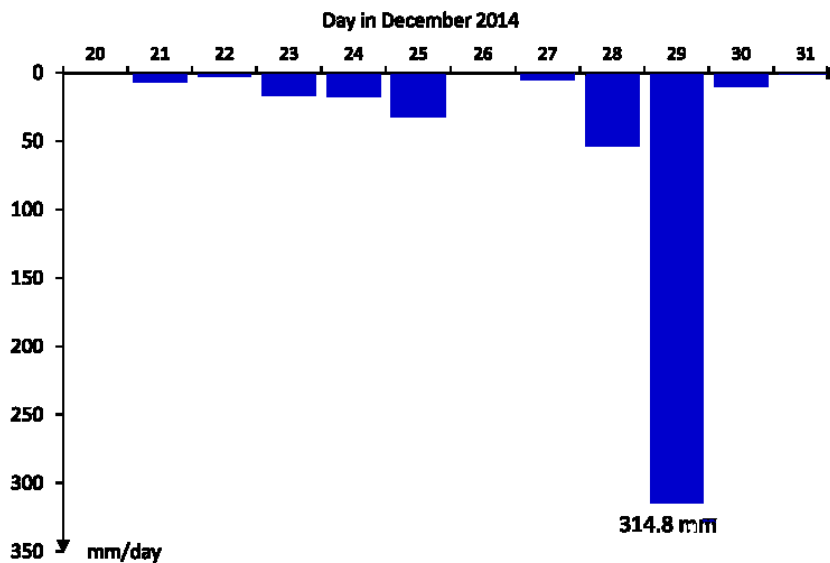
Before the aftermath of the typhoon Ruby cooled down at the end of December 2014, the tropical storm Seniang caused heavy rainfall in Leyte. Figure 1.3-4 shows the daily rainfall in Tacloban from Dec.20-31 in 2014. On Dec. 29, the daily rainfall amount of 314.8 mm was recorded. The daily rainfall was the second largest amount since 1961 in Tacloban as shown in Figure 1.3-5.

In Tanauan Municipality there was a landslide on Dec. 29, 2014 after the historical heavy daily rainfall took place (Figure 1.3-3). In a steep slope residential area in Tacloban, there were several slope failures after the heavy rainfall in Dec. 2014.



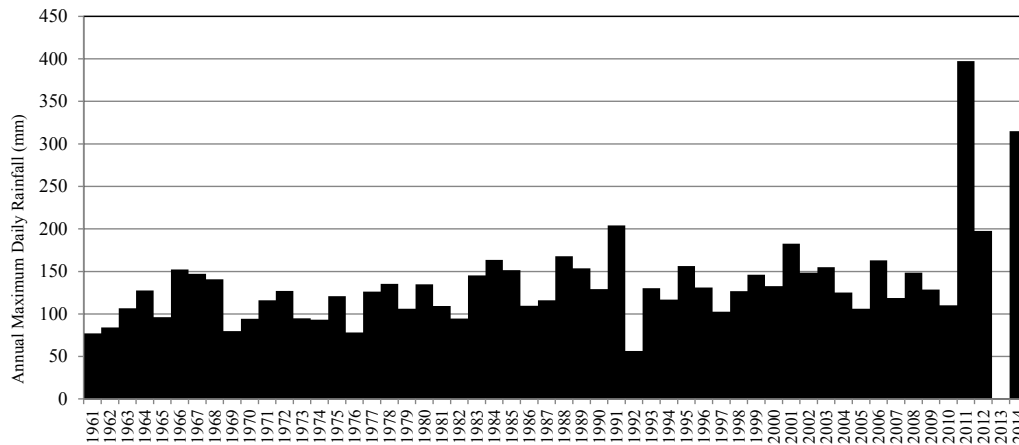
Source: JICA Study Team

Figure 1.3-3 Landslide along National Highway in Tanauan Municipality in Dec.2014



Source: JICA Study Team

Figure 1.3-4 Daily Rainfall in Tacloban, December 2014



Source: JICA Study Team, Note: The data in 2013 is missing because of the not-operated rainfall gauge in Tacloban.

Figure 1.3-5 Annual Maximum Daily Rainfall in Tacloban since 1961

1.3.2 Response by LGUs to Typhoon Ruby

The large-scale typhoon Ruby which landed on Dec.6, 2014 in Eastern Samar was a major typhoon affecting the model areas after the JICA Seminar on Nov. 17, 2014. Thus, the response of the model area to typhoon Ruby was an opportunity to put into practice what they learned, in particular the response to the evacuation in the seminar as well as the workshops.

The JICA Study Team provided the storm surge hazard maps to the LGUs, international donors and INGOs based on their request to the team prior to the landing of typhoon Ruby. Thus using the already recognized JICA hazard maps, the check of the evacuation centers and evacuation routes were conducted by LGUs and INGOs supported by international donors.

The approaching of typhoon Ruby toward Eastern Visayas reminded the people affected by Yolanda of the devastating disaster by Typhoon Yolanda because of the similar typhoon tracks and scale of the typhoon. One of the significant differences was the slow movement speed compared with Yolanda.

(1) Outline of Questionnaire

The JICA Study Team conducted a questionnaire survey on the LGUs' response to typhoon Ruby in January 2015. The points of the survey are:

- Did the LGUs make use of the hazard maps for early response, especially evacuation planning?
- Did the LGUs make a comparison between the number of people to be evacuated and the present capacity of the existing evacuation centers as it was discussed in the workshops? And did LGUs pay attention to the structure of the evacuation centers?
- Did the LGUs made a consideration to fill the gap of the capacity of the evacuation center in terms of the implementing evacuation?

- Did the LGUs consider the evacuation routes and the necessity of transportation methods?

(2) Result and Analysis

The answers from the five LGUs for each check point are shown in Table 1.3-3. The circle means that the LGU has done the check item and the cross × means the LGU did not make the check.

Table 1.3-3 Early Preparation by LGUs on Evacuation Planning Before Typhoon Ruby

	Check Items	Tacloban	Palo	Tanauan	Basey	Guiuan
1	Check of disaster area by utilizing hazard map	○	○	○	○	○
2	Check of evacuee population of each barangay	○	○	○	○	○
3	Check of evacuation facility capacity	increased than expected	○	○	○	○
4	Check of structural safety of evacuation facility	○	×	○	×	×
5	Consideration of allotment of evacuation center to each Barangay					
	- done for all barangays			○		○
	-done for only in some area of the LGU	○	○		○	
6	Check of the gap between the evacuation center's capacity and evacuee population	○	○	○	○	○
7	Consideration of an idea to determine the appropriate allocation of evacuation centers	○	○	○	○	○
8	Simple check of the evacuation route	○	○	○	○	○
9	Check of necessary transportation methods	○	○	○	○	○

Source: JICA Study Team

Based on the result above and the other interview results, the following analysis was made:

1) Hazard map was utilized

The five LGUs in all of the model areas utilized the storm surge hazard map to confirm the possible affected areas and the necessary population to evacuate. Tacloban city requested a supplemental hazard map from the JICA team and utilized the map on the barangay level during typhoon Ruby.

In particular, the hazard map was very effective when the LGUs wanted to identify the candidate evacuation centers. Also the hazard map was effective to assess the safety against inundation for the location of evacuation centers proposed by barangays.

The hazard map was used to check the evacuation routes and transportation routes for the evacuees.

In Palo Municipality, the down-scaled evacuation maps from the original JICA hazard map were displayed in barangay halls and on the community level so that people could confirm the evacuation centers, and know where to go.

- 2) It was difficult to respond to typhoon Ruby halfway through preparing the evacuation centers

When typhoon Ruby hit the area, all five LGUs were halfway through the process of inspecting, repairing and preparing safety evacuation centers based on the experience of typhoon Yolanda.

Therefore, in the LGUs with plans to make new evacuation centers, although the capacity was estimated in the plan, in reality some evacuation centers were not in a condition to be used.

Thus, it was difficult to verify the capacity and safety of some evacuation centers.

Plus, since the capacity of public evacuation centers is not enough, the utilization of strongly built private facilities has been considered. However, because it was still under consideration at the time of typhoon Ruby, it was difficult to investigate the structural safety such private facilities.

Basically, the evacuee population was more than expected and it was the common understanding that it was difficult to accommodate all of the evacuees in the existing evacuation shelters. In fact, in Palo Municipality the difference in the number of evacuees and the number which could be accommodated was 20,000 people. The planned new provincial hall would accommodate the 20,000 people, however, how to manage the evacuation until the new provincial hall is constructed is a challenge in Palo.

Even Tacloban City has a serious problem on the lack of evacuation centers. The problem of using dangerous evacuation centers still remains, such as the convention center located near the shoreline used in Tacloban City during typhoon Ruby. (The structural safety was confirmed by the city)

In general, due to the substantial shortage of evacuation centers, the LGUs where it is difficult to cover all of the barangays focused on extremely hazardous areas.

- 3) Safe evacuation was accomplished, regardless of the lack of evacuation centers. Effort was done to compensate the gaps

According to the result of the questionnaire, although some evacuation centers were still in the process of preparation, all model areas recognized the gap and discussed solutions and responded by considering evacuation routes and transferring evacuees to far places.

- 4) Conclusion: Each of the LGUs have accomplished a certain degree of achievement in disaster reduction planning and discussions on evacuation plans

Discussion with the LGUs about evacuation plans by utilizing the hazard map was utilized effectively in typhoon Ruby.

Although there are problems in the preparation of evacuation centers, it is an important achievement that each LGU has discussed solutions and the best evacuation countermeasures in the current situation was taken.

1.3.3 Response by LGUs to Tropical Storm Seniang

The landslide caused by the tropical storm Seniang occurred in the place where the existing hazard maps have not yet identified hazards.

The landslides occurred not only in the mountains but also on the steep slope on which residential houses were placed in downtown Tacloban.

It is understood that the some mountain areas lost their water retention potential because of the land cover change. The residential steep slope areas may have inappropriate foundations and drainage systems, which are quite vulnerable for heavy rainfall.

In this way, the model areas have a potential of various kinds of natural hazards other than storm surges, especially those caused by heavy rainfall.

LGUs in the model area recognized this and should have the capacity to handle a wide variety of natural hazards.

1.3.4 LGU's Situation before and after the typhoon Ruby

The following is the analysis and perspectives obtained from the interview with LGUs.

(1) Evacuation Center

1) Before Typhoon Ruby

- Tacloban city estimated the number of evacuation center before Yolanda was 73 and the usable evacuation center after Yolanda was 52 including Astro Dome using the hazard map. Among the 52 evacuation centers, there are 5 evacuation centers located within 1 km from the coastal line.
- Tacloban city collaborated with large scale commercial facilities and universities to use such for evacuation centers in order to fill gaps. Before the typhoon Ruby, the total number of registered evacuation center was up to 103.
- Palo municipality considered the deep inundation depth more than 1st floor ceiling in central urban area according to the hazard map. So that the municipality requested the owners of 2nd floor houses for the usage as evacuation centers.
- Tanauan municipality used school and government buildings, private houses and religious facilities after they checked the structural safety.
- Basey and Guiuan municipalities had plans to use caves as evacuation centers. In fact, Guiuan did not use the cave because of the safety issues. Basey identified 3 caves and actually used them as evacuation center, however, they found the lack of basic infrastructure such as water supply, electricity and sanitation as well as the difficult access due to long distance and steep slope route with dense grass.

2) After Typhoon Ruby

- LGUs have checked the structural safety of evacuation centers and found most of the rehabilitated buildings after typhoon Yolanda were renewed apparently, not strengthened structurally.
- Some confusion was recognized in terms of evacuation. For example, people moved to other evacuation centers which they were not supposed to go, lack of movement (migration) log book, a kind of panic happened when people started to move before the evacuations are open, the people moved to unregistered evacuation center due to lack of information.
- Except for Tacloban city which introduced ID system in 2015, most of the LGUs need to introduce the reliable system to register all evacuee properly to provide registration form and identification of evacuation centers.
- In terms of basic infrastructure for evacuation center, the issues are to how to complete water supply, electricity and sanitation. Tacloban city applies an unit of 1 m² per person for the evacuation center capacity.
- Special consideration for the PWD, the children, pregnant woman, the senior citizen has been already made with priority for the entering evacuation center.

(2) Transportation Method

1) Before Typhoon Ruby

- Because evacuation centers near the community is lacking and early evacuation from the risk of storm surge is necessary in areas near the shoreline, it is essential to consider the route and distribution of vehicles to transfer evacuees.
- Not only public vehicle but also private owned or community owned vehicle was used to transport evacuees by vehicle. (Public vehicle is lacking and how to transport evacuees is a challenge) In Guiuan, INGO supported the LGU by providing vehicle for transportation. In Guiuan there are many informal residents and among the three transportation route in Guiuan one is arranged for informal area.
- Ambulance was prepared for special purpose such as transferring support needing people.

2) After Typhoon Ruby

- There are issues how to make plan for pick up time and location , and route for the evacuee in advance. Preparation of map to indicate such pick up points is necessary.
- In the case of pre-event evacuation, a limited number of vehicles (2 vehicles for Basey, 3 vehicles for Guiuan in addition to support from private sectors and NGO) were practical. However, in the case of emergency evacuation for Tsunami, more vehicles are needed.

(3) Evacuation Planning

1) Before Typhoon Ruby

- Evacuation was basically finished from one to two days beforehand (Experience of typhoon Yolanda)
- Some LGUs staff have visited each household.
- Each LGU has their own method in terms of evacuation order command system and way for issuing warning message based on their experience in Typhoon Yolanda. During the Ruby, the guide for pre-event evacuation was not so difficult.
- At the time Ruby, people already had have a kind of recognition on risk and hazard so that the evacuation planning and guide for the evacuation were improved.

2) After Typhoon Ruby

- Although evacuation warning was announced in advance, some residents stayed at their house or community.
- Telecommunication network was interrupted during typhoon and it was difficult to make contact and confirm the existence of the residents staying at their house or communities.
- There is no standardized evacuation center based on the experience of typhoon Yolanda. Thus, it is necessary to implement the plan and prepare such evacuation centers in the future.
- Because schools have to restarted classes after the typhoon, it is difficult to accommodate the refugees in schools for a long time. Some managers of school gave priority their relatives.
- Evacuation plan compatible to LGU plans should be made by each barangays by their own.
- Preparation for evacuation had been discussed in all level, besides each LGUs, between each LGU and barangays, and also in the community level with the attendance of each family in the community.
- Currently, evacuation warning is announced by megaphones until just before the typhoon hits the area, rules to determine a signal (certain pattern of bell ring) for evacuation warning is necessary. In Tacloban city, each barangays fly a flag to indicate the degree of emergency for evacuation and precaution level. These activities are done to share information and bread evacuation awareness citywide.
- In Guiuan, because most of the area are islands, radio is the main source of information. On the other hand, in urbanized area like Tacloban, there are many methods to inform evacuation warning such as radio, SMS, SNS, and telephone reflecting the activities in the urban area.
- Considering some evacuee have to remain in the evacuation center for several days after the disaster and the anticipated prolonged evacuation and information sharing, it was necessary to assign leaders in the center in advance.

- In the area of livestock, some farmers did adjustment of production (for example, advance delivery of meat) before the Ruby and some farmers took their livestock to the evacuation centers. Therefore, the issue is how to accommodate the livestock in the evacuation center.

1.3.5 Future Challenges Recognized in the Model Areas as a Result of Typhoon Ruby

(1) Continuous effort to compensate the gap between the capacity of evacuation centers and the evacuee population.

The evacuee population is overwhelming the capacity of evacuation centers and it impossible to receive all the evacuees in evacuation centers near the residential areas and this will not change even in the future.

Therefore the relocation of residents living in the affected areas is needed, especially in areas within the range of 40 meters from the shoreline, and it should also be kept in mind that early evacuation to remote locations is important.

The pre-event evacuation shall be implemented for those locations which frequently suffer from floods and storm surges by typhoons as target disasters. In the course of the implementation, relocation should be progressed to make people live in safer areas in order to seek zero evacuation, which means people should not live in unsafe areas. In order to do this, it is possible to minimize the anticipated number of evacuees for tsunami hazards which need immediate evacuation.

In the preparation of evacuation centers, it is better to utilize existing facilities or renovate the existing facilities to a multi-purpose facility or multistory facility rather than making a new facility.

The utilization of private facilities is also needed but the structural safety of the facility should be verified. To do this, it is necessary to prepare an inventory for the evacuation center in each barangay and to check the safety against inundation and the safety of the structure.

How to evacuate livestock is one of the problems but human life should be most prioritized.

(2) Challenges in transportation of evacuees

In addition to the capacity of evacuation centers, there are also many challenges in the preparation of transportation for evacuees.

The transportation routes and sequences, and required transportation vehicles differs by the magnitude and route of the typhoon. Thus, it is necessary to do a simulation by each typhoon on how to transfer the evacuees.

Plus, it is necessary to conclude an advance agreement with private sectors (Companies and Individuals) and INGO.

It is necessary to prepare a document on the rules for pick up time, place and route and also to prepare a map indicating that information and to update it on the community and barangay levels.

(3) Challenges in stock and supply of food in evacuation centers

The sooner the early evacuation is finished, the consumption of relief supply will be faster.

Therefore, although preparing enough stock of foods and other supplies with public policy is important, it is also important to promote residents and barangays to prepare enough stock and instruct them to bring their own stock to the evacuation centers.

Evacuation shelters with cooking facilities are also considered.

For the case of a prolonged evacuation and information sharing in the evacuation center, it is necessary to assign a leader in the center in advance.

(4) Challenges in the identification of affected populations and confirmation of residents' safety and ID

It is necessary to spread the introduction of an ID system such as the system in Tacloban City which can identify evacuees and also be effective for the response before and after the hazard.

The introduction of an effective ID identification system is an urgent challenge. ID information is important for disaster response from the beginning to the last, such as the confirmation of safety, distribution of relief goods, transportation of evacuees and transferring evacuees to temporary housing.

(5) Ensuring the reliability of communication of disaster information, emergence warning system and safety confirmation.

Each of the LGUs has a different system of communication and emergence warning system but it is necessary to prepare a manual to integrate the system of the LGUs. (Neighboring LGUs having different systems is a problem.)

It is desirable to share information between LGUs and to introduce the best system for effective communication or emergency warning.

(6) Promoting hazard map and disaster reduction education

Unprecedented disaster might happen often in the future such as what happened with typhoon Seniang. Therefore it is desirable for residents to check the hazardous areas on their own and make a disaster reduction map by themselves.

It is necessary for the residents to make their own evacuation plans on the barangay level.

It is necessary to carry out disaster reduction education not only in schools but also on other occasions to enlighten residents that do not leave their houses during a typhoon because of their custom, and residents not interested in evacuation drills.

It is necessary to carry out disaster reduction education and training not only in education sites, homes or the office level but also on a LGU, provincial government, or central government level such as making manuals and giving instructions about the drills.

(7) Human resource development in LGU for disaster reduction measures and risk management

Planning an evacuation plan by utilizing hazard maps has been done by working with LGUs, but it is necessary to improve the current lack in the number and capacity of human resources for disaster reduction measures and risk management.

Periodical improvement on staffing, leaders, training and in-house coordination is required.

(8) Strengthening cooperation between the social sector and schools as an information desk of disaster reduction

Cooperation with various stakeholders is essential, such as cooperation with schools as evacuation centers, cooperation with the school, home and the community to implement disaster reduction education, and cooperation with hospitals and welfare facilities to ensure that first aid treatment, emergency transportation and evacuation of support is provided to residents when necessary.

1.4 Social Sector Sensitivity

1.4.1 Progress

In general, while different levels of progress are observed among the five LGUs, a certain degree of recovery and reconstruction has been achieved following the road maps agreed among the respective social sectors, namely social welfare, health, education and solid waste management at JICA workshops in September 2014. In particular, the social sector in Palo, Tacloban and Tanauan has continued to receive appropriate donor support, facilitating the much-needed recovery of social services. Some of the assistance brought about new initiatives following the principle of “Build Back Better”. These include the building capacity of psychosocial support in health, social welfare and educations sectors, the establishment of Child-Friendly Spaces (CFS) and Women-Friendly Spaces (WFS) as venues to protect and empower vulnerable women and children, the integration of DRRM in school curricula and the formulation of Health Emergency Management Plans. Furthermore, tapping into the intensified donor support after Yolanda, some of the development efforts inactive or slow prior to the disaster have been revitalized to improve the basic social services. For example, barangay-level services such as Violence Against Women and Children (VAWC) Desks, Barangay Councils for the Protection of Children (BCPC) and/or Persons With Disabilities (PWD) Associations are being reactivated in order to better respond to the recovery and development needs of the socially-vulnerable people. Various capacity building activities for midwives, Barangay Health Workers and Community Health Teams have been accelerated to improve case-finding and provide more community health services. Furthermore, recognizing the need for a ten-year solid waste management plan, each LGU has made progress in formulating the plan. The social sector coordination for DRRM has been improved in all LGUs particularly through the increased knowledge and skills of MDRRMC. While the social sector response to Yolanda resulted in various duplicates and gaps due to the lack of capacity and

experience, the preparedness and response to Ruby in November 2014 was coordinated more effectively. The evacuation of socially-vulnerable people including pregnant women, children, senior citizens and PWD was prioritized and DEPED worked with both MDRRMC and Barangay Councils to facilitate the community evacuation to school facilities.

Nevertheless, various recovery and reconstruction needs in the social sector remain unaddressed. The LGUs' recovery and reconstruction plans developed in early 2014 did not sufficiently integrate the social sector's needs, and they have not been revisited or monitored since. For 2015, the respective social departments and offices developed annual plans (and some also developed Gender and Development Plans) which were generally development-oriented, diminishing the focus on recovery and reconstruction assistance. Some of the common gaps include the limited numbers of Social Workers and health professionals to respond to the increased needs after Yolanda and the slow progress in ensuring IDPs' access to social services (e.g. sufficient classrooms, Daycare Centers and health facilities) both at temporary housing and relocation sites. In particular, the LGUs such as Basey and Guiuan receive limited donor support and in the social sector there is lagging behind in recovery and reconstruction.

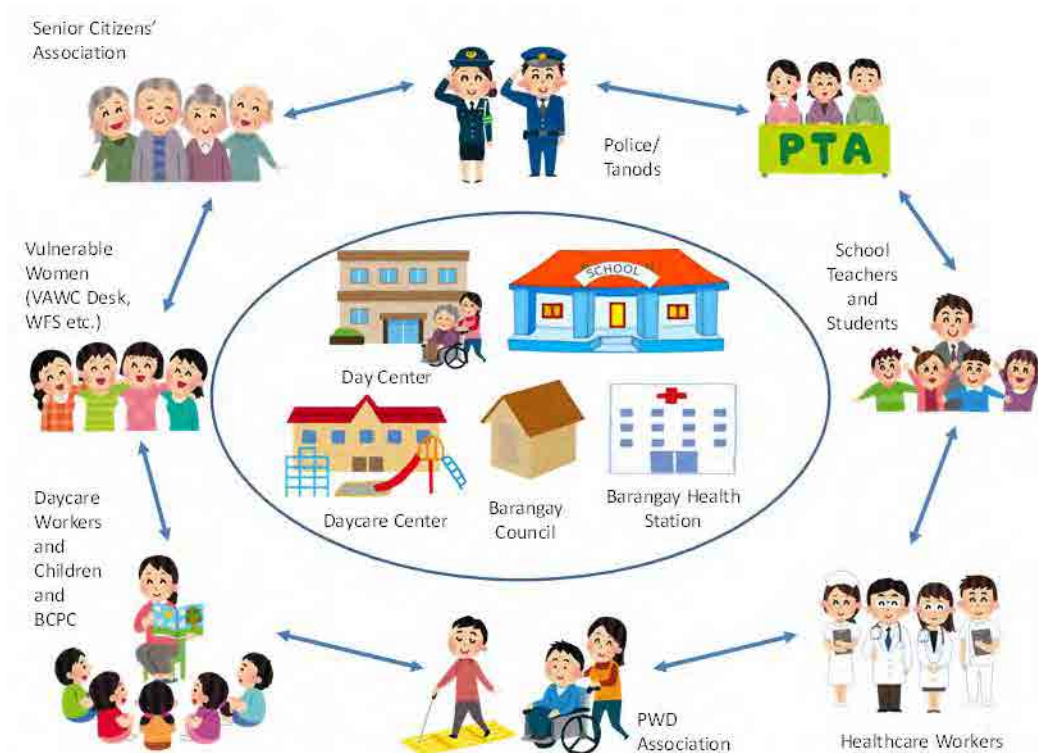
1.4.2 Gaps

Presently, one of the biggest gaps observed in the social sector is the lack of systematic integration of DRRM at municipal/city and barangay levels. While MDRRMCs' capacity has increased to coordinate the preparedness and response across various sectors and between the municipality and barangay levels, generally, comprehensive contingency plans, evacuation plans and community vulnerability maps have yet to be developed or updated after Yolanda. The donors' support so far has been limited to training and workshops on DRRM without producing practical plans that ensure sustainable preparedness and response systems. Sectoral plans such as Health Emergency Management Plans have also not been incorporated into municipal DRRM plans. As a consequence, coordination at the barangay level remains vertical. For instance, most of the schools and Barangay Councils still work separately to conduct drills and develop contingency/evacuation plans. During the response to Typhoon Ruby, some of the schools experienced vandalism by community members perhaps because the community lacked the sense of ownership. Furthermore, the existing support mechanisms for the socially vulnerable, such as Senior Citizens Associations, have not been strategically tapped into to build their capacity on DRRM. It is indispensable for MDRRM Offices and Barangay Councils to establish effective DRRM systems with the full involvement of social sector stakeholders. It means that the socially-vulnerable will participate in DRRM activities including the development, implementation and monitoring of contingency plans, evacuation plans and vulnerability maps at municipal and barangay levels. Not only the relevant departments and offices from LGUs but also barangay-level social actors such as Senior Citizens' Associations, Barangay Health Workers, PWD Associations, VAWC Desks, BCPC, WFS volunteers, GBV Watch Groups and Barangay Tanods/Police can be effective partners. Otherwise, disaster-resilient and socially-inclusive

communities, which should be the core principle of Build Back Better, cannot be materialized.

A medical system is fully established and technical supports are distributed from the national level to the barangay level. Medicines are basically procured using the LGU budget. Although DOH/RHO supplies basic medicines to RHUs, their frequency and quantity do not match RHUs' needs. Poor mental health is recognized as a psychiatric illness. It is not focused on, and the implementation capacity such as facilities and human resources is insufficient. Social workers and day care workers who belong to DSWD have activities in the communities. However, their work content is community support like family and child support but not mental health. In addition, medical wastes are not properly managed in the hospitals or RHUs.

The roles and responsibilities of medical organizations such as LGUs and hospitals in emergency cases are clearly set up. Manuals for emergency cases are prepared and a communication and monitoring system with a mobile phone called a SPEED system has been introduced. In addition, the quantity of stored medicines and materials are specified. However, the capacity of human resources for emergency cases is insufficient due to a lack of manual utilization, training and involvement of all staff members and communities in the training. Also, the quantity of the stockpiles of medicines in medical organizations was lower than the standard.



Source: JICA Study Team

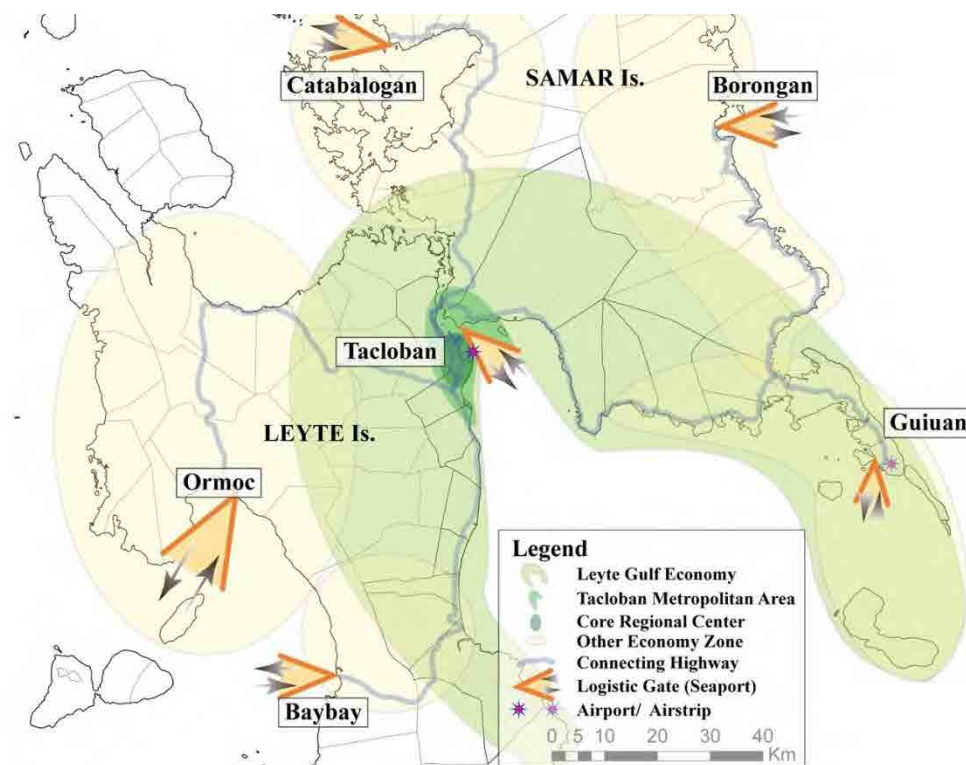
Figure 1.4-1 Barangay Actors to Rebuild a Disaster-resilient and Inclusive Community

1.5 Leyte Gulf Area Economy

1.5.1 Directions for Re-development

As one year passed from the time of the incident, efforts for re-development of the economy sector became focal and conspicuous while emergency relief type activities have significantly decreased. People have become aware of the importance of the re-development/re-structuring of the regional economy for pursuing further progress to the recovery as well as enhanced resilience against disaster impacts.

The Leyte Gulf Area where Yolanda hit most seriously among the affected areas has a potential of formulating a united economy area considering the geographic and transport system development conditions.



Source: JICA Study Team

Figure 1.5-1 Economy Cluster and Possible Leyte Gulf Area Economy

Considering the potential for formulating the economic area following directions for the re-development of the area economy have become evident among stakeholders other than the directions for re-planting coconut trees and the modernization of traditional crop farming such as paddies:

- 1) Formulation of a regional market as a base for efficient economy activities,
- 2) Agro/fishery enhancement by crop diversification and value chain fostering,
- 3) Coordinated tourism promotion and development with Tacloban Gateway Town,

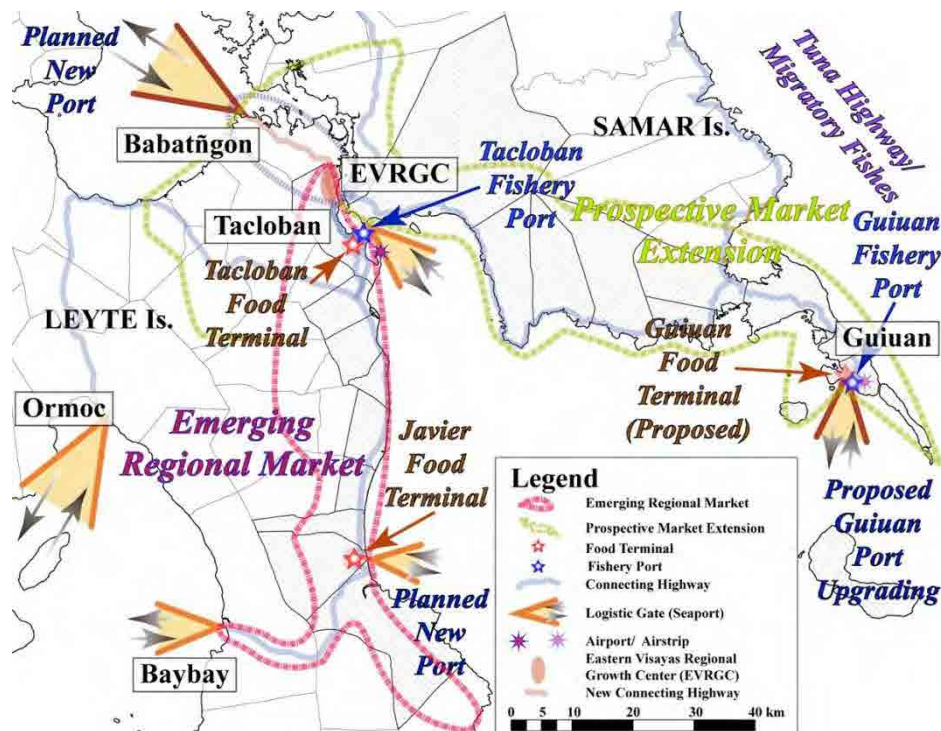
- 4) ICT industry promotion utilizing advanced ICT infrastructure covering Tacloban and Palo with the existing two ICT industrial centers, and
- 5) Innovative technology based industry promotion.

Brief explanations of the five (5) directions are described below.

1.5.2 Regional Market Formulation for Economic Opportunity Materialization

a) Regional Market for Agriculture and Fishery Products

First direction of formulating regional market intends to enable the local producers to access the wider market for more stable sales of their agriculture and fishery products. The established regional market is expected to absorb gaps between fluctuated volume concentrations of their products and rather steady local demands preventing from associating significantly low prices at converged harvesting. Mitigations of convergence of harvests are dealt by basically two directions of 1) use of longer storage facilities and advanced logistic systems, and 2) coordinated harvest timings by use of information exchange and coordination system envisaging outside region markets.



Source: JICA Study Team

Figure 1.5-2 Formulation of Regional Market and Key Facilities

Food terminal initiatives in Tacloban and Javier, which are expected to be materialized within 2015, are envisaging to be wider area wholesale trading centers with facilities such as cold/ cool storages, logistic systems including transport, and ICT based sales and production coordination systems. Their expected initial market coverage is shown in Figure 1.5-2. Tacloban initiative is centered by BRC (Business Recovery Center established) under PCCI (Philippine Chamber of

Commerce and Industry) with expected support from ILO and GIZ while Javier initiative called “North Eastern Leyte (NEL) Agri Pinoy Trading Center” is led by Mayor of Javier, who is also a prominent businessman, with support of Provincial Marketing Unit of DA Regional Field Office VIII.

The NEL Agri Pinoy Trading Center is organizing farmers associations in 13 Municipalities ranging North from 1) Tanauan, 2) Dagami, 3) Tabon Tabon, 4) Tolosa, 5) Burauren, 6) Julita, 7) Dulag, 8) La Paz, 9) Mayorga, 10) Macarthur, 11) Javier, 12) Abyog, and 13) Mahaplag as producers of various crops while intra-/ inter-regional marketing and sales transaction information/ data are being handled with ICT system. The Center’s main function is wholesale trading envisaging regional exports as well as the regional trades. At the same time it is planned to accommodate functions of direct retail outlet and training of producers for cropping efficiency and diversification in association with post harvesting works and farming management.

Collaboration between two centers is recommended for functional and spatial segregation. Tacloban is preferred to be rather intra-region wholesale/ retail outlet center while NEL Agri Pinoy Center is more emphasized in inter-region wholesale with production coordination and training functions. Mutually interactive development in operation/ management system for operation, buyer relation, production coordination, marketing and sales information/ data handling, farming training and research, and so on is desired.

b) Utilizing Market for Agro-Fishery Industry Development

Counting on the planned Babatñgon regional port (part of CRRP), the market could be expanded to the extent shown in Figure 1.5-2 as Prospective Market Extension with establishment of Guiuan Food Terminal (proposed). At the same time the upgrading of the Guiuan Port is recommended for balanced development of the Area.

In connection with the being implemented new fishery port development in Tacloban, the approved construction of a new fishery port in Guiuan may play key function in the Market. The Tacloban fishery port shall be a trading center for domestic consumption of the region while the Guiuan fishery port is expected to be an exporting hub for the high value fresh marine products including migratory fishes, groupers, lobsters, crabs, abalones, and so on utilizing its serviceable airstrip.

Food processing industry development shall become possible by utilizing the market systems for wider capacity of consumption in and outside the region and strengthened raw material supply. Processing industries includes the high standard slaughterhouses with meat processing businesses. Eastern Visayas Regional Growth Center (EVRGC) as a PEZA economic zone can be a focal point for the development in conjunction with the Babatñgon regional port development.

c) Further Utilization for Commodity Distribution

The logistic infrastructures of the agro-fishery based regional market could be utilized for distribution of commodities imported from the upper-regional/ national economy centers.

Wholesale and retail commercial linkages with logistic infrastructures including enhanced transport system may lower the prices of such commodities for the final clients i.e. local people.

Although it is ambitious establishment of regional integrated wholesale entities specialized to supply necessary commodity items to Sari-Sari Stores with wholesaler prices may reduce their sales prices to the customers.

1.5.3 Agro/ Fishery Enhancement by Crop Diversification and Value Chain Fostering

Second direction is diversification of crops and agricultural activities with considerations for disaster resilience. The activities fall in the direction include not only simple transformation of coconut tree planting to the other trees and/ or crops including inter cropping but also linked cropping with or value chain creation of livestock/ fish-culturing business as well as the market linked cropping/ fishery/ agro-fishery industries stated in the previous section.

There are two approaches of intra community level linkages and inter local/ municipal linkages. Intra community approach is to link corn/ root crop producer within the community and swine/ poultry growers through an outside milling operator as a community development project, while the latter approach is to promote corn/ soy/ root crops production in locals and to connect the other locals' swine/ poultry growers through small scale milling business investments.

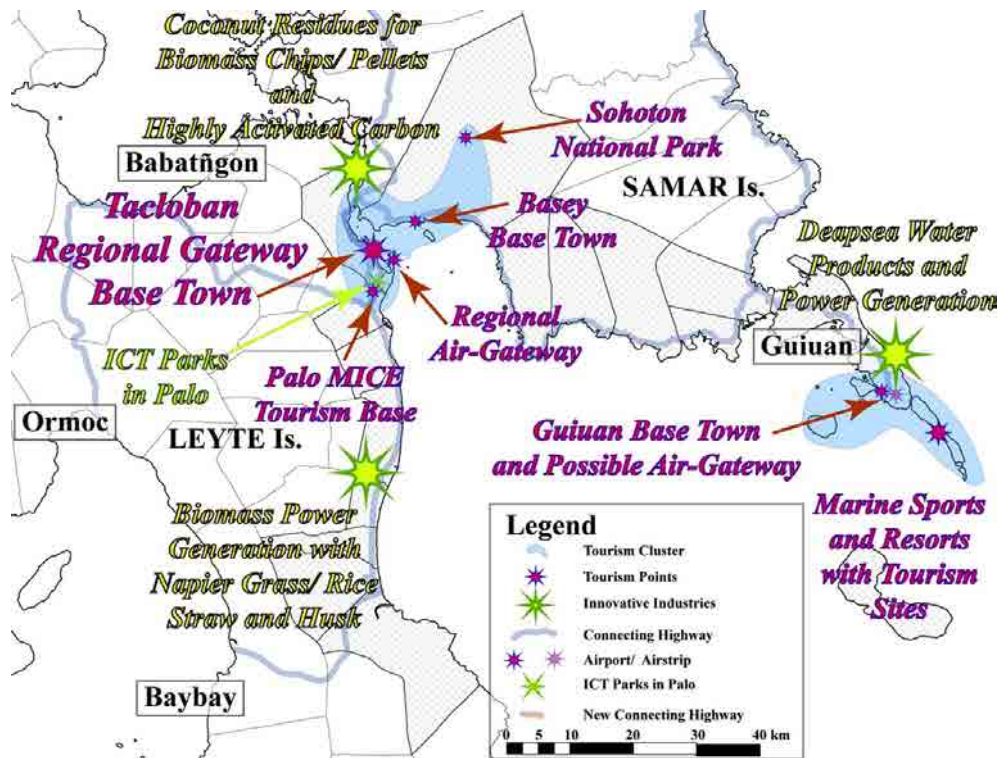
In Guiuan Philippines NGO called EcoWEB is conducting community linkage approach while BCR (Business Recovery/ Resource Center) established under PCCI (Philippine Chamber of Commerce and Industry) and DA are conducting the local-to-local approach.

1.5.4 Coordinated Tourism Promotion and Development with Tacloban Gateway Town

Tourism promotion and development activities in the area have been planned in the Tourism Master Plan of the region and conducted independently by City/ Municipality in basic to establish closed set of tours within their jurisdiction. It is, however, much more attractive for the potential tourist visiting the area to conduct tour much more broader in terms of area, attractions, and experiences.

It is recommended to clarify the roles of the sub-areas and towns such as a) Gateway Base Town of Tacloban with gateway airport, b) Sohoton Geographical Scenery and Local Experience Short Trip Tourism with Base Town Basey, c) Marine Sports and Resort with Tourism Site with Base Town Guiuan, and MICE (Meeting, Incentive, Conference, and Exhibition) Tourism with Base Town Palo embracing regional NGA office agglomeration and provincial office complex (See Figure 1.5-3).

Promotion of the sub-area tourism has to be in conjunction with the Gateway Base Town Tacloban. Then Tacloban has to promote the sub-area tours by its sake for own prosperity since the all the tourists may contribute in its economy in some manner.



Source: JICA Study Team

Figure 1.5-3 Tourism Clusters and Potentials for New Industries

1.5.5 ICT Industry Promotion Utilizing ICT Infrastructure in Palo and Tacloban

ICT infrastructure is already well installed in the area covering integrated part of Tacloban and Palo as same potential performance as Cebu Metropolitan Area. Palo embraces 2 PEZA authorized ICT industrial centers with 1 outstanding BOC (Business Outsourcing Company). There was a seriously damaged call center building accommodated more than 700 employees in one of the ICT industrial center

Promotion of individual and SME (Small and Medium-sized Enterprise) ICT service provider could be an option aside from the alluring investments in industrial parks.

1.5.6 Innovative Technology Based Industry Promotion

There are potentials, which are able to be tapped by use of innovative technologies. Following 3 resources are apparently subject to the innovative technology applications: 1) Coconut residues including fallen trees and their stamps as well as husks and shells for biomass energy source, chips/ pellets, and highly activated carbon, b) Rice husk and straws which are basically wasted currently, and napier grass, which is prospective variety for biomass production and as fodder crop, for biomass power generation, and c) Deep-sea water, which is colder and nutritious comparing with the surface-sea water, for heat-exchange power generation, and food and cosmetics taking the locational advantage of vicinity to Philippine Trench.

Each LGU's direction for development beyond the recovery was discussed based on its location and resources potentials. The necessity of a collective approach as a region/area is recognized.

Chapter 2 Outline of JICA Project Output based on JICA Forum

2.1 General

This JICA Study has been conducting three (3) components (Component 1, 2 and 3) simultaneously since January 2014. In the overall framework that urgently supports the recovery and reconstruction in the typhoon-affected areas. Component 1 conducted policy recommendations and technical support on comprehensive planning for recovery and reconstruction in model areas. Component 2 and Component 3 have been implementing various activities from the viewpoint of urgency in the process of immediate recovery. Such advanced projects can be regarded as pilot projects whose areas and fields were selected as exemplary among subjective needs in order to materialize the proposed policies in Component 1.

Component 2 will implement substantially in 2015 as the Japan Grant Aid Scheme.

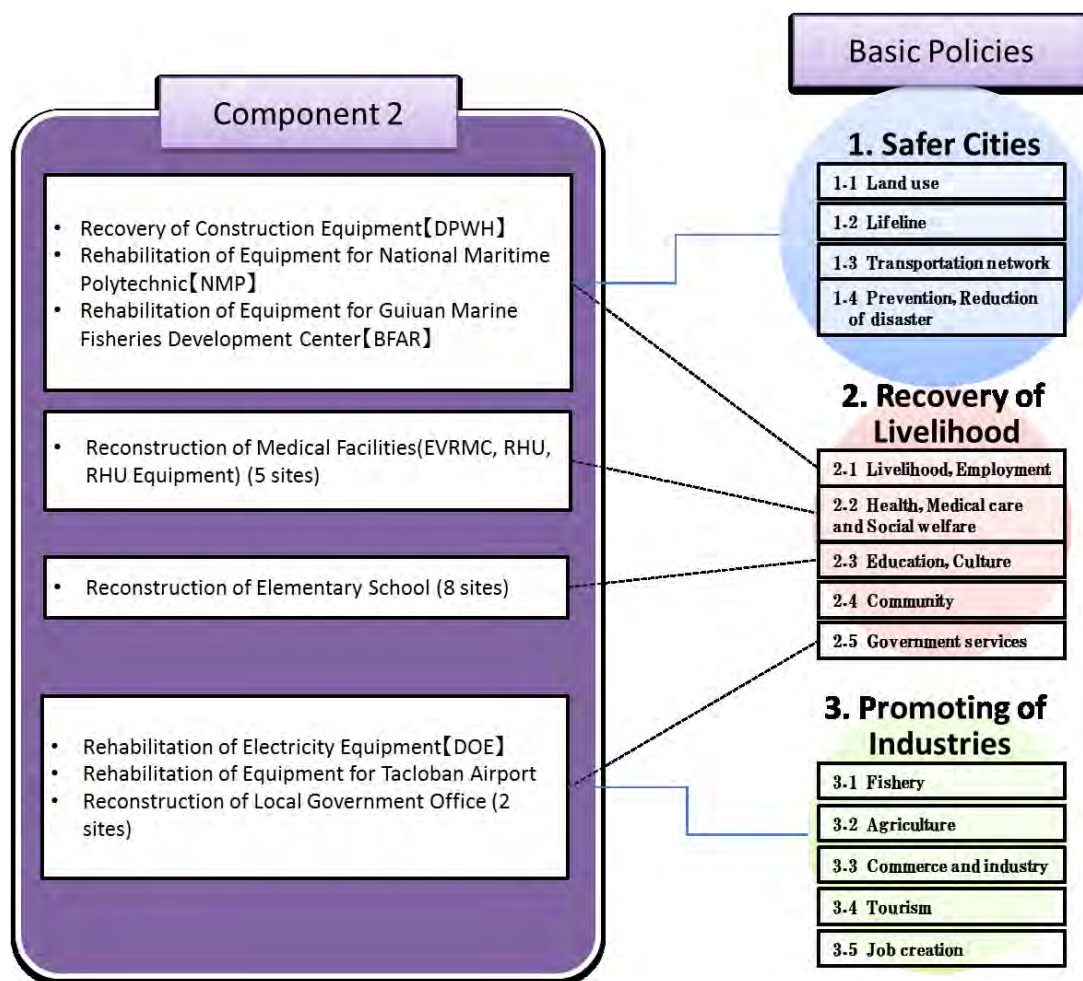
Component 3 has been gaining the outcome to some extent within less than one year to get local people's deep attention while the Component needs continuous activity and monitoring.

The following is the lessons and that which was learned.

2.2 Lessons Learned in Component 2

JICA committed USD 46,000,000 under its "Programme for Rehabilitation and Recovery from Typhoon Yolanda" for Leyte, Samar, and Eastern Samar. The assistance comes with this Component. The Component consists of the construction of disaster-resilient schools, government office complexes, health facilities, livelihood facilities, provision of various technical equipment for an airport and maritime school; provision of power distribution facilities; and provision of debris-clearing equipment.

Figure 2.2-1 shows the relationship between the project in Component 2 and the proposed policy item explained in Part 1 of the Main Report. The projects of Component 2 were formulated by April 2014 to satisfy with the urgent needs in the affected area for immediate rehabilitation, basically. Among the three proposed basic policies, most of the projects are related with recovery of livelihood (recovery of people's daily life). Appropriate projects to match with building safer cities and restoration of the local economy should have the potential to contribute to the reconstruction phase. The designed projects such as the provision of equipment shall contribute to early recovery in damaged utilities.



Source: JICA Study Team

Figure 2.2-1 Relationship of Component 2 with Proposed Basic Policies

Component 2 is expected to implement in 2015 and the outcome should be materialized immediately.

2.3 Lessons Learned in Component 3

2.3.1 Evaluation on Quick Impact Projects

In terms of relevance, effectiveness and impact, efficiency, sustainability, the implemented QIPs can be justified as follows, (refer to Main Report Volume 3 Chapter 3)

Table 2.3-1 Evaluation Rating of Overall QIPs

Item	Rating
relevance	High (Rating: ③)
effectiveness and impact	High (Rating: ③)
efficiency	Fair (Rating: ②)
sustainability	Fair (Rating: ②)

Source: JICA Study Team

Table 2.3-2 Relevance of QIPs to Recovery and Reconstruction Policy

QIP No.	Name of Municipality	Project Name	Major CIP Agency	Facility	Project Purpose	Target Group	Building Safer Cities		Recovering People's Daily Life				Restoring Regional Economy		
							Introducing Technologies in Japan	Structural Measures	Non-Structural Measures	Healthcare	Education	Social Welfare	Livelihood Improvement	Agriculture	Fishery
Type A: Training/Capacity Development for Disaster Resilient Construction Technologies/Management & Function Recovery															
QIP-02	Palo	Recovery of Rural Health Service Support System Through Reconstruction of Provincial Health Office	PHO	PHO Reconstruction	Recovery of PHO System	PHO, RHU, PHO Users	Disaster Recipient Building	Function Securing at Disaster	Function Recovery						Local Industry Vitalization
QIP-04	Balangiga	Training on Disaster Resilient Construction Technologies Through Reconstruction of National Agriculture School	TESDA	National Agriculture School Reconstruction	Training on Construction Technologies	TESDA graduates/trainers, School teachers/trainees	Disaster Recipient Building	Function Securing at Disaster	Training on Japanese Technology						Local Industry Vitalization
QIP-05	Dulag	Training on Disaster Resilient Construction Technologies Through Reconstruction of National High School	TESDA	National High School Reconstruction	Training on Construction Technologies	TESDA graduates/trainers, School teachers/students	Disaster Recipient Building	Function Securing at Disaster	Training on Japanese Technology						Local Industry Vitalization
QIP-10	Dulag	Improving Municipal Capacity for Disaster Resilient Construction Management Through Reconstruction of Slaughter House	Municipality of Dulag	Slaughter House Reconstruction	LGU Capacity Development	LGU, House users	Disaster Recipient Building	Function Securing at Disaster	Capacity Development of LGU Staff						Local Industry Vitalization
QIP-09	Guluan	Improving Municipal Capacity for Disaster Resilient Construction Management Through Reconstruction of Public Market	Municipality of Guluan	Public Market Reconstruction	LGU Capacity Development	LGU, Market tenants	Disaster Recipient Building	Function Securing at Disaster	Development of LGU Staff						Local Industry Vitalization
QIP-11	Mercedes	Improving Municipal Capacity for Disaster Resilient Construction Management Through Reconstruction of Public Market	Municipality of Mercedes	Public Market Reconstruction	LGU Capacity Development	LGU, Market tenants	Disaster Recipient Building	Function Securing at Disaster	Capacity Development of LGU Staff						Local Industry Vitalization
QIP-12	Mayoyog	Improving Municipal Capacity for Disaster Resilient Construction Management Through Reconstruction of Public Market	Municipality of Mayoyog	Public Market Reconstruction	LGU Capacity Development	LGU, Market tenants	Disaster Recipient Building	Function Securing at Disaster	Capacity Development of LGU Staff						Local Industry Vitalization
Type B: Introduction of Disaster Resilient Technologies & Community Rehabilitation															
QIP-06	Salcedo	Reconstruction of Daycare Center for Community Rehabilitation (Vitalization of Peoples' Dialogue)	Municipality of Salcedo	Daycare Center Reconstruction	Vitalization of Community Dialogue	Center users, Community People	Prefabricated Building	Function Securing, Disaster Prevention Education			Function Recovery				Local Industry Vitalization
QIP-07	Guluan	Reconstruction of Daycare Center for Community Rehabilitation (Vitalization of Peoples' Dialogue)	Municipality of Guluan	Daycare Center Reconstruction	Vitalization of Community Dialogue	Center users, Community People	Prefabricated Building	Function Securing, Disaster Prevention Education			Function Recovery				Local Industry Vitalization
Type C: Introduction of Disaster Resilient Technologies and/or Sustainable Livelihood Improvement															
QIP-03	Tolesa	Regenerating Local Livelihoods Through Processing of Agriculture and Fishery Products by Small-Scale Community Groups	Municipality of Tolesa	Construction of Livelihood Activities Support Facility	Livelihood Improvement	Community group	Disaster Recipient Building	Function Securing at Disaster			Promotion		Production Processing	Production Processing	Sales and Marketing
QIP-01	Basey	Improving Livelihood Through Introduction of Disaster Resilient Submersible Fish Cage	BFAR, Municipality of Basey	Submersible Fish Cage for Milkfish	Livelihood Improvement	BFAR, Fishermen's families	Disaster Recipient Facility	Function Securing at Disaster			Promotion		Fishery Cultivation	Fishery Cultivation and Sales	Processing and Sales
QIP-08	Guluan	Introduction of Disaster Resilient Submersible Fish Cage for Lapu-Lapu Culture	BFAR, Municipality of Guluan	Submersible Fish Cage for Lapu-Lapu	Livelihood Improvement	BFAR, Fishermen's families	Disaster Recipient Facility	Function Securing at Disaster			Promotion		Fishery Cultivation	Fishery Cultivation	Sales and Marketing
QIP-15	Tanauan	Community Aquaculture Resources Management by Re-establishment of Oyster Farming	BFAR, Municipality of Tanauan	Oyster Culture	Improvement & Resources Management	Fishermen's families		Function Securing at Disaster	Resource Management		Promotion		Fishery Cultivation	Fishery Cultivation	Processing and Sales
QIP-14	Mercedes	Regenerating Livelihood Through Production of Coco Charcoal Briquette	Municipality of Mercedes		Livelihood Improvement	Farmers' families					Promotion		Production Processing	Production Processing	Sales and Marketing
QIP-13	Taclaban	Promotion of Local Products to Improve Livelihoods for the Survivors of Typhoon Yolanda	City of Tacloban		Livelihood Improvement & Market Promotion	Production/sales workers (QIPs-1, 3, 14, 15)					Promotion				Sales and Marketing

Source: JICA Study Team

Table 2.3-2 shows the relevance of QIPs to Recovery and Reconstruction Policy which was proposed in Part 1 of Main Report. The QIPs are fully relevant and falling into the recovery and reconstruction policies.

In the fifteen (15) Quick Impact Projects, public facilities have been restored and local livelihood of disaster victims have been regenerated introducing disaster resilient technologies and management. The implementation of the QIPs is consistent with the three (3) principles of development policy and needs for Recovery and Reconstruction from Typhoon Yolanda both during the planning stage and ex-post evaluation. The relevance of QIPs was “high”. (Rating: ③) The QIPs mostly achieved the planned project purposes, judging from the results of objectively verifiable indicators set in each QIP. Although expression of some of objectively verifiable indicators in QIPs is delayed, which is due to the delay of completion of the building construction, it is expected to express in the future immediately. Positive impacts can be seen in some of the QIPs. The effectiveness and impact of QIPs was “high” . (Rating: ③) The project cost was kept within the plan, but the project construction period was longer than the plan. The efficiency of the QIPs was “fair” . (Rating: ②) It is necessary to support and to strengthen the activities continuously for sustainability of QIPs. The sustainability of the QIPs was also “fair” . (Rating: ②)

In light of the above, these QIPs are evaluated to be “satisfactory”. (Overall Rating: B)

2.3.2 Lessons Learned from the Quick Impact Projects

Table 2.3-3 is an overview of lessons learned from the QIPs (for the detailed description, refer to Main Report Volume 3 Chapter 3).

For the construction work aspect, there are a kind of common lessons learned were derived such as concreting, foundation, scaffolding, material issues and safety and payment conditions. These are their issues to be solved immediately, so that further and continuous capacity development is needed.

Regarding the aquaculture projects, significant potential in integrating of milkfish farming and processing in collaboration with the women’s group was revealed as well as be sufficient income generation to boost the whole economy.

Table 2.3-3 Lessons Learned from QIPs

Objectives	Lessons Learned
(1) Regenerating Livelihood	<ol style="list-style-type: none"> 1. Cooperation with Local Institutions and People in Solving a Conflict in Installation of Cages with Local Fish Owners 2. Holistic Approach to Restore the Agricultural and Fishery Production and Practical Countermeasures to Prevent Delay in Stocking Fingerlings 3. Flexible Implementation to Countermeasure Unexpected Shortage of Fingerlings by Supply of Change Net Materials of Smaller Mesh Size 4. Communicating with Target and Other Local Population in Organizing Fish Farming Associations 5. Raising Awareness of Women’s Association Members 6. Utilization of the Tolosa Multi-Purpose Livelihood Center for Increased Production 7. Effect of Political Conflicts 8. Supporting Locally Developed Technology for Long Term Sustainability 9. Make Haste Slowly in Mitigating a Conflict Between Utilization and Conservation of Natural Resources 10. Tasting and Sales of Processed Products in Local Events 11. Access to External Supporting Schemes 12. Duplication with other Supporting Activities 13. Developing Ownership for the Activities through Obtaining Cash Benefit 14. Utilization of Coconut Fields after Clearance of Debris 15. Working with Other Institutions for Finding Financial Partners for Operation of Fish Farming 16. Solving Problems by Active Participation of Beneficiaries in Control of Culture Area and Spacing Between Milkfish Pens 17. Increased Cost in Procurement of Construction Materials from Local Market 18. Practical Details for Developing an Insurance Package for Milkfish Farming Operation to Complement the Physical Structural Weakness 19. Modification in the Oyster Seed Collection Activity that could Result in an Expansion of Impacts 20. Potential Economic Impact of Milkfish Production for Future Planning 21. Future Potentials in Integration of Milkfish Farming and Processing and Required Continuous Supports for the Women’s Association
(2) Construction Work	<ol style="list-style-type: none"> 1. Quality Identification of Steel Material 2. Concrete Aggregate 3. Quality Assurance of Welding Works 4. Control of Concrete Workability 5. Support Installation

Objectives	Lessons Learned
	6. Foundation Works and Installation of Scaffolding 7. Fixing of Column Formwork 8. Site Inspection 9. Safety Management 10. Alternative for Important Works 11. Payment Condition 12. Contractor's Skill for Documentation 13. Technical Transfer to LGU Engineer

Source: JICA Study Team

2.4 JICA Forums on March 2, 2015 in Tacloban and March 5, 2015 in Manila

2.4.1 General

A series of JICA Forums were held in Tacloban and Manila on March 2 and March 5, 2015 as the 3rd Seminar at the end of 1st year during the Study. This forum aimed to share the outcome of the JICA Project, introduce the progress of QIPS and report the result of the technical support on the planning for recovery and reconstruction in the model areas.

2.4.2 Tacloban Forum

The Tacloban Forum was held in March 2, 2015 at Leyte Park Resort inviting key officials from eighteen LGUs and regional representatives from line agencies and international NGOs. The forum program was composed of the presentation on the outcome of the JICA Project by the JICA Study Team and LGUs, and the panel discussion.

The outcome in the JICA Project was focused on the following three points:

1. By the preparation of hazard maps and teaching the usage of them, the fine tuning of land use plans and evacuation plans including evacuation centers, evacuation routes and an evacuee registration system, the enlightening of the people's understanding on disaster risk reduction and early response to disaster were enhanced.
2. Capacity development on disaster resilient construction supervision and skill training were progressed. Roofing and welding specialists dispatched from Japan trained the teachers and graduates from TESDA and technical officials of LGUs about the disaster resilient building construction. In addition, educational materials such as a technical handbook and video films were prepared to reflect into the TESDA curriculum.
3. Successful pilot projects for livelihood and income recovery such as food processing, fish culture and charcoal production were completed.

LGUs response to the recent typhoons and tropical storms such as typhoon Ruby and tropical storm Seniang that hit the Leyte Gulf in December 2014. The presentations were made by Tacloban CDRRMO and Guiuan MDRRMO. Both Tacloban and Guiuan strongly expressed the usefulness of the hazard maps and simplified topographical maps in terms of accuracy provided by JICA. During the early response to typhoon Ruby, significant early evacuation was conducted in the course of leadership of mayors and LGU officials.

The lesson learned in the JICA Project and the Tohoku visit in December 2014 to January 2015 was discussed in the panel discussion among officials from the five LGUs, regional office directors and provincial agriculture offices. The LGU officials, regional office directors and provincial agriculture offices who visited Tohoku quoted their experience in Japan to share with the forum participants about the collaborative DRRM planning activities among the people and the government, community operated evacuation centers, the mobilization of volunteers, oyster aqua culture technology, and sales business promotion as potential examples to introduce in the Philippines.

The conclusion of the panel discussion was summarized as the message to the Manila Forum on March 5, 2015, which representatives from the central governments attended.

Table 2.4-1 Key Messages from the Tacloban Forum on March 2, 2015

<p>1) Key Project Outcome</p> <ul style="list-style-type: none"> Modified land use, enhanced people’s awareness to disaster prevention, realized early responses to disasters by use of hazard maps Developed human resources for typhoon resilient building Secured people’s initiatives for the recovery of livelihood <p>2) Key Lessons Learned</p> <ul style="list-style-type: none"> Build common understanding on the necessity of disaster prevention among LGU officials by use of hazard maps Seamless improvement of evacuation plans Consolidate livelihood means, secure and expand market <p>3) Key Messages to strengthen ‘build back better’</p> <ul style="list-style-type: none"> Update hazard maps by LGUs for proper disaster prevention: update evacuation centers/routes Clarify the prospects of budget disbursement from the central government for approved CRRP Ensure appropriate structural measures taken by smooth coordination between the central government and LGUs Identification of an organization for the operation and maintenance of hazard maps
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Source: JICA Study Team

2.4.3 Manila Forum

The Manila Forum was held on March 5, 2015 at the Intercontinental Hotel inviting key officials

from central governments such as DILG, OPARR, NEDA and international NGOs. The forum program was composed of the presentation on the outcome in JICA Project and the result of Tacloban Forum by the JICA Study Team and LGUs, and the panel discussion.

In the panel discussion, the following questions were given by the moderator:

- How to proceed sustainable collaborative activities between LGUs and the central government until the JICA Project terminates.
- How to materialize a bottom up approach; land use and DRRM planning by using hazard maps, human capacity building, recovery of livelihood and sales promotion

In the panel discussion, the following comments were provided by the central government and Tacloban City:

- Identification of safe zones is not an easy task, however, with the help of scientific hazard maps LGUs can conduct it.
- All LGUs should have hazard maps and the capability to translate it to zoning ordinance. Constant capacity building for the planning activities is inevitable.
- Updating of the hazard maps is a kind of burden for LGUs. In particular, the landslide which happened in Dec. 2014 was a new hazard in Tacloban, however the city does not have the capacity to deal with it.
- For DRRM planning and operation, a full time CDRRMO should be assigned. For this issue, a proper DRRMP program is to fund it.
- Zero causality as well as zero evacuation must be achieved.
- Regarding the restoration of the economy in the affected area, even though it takes time, they should know how to strengthen the economy faster.
- Intergovernmental collaboration is important, in particular, the relationship between the Municipalities and Provincial Government should be strengthened. In general, the project/program of recovery and reconstruction are separated into clusters in the central government (OPARR), but it is a little difficult for LGUs to respond and implement.
- Central governments are expected to make standard rules, roles and a DRRM manual for LGUs.

The officials who visited Tohoku, Japan expressed the following comments:

- The camp (shelter) management in Japan is interesting, in particular community involvement in managing evacuation centers with volunteer spirit.
- Recovery and reconstruction cannot happen overnight. Efforts should be done to tackle those issues while it takes a long time.

- Psychosocial aspect of the disaster-affected people is properly cared for.

During the forums, the outcomes in the JICA Project were shared among stakeholders in the Philippines. It is expected that the experience in the JICA Project will be shared by the stakeholders in the country.

One of the most significant outcome of the JICA Project was that TESDA is planning to apply the revised curriculum in all regional schools and to use the JICA Project hand book in the training. Also TESDA proposed to share the curriculum and the handbooks with other central government organizations.

The GOP expressed sincere desire on the continuation of the JICA Project.

Chapter 3 Recommendations

3.1 General

The Philippines encountered typhoon Yolanda and gained various lessons learned, paying a heavy price. However there are countless issues which remain for the people living in disaster-prone areas like Japan, as the frequent occurrence of serious natural disasters in many countries will happen in the future. It can be pointed out that it is impossible to eliminate the damage by disasters so it is better to focus on disaster prevention and mitigation, which will help the efforts toward reconstruction after disasters.

Just after a disaster happens, when the area loses a lot of things, the actions towards reconstruction starts. The Philippines knows their extent of vulnerability against natural disasters and concentrate on the daily activity of disaster prevention and share the basic policies on reconstruction composed of community activity, enhancement of social welfare and education, and the restoration of local economy contributing to recovery of livelihood resulting in success for the next generations.

3.2 Basic Recommendations

At the end of 1st year of the JICA Study, the following key messages were confirmed among all the stakeholders at the JICA Forum sin March 2 and 5, 2015:

- Update hazard maps by LGUs for proper disaster prevention: update evacuation centers/routes
- Clarify prospects of budget disbursement from the central government for approved CRRP
- Ensure appropriate structural measures taken by smooth coordination between the central government and LGUs
- Identification of an organization for the operation and maintenance of hazard maps
- Consolidation of livelihood means, securing and expanding markets

The JICA Study Team recognizes the recommendations to be prepared based on the above messages in order to secure the sustainability of the outcome by the JICA Project towards the realization of BBB in the Philippines.

The recommendations are as follows, while they are of course deeply interrelated, considering the viewpoints of City/Municipality, Province/Region and Central Government.

3.2.1 Capacity Development of LGUs for Update hazard maps for proper disaster prevention such as update evacuation centers/routes

As confirmed in the Forums, the proper DRRM planning by each LGU is expected such as

updating hazard maps and seamless efforts to update evacuation plans. LGU's DRRM plan is expected to be integrated into CLUP as the mother plan of the LGU.

To do this, capacity development of LGUs is highly necessary as explained below.

(1) Institutional Capacity Development

The governments of cities and municipalities based on the Local Government Code should play major roles on public policies for reconstruction and formulate necessary plans and programs together with local people under the assistance from the central governments.

The improvement of organization, staffing and instruction flow should be necessary in order to work together with local people on a daily basis, revision of local plans, monitoring of work progress and immediate response to emergency.

For example,

- Preparation for disaster prevention in normal time (distribution and education of hazard maps, providing evacuation centers, evacuation routes)
- Planning of local plans (CLUP, CDP, DRRM) based on scientific hazard assessment
- Monitoring of Progress of Planning, Evaluation of Programs and Governance
- Improvement of organization, staffing and instruction flow

(2) Capacity Building of DRRM in Each LGU

LGUs lack in human resources for disaster measures including recovery and reconstruction and risk management. Especially in small scale LGUs, staff with the capacity and technical knowledge of disasters is quite limited. This is one of the reasons why preparation before a disaster and emergence response after the disaster are not always effectively implemented.

Therefore, in a middle or long term time frame, it is necessary to foster human resources with capacity and technical knowledge about disaster reduction and risk management.

Thus, in order to foster officers that can take charge in disaster reduction and risk management on a provincial level, an academic education of disaster reduction and risk management against officers in the mainstay should be considered. Dispatching LGU officials to universities and programs of collaboration with universities are appropriate options.

By receiving education, it is possible to construct a network between the officers in charge of disaster reduction and even in a hazard that effects a broad area like typhoon Yolanda did, it is possible for several LGUs to cooperate and arrange effectively for recovery and reconstruction. Plus, it will be easy to construct a wide range risk management system in the future.

(3) Importance of Community

There has to be a broader and a more people-centered preventive approach to disaster risk

reduction practices need to be multi-hazard and multi-sectoral based, inclusive and accessible in order to be efficient and effective.

LDRRMP at the barangay level should be divided into the plan during normal times and the plan during the disasters, in which the organizational arrangement and the procedure of necessary actions are specified. During normal times, prevention measures, education, training, and review of the actions should be done in order to enhance the capacity of response to the disaster, and deepening the relationship with governmental organizations and NGOs and the publicity actions should proceed. During a disaster, the necessary actions by whom, of what, to what extent and how should be specified for the phase of preparedness, early response, emergency response, recovery and reconstruction.

In addition, the check of emergency storage such as food, the assessment of safety of evacuation center, and the promotion of disaster education and training should proceed.

(4) Inheritance of the Experience of Disaster

Disaster might happen again soon or may happen again after a long time, after the experience is forgotten.

In countries and areas like Japan where natural disasters happen every year, it is often that disaster reduction measures which are imprinted in the lifestyle and festival, and the system is based on the past experience of disaster.

However, because of regeneration and inflow of residents from other areas, disaster experiences in the community are easily forgotten.

In order to never suffer miserable disaster, it is necessary to root the experience to the society as a culture in the lifestyle of residents and companies and into the administrative sector. It is important to think about disasters in a comprehensive way and mature “disaster culture” as an inheritance to the next generation.. This should not be done only by the local community but also on the country level.

For example;

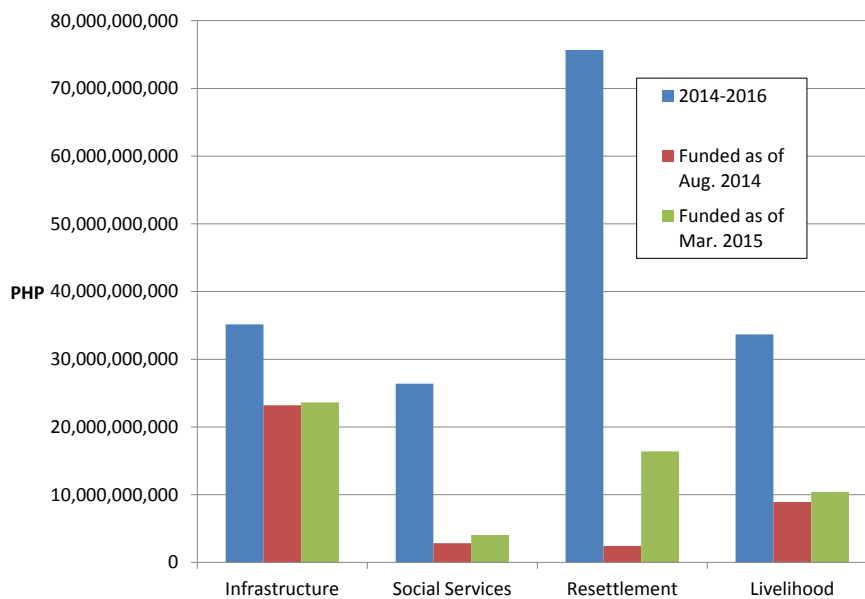
Enlightenment of disaster reduction education and inheritance of disaster memorials (release, preserve and arrange disaster records, preparation and preserving of memorial facilities especially for things which needs a vast amount of money to conserve and preserve, support from the country is needed, the idea of a disaster museum on a country level)

Preservation and verification of disaster response and creation and updating of manuals as an organization.

Introduction of a disaster reduction point of view in ordinary plans and systems such as the use of land, social welfare and education.

3.2.2 Clarify Prospects of Budget Implementation from Central Government for Approved CRRP

OPARR’s information management system, the electronic Management Platform: Accountability and Transparency Hub for Yolanda or eMPATHY, was already public. As for the eMPATHY in March 2015, the funded amount in the CRRP is illustrated in Figure 3.2-1 by cluster. While the OPARR has done the best efforts to assure the accountability and transparency in terms of the progress of recovery and reconstruction, further rapid implementation is expected in the clusters in particular, the social services, resettlement and livelihood.



Source: JICA Study Team prepared from CRRP, eMPATHY in March 2015

Figure 3.2-1 Funded Amount of CRRP Project

3.2.3 Ensure Appropriate Structural Measures Taken by Smooth Coordination between Central Government and LGUs

The GOP decided to implement the project of road heightening and tide embankment from Tacloban to Tanauan which was proposed in the JICA Study. In the course of the planning, design and implementation of the project, DPWH Region VIII office is expected to take a lead role and the Project Implementation shall be supported by the JICA Study Team. The project can be regarded as a pilot project in the Philippines in terms of the introduction of a structural measure for the area devastated by the storm surge in order to build safer cities.

The project is expected to be immediately implemented by DPWH and the experience in the course of the implementation be expanded in other storm surge prone areas in the Philippines.

With regard to the above, in April 2015 the memorandum order 79, providing for the institutional mechanism for the monitoring and of rehabilitation and recovery programs, projects, and activities

(PPAs) for Yolanda-affected areas, was signed by the President. Section 1 of MO 79 states that the NEDA Director-General shall assume the coordination, monitoring, and evaluation of all disaster-related PPAs and ensure full implementation of the said MO.

3.2.4 Identification of an organization for the operation and maintenance of hazard maps

Hazard maps, in general, are expected to be updated and modified if necessary, periodically based on the latest disaster event happening and substantial physical change in area. Hazard maps are prepared based on some specific conditions in terms of the hazard occurrence. After a hazard map is disseminated, if a significantly different hazard occurs in terms of its scale and aerial patterns, the current hazard map can be translated carefully and be considered for an update and modification. Also, the topographical map as the supportive background information of the hazard maps are expected to be periodically updated because the physical conditions such as land use, road network, flood control facility, etc. are changing. The JICA hazard maps are not an exception for this issue and can become outdated.

Regarding the preparation and dissemination of hazard maps in the Philippines, a Joint Memorandum Circular (DENR-DILG-DND-DPWH-DOST) was issued in late 2014¹. According to this, DOST is expected to prepare and make available the hazard maps for the 171 cities and municipalities affected by Yolanda, involving the storm surge and other natural disasters at a scale of 1:10,000 or better. DOST is supposed to provide DENR-NAMRIA with all hazard maps for integration into a multi-hazard map and inclusion in the Geoportal. The Geoportal will be managed by DENR-NAMRIA in coordination with DILG, DPWH, DND (OCD) and DOST for access of all concerned. The concept of the JMC 2014 is illustrated in Figure 3.2-2.

In this line, at the central government level, hazard maps in the area affected by Yolanda is supposed to be basically prepared by DOST and managed by DENR-NAMRIA.

As the JICA Study Team worked with LGUs in the concerned area affected by Yolanda, the users of the hazard maps are communities, LGU officials and the regional office of line agencies and international communities. Their concerns are how to identify the unsafe and safe zones, how to prepare evacuation plans, and how to enlighten the people's awareness for DRRM. In this sense, such local information must be reflected into the updating work of hazard maps by the central government. However, there are some gaps in terms of the capacity of the central government in order to grasp the local conditions for each LGU as the JICA Study Team conducted its Study in 2014.

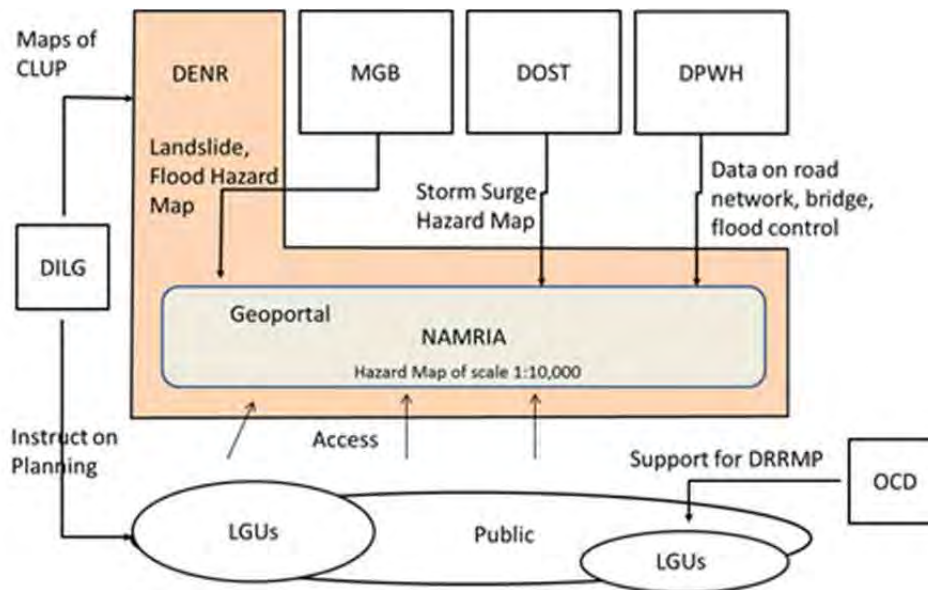
The challenging issues are how to collaborate among the LGUs and the central governments in

¹ Joint Memorandum Circular (DENR-DILG-DND-DPWH-DOST) , Adoption on hazard zone classification in areas affected by typhoon Yolanda (Haiyan) and providing the guidelines for activities, 2014

particular DILG, OCD and DOST in terms of reflecting local conditions into hazard maps.

NEDA Region VIII suggests the involvement of Visayas State University (VSU) to cater to this process. The VSU is the Climate Change Research Center of Eastern Visayas.

Scientific hazard maps can be prepared by DOST for each LGU, as already materialized in project NOAH. Each LGU should receive the hazard maps and have the capability to understand and interpret their own hazard extent and make necessary measures by themselves.



Source: JICA Study Team

Figure 3.2-2 Concept for Hazard Map Management in JMC 2014.

3.2.5 Consolidation of livelihood means, securing and expanding markets

The recommendations for this issue are described in details in the Main Report Volume 3 Chapter 4.

3.3 Additional Recommendations

In the course of 1 year’s JICA Study in the Philippines, JICA Study Team would like to leave the following additional recommendations for the people in the country to enhance the recovery and reconstruction from the future disasters.

3.3.1 Social Sectors as Key Stakeholders during Disasters

Given the limited resources of the social sector at both the LGU and barangay levels, the recommendations are prioritized, utilizing the existing resources and mechanisms. They are derived from the common gaps observed in the five target LGUs.

(1) Health

While many health professionals received training on mental health care provided by DOH and NGOs after Yolanda, the patients are still treated in their houses and there are no mental health institutions for inpatients yet. Mental health institutions for inpatients should be established as soon as possible. In addition, the collaboration between DOH and DSWD is crucial and should be strengthened to identify the patients and providing them with psychosocial/mental health care in a systematic manner.

The shortage of health professionals at the LGU level should be resolved to address the problem of unsafe deliveries and encourage pregnant women to utilize birthing facilities at barangay health stations. Currently, municipalities have no or only one municipal health officer while almost all of the health facilities have increased their services. Establishing a maternity waiting home which enables pregnant women from remote areas to stay 1-2 days before delivery at a main health center can also be one of the solutions to reduce unsafe deliveries.

Although data management such as the establishment of an electronic database system was planned by LGUs even before Yolanda, it remains to be a challenge. Strengthening data management should be accelerated by providing training to responsible health personnel and address the lessons learned from Yolanda where all the important data was only kept as paper documents and were washed out.

The LGUs have made progress in formulating Health Emergency Management Plans incorporating emergency response training for primary health care workers and the procurement of vehicles and equipment to give capacity to the health facilities in times of disaster. However, these plans should be integrated into the municipality plans as it is required to cooperate with other sectors during the disaster. Coordination with the social welfare and other sectors in handling the response and mobilizing the community is one of the vital aspects that need to be strengthened.

(2) Education

For effective capacity building on DRRM, the linkage between schools and surrounding communities should be strengthened by jointly updating evacuation plans and conducting drills from the time of a normal setting.

While most of the relocation sites are required to increase the numbers of classrooms and teachers as a result of the movement of IDPs, many have yet to come up with concrete plans and budget. LGU and DEPED's urgent action is needed to ensure that the vulnerable children will have appropriate access to education.

While psychosocial support was provided widely to school teachers and students, they were often limited to one-off activities such as stress debriefings and seminars. Manuals for psychosocial care should be developed and teachers should be systematically trained for sustainable strengthening of education in emergencies.

(3) Social Welfare

The lack of LGU's prioritization on social welfare particularly in light of the shortage of manpower should be addressed by MSWD's advocacy targeting their Mayor's Office. Some of the MSWDOs need to approach them more proactively to address the current gaps.

Some of the WFS are underutilized with activities limited to awareness-raising sessions. MSWD should utilize them as a venue for multiple services for vulnerable women and children, including the provision of microfinance, a GBV referral service and livelihood training. DSWD should take stock of the WFS and showcase their good practices for replication in other areas.

While good progress has been observed in revitalizing community support mechanisms including VAWC Desks, BCPC and PWD Associations, it is limited to some training and awareness-raising activities. In order to ensure it will not result in another inactivation, the effective systems of monitoring by active community members and supervision by municipal actors must be established.

While some LGUs including MSWD and the police have collected data on GBV, it was done in different formats and by different definitions. As a result, the issue of GBV in the aftermath of Yolanda has not been analyzed with consistent evidence to understand the impact on affected women and children. DSWD should strengthen data management on GBV by developing a common system and train relevant officials.

(4) Solid Waste Management

Every LGU recognizes the necessity and importance to formulate the "Ten-year Solid Waste Management Plan" and has started the process. However, they still need technical support from the EMB and/or international donors to complete the formulation in compliance with the Republic Act (RA) 9003.

Every LGU is studying the development of sanitary landfills in compliance with RA 9003. However, the lack of funds and technical knowledge impedes the smooth implementation except for in Tacloban. Therefore, the financial and technical assistance to LGUs is recommended.

The success of promoting 3R (Reduce, Recycle and Re-use) largely depends on the cooperation of the citizens. Public awareness campaigns must be initiated as early as possible and be implemented in a sustainable way by the respective LGUs.

3.3.2 Regionally Coordinated Planning Process

The coordinated efforts for re-development are indispensable to materialize the options especially for the Leyte Gulf Area, since the area involves three provinces. At the same time the planning framework of the region is not directly connected with provincial/city plans. While the provincial plan reflects its jurisdiction's municipal/city plans in the manner like an aggregate of the plans, the regional plan is not necessarily reflective of the provincial plans.

This means that there are limited provincial level coordinating opportunities among governments for common goals retaining their developmental opportunities within their jurisdiction. This is one of the major constraints for the Leyte Gulf Area for re-development.

Currently RDC (Regional Development Council) VIII has commenced the activities to overcome the above-mentioned problems in association with PCCI-EV (Eastern Visayas). The planning activities aiming at the preparation of RDP employing people inclusive to a development approach with measurements of objectively verifiable achievement indicators are being supported by PIDS (Philippine Institute for Development Studies) in technical aspects and GIZ in financial. The activities include efforts to integrate provincial level development plans/initiatives into RDP.

3.3.3 Utilization of Regional Academic Resources Including Laboratory Establishments

Currently the involvement of the regional academic entities such as state universities and colleges is limited though they have ample experience and knowledge regarding local resources through their academic researches and pragmatic surveys including CBMS (Community Based Monitoring System) survey implementations.

Their experience and knowledge may contribute to RDP achievement measurement including baseline surveys and a study on identifying prospective crops for diversification. Their academic advantage has to be utilized for the establishment of certified testing laboratories for facilitating shorter time requirements in attaining official certificates and experimental results for the areas including food quality and agricultural soil composition testing.

3.3.4 Establishment of a Province Level Time Line Disaster Risk Reduction Management Plan

Establishment of province level time line disaster risk reduction plan should be materialized. The basic concept of a so-called time line disaster risk reduction management is to clarify until when, by whom, how and what to do in advance in order to make each stakeholder take proper action before the occurrence of a large disaster. This concept can be found in the DILG-NDRRMC LGUs Disaster Preparedness Manual, Typhoon Edition v.2. In this manual, at 48 hours in advance, the guideline for each stakeholder is shown in terms of preparedness. A more detailed time line, such as 36 hours, 24 hours and 12 hours should be defined to give a concrete action image to each stakeholder. Also the necessary actions after the disaster such as emergency relief, emergency transportation and disaster response should be included in the time line DRRMP.

While the overall framework for the time line DRRMP should be prepared by the upper level such as a province or region, each stakeholder should consider the time line DRRMP from their own viewpoint. Family, community and the barangay should consider the concept of the time line in the DRRMP.

3.3.5 Strengthening the National Institutional Framework for Recovery and Reconstruction

(1) Adjusting Roles and Functions of the Center, Regions, Provinces, and Cities/Municipalities in Recovery and Reconstruction

In Yolanda's case, the recovery and reconstruction efforts have been concentrated in mainly two levels of the central government and city/municipality levels, in line with the institutional framework of the Philippines. In order to strengthen the national institutional framework for recovery and reconstruction, it is necessary to evaluate and adjust the roles of each of government institution in the process for recovery and reconstruction, based on the reconstruction process since November 2013.

Due to its significant impact across the regions of Visayas, Bicol and Mindanao, OPARR was established as a task force for the recovery and reconstruction and took the lead in the preparation and evaluation of rehabilitation and reconstruction plans of LGUs, and coordination and monitoring of the programs and projects for that. Meanwhile, the LGUs, i.e., cities and municipalities, are the main actors of recovery and reconstruction work on the ground, pursuant to the Local Government Code of 1991 and RA 10121. Thus, a number of UN organizations and bilateral donors have provided technical assistance to the national level in Manila as well as cities and municipalities on the ground. In particular, significant inputs were provided to cities and municipalities to build resilient communities through mainstreaming DRRM in various aspects in the reconstruction process.

Behind the active involvement of OPARR and the cities/municipalities in recovery and reconstruction efforts, the roles of NEDA, the vice chairperson of the rehabilitation and reconstruction, and the middle level institutions of regions and provinces have been blurred or weakened. Nevertheless, in the recovery and reconstruction process of mega-disasters like Yolanda, consolidated and coordinated actions at the regional level are indispensable to recover the regional economy from its devastation and to build strategic disaster prevention measures and disaster resilient infrastructure from a long-term perspective. Furthermore, in order to support the reconstruction process in cities and municipalities, technical assistance and support from provinces are essential to supplement the deficiency of resources and capacity of the LGUs. Mainstreaming DRRM in CLUP requires coordination of land use plans of neighboring LGUs. A province can encourage and facilitate cooperation among adjacent LGUs in the construction of disaster mitigation measures, such as massive tide embankments or evacuation centers in one watershed area. Hence, it is essential to adjust the responsibilities and functions of NEDA, regions, provinces, and cities/municipalities, and to enhance the power and capacities of the first three in recovery and reconstruction.

(2) Capacity Building of NEDA on Recovery and Reconstruction

In the recovery and reconstruction from Yolanda, the mandates assigned to OPARR overlapped with the roles of NEDA as vice chairperson of recovery and reconstruction. As a result, NEDA's contribution to the recovery and reconstruction from Yolanda has been limited to supporting and complementing OPARR, such as the preparation of RAY, provision of inputs and coordination for CRRP, and monitoring and evaluating the rehabilitation and reconstruction projects. Under the Memorandum Order No. 62, s. 2013, it was OPARR that coordinated the overall rehabilitation, recovery, and reconstruction efforts, including the instructions on the preparation of RRP and programs of LGUs from cities and municipalities to provinces, funding arrangement, evaluation, and consolidation of them into CRRP. Though it is understandable that the foundation of a special task force is assumed to be necessary for recovery and reconstruction from a mega disaster like Yolanda; however, the creation of the task force took away the opportunities of a certain extent from NEDA that could have learned invaluable lessons from the involvement in the disaster reconstruction. One reason pointed out by several stakeholders as the weak presence of NEDA in the recovery process is NEDA's deficiency in sufficient expertise in recovery and reconstruction planning. Thus, it is essential to enhance the capacity of NEDA for recovery and reconstruction for fulfilling the mandates assigned in RA 10121.

The necessary topics for capacity building for the improvement of recovery and reconstruction include but are not limited to: preparation of a manual for recovery and reconstruction planning, improvement of PDNA, monitoring and evaluation of recovery and reconstruction processes, and coordination and integration of recovery and reconstruction into regional and local government plans.

(3) Clarification of Roles of Region and Province

RA 10121 Section 15 stipulates the lead agencies in accordance with the impact of a disaster. In the case of Yolanda affecting several regions, NDRRMC is supposed to take the lead in response and recovery from a disaster, and accordingly, the national level will provide guidance and direction in the recovery of such a devastating level of disaster. Yet, it does not mean that the other levels of LDRRMCs and governments, namely, the regions and provinces have minor roles in the recovery and reconstruction. Rather, all the other intermediary LDRRMCs and governments shall be activated and coordinated in the reconstruction efforts. The lessons from Yolanda have suggested the need to strengthen the roles of the region and provincial levels in the recovery and reconstruction process.

During the aftermath of a mega-disaster like Yolanda, a large amount of investment is required for faster recovery of the regional economy. In order to strengthen the resilience of physical, social and economic structures of a region, integrated efforts at the provincial and regional levels are essential, in addition to the grass-root level activities in cities and municipalities as well as barangays. It is worth mentioning that a disaster provides a rare opportunity to restructure

economic, physical and social frameworks. The recovery and reconstruction policies in this JICA Study suggest the alteration of regional economic structures, such as the departure from mono crop culture to diversification of agriculture, and promotion of sustainable fishery, tourism, and new industries. It is less likely that cities and municipalities have a long-term strategic perspective in the recovery and reconstruction and consider the enhancement of regional disaster resilience beyond their boundaries. In fact, the RRP of many of cities and municipalities consist of the projects for rehabilitation or reconstruction of the damaged facilities and equipment. The disaster risk reduction and mitigation measures to enhance regional resilience proposed in post-Yolanda reconstruction has not been considered except for the structural measures of tide embankments and road heightening proposed by the JICA Study. Thus, it is crucial that the regional and provincial level governments not only offer technical assistance to cities and municipalities but also to review and indicate the regional recovery and reconstruction strategies including measures to enhance regional resilience against disasters, which would be eventually reflected in the regional development goals and directions.

To strengthen the coordination and integration of recovery and reconstruction beyond the city and municipality level, RDRRMCs and RDCs as well as OCD and NEDA at the regional level, and PDRRMCs and provinces shall be mobilized and activated. Strong initiatives and leadership in recovery and reconstruction at the region and/or provincial levels based on the vibrant actions at autonomous cities and municipalities will accelerate the reconstruction and development, by enhancing cohesive regional resilience, and creating unique characters and attractiveness for a region/province as a whole.

(4) Promotion of Inter-LGU Cooperation and Regional Linkages

Besides integration and coordination at the regional and provincial levels, building inter-LGU cooperation partnerships and regional linkages is an effective strategy to achieve faster recovery and reconstruction after a disaster and to address disaster risk and vulnerability. To make up the deficiency of capacity and resources of each LGU, neighboring municipalities can prepare a MOA for sharing resources and equipment at the time of an emergency.

For example, two programs under the Metro Naga (Bicol Region) Development Council, the Metro Naga Equipment Pool and Metro Naga Emergency Rescue Service are designed to cooperate in sharing heavy equipment shared by Naga City and rescue operation with the radio network and ambulance services among sixteen LGUs in Metro Naga. Inter-LGU cooperation can be developed in accordance with watershed, economic integration, geo-hazard characteristics, etc. in the areas of but not limited to the sharing of equipment and facilities, technical assistance and human resources, relief goods and materials, and the like.

In order to build a safe and resilient physical environment, inter-LGU coordination is necessary in the coordination of the planning of countermeasures for DRRM. The type and location(s) of countermeasures including structural and non-structural measures can be selected in the way that

benefits multiple LGUs through coordination among concerned LGUs. Furthermore, adjusting the land use and zoning in CLUPs of neighboring LGUs reinforces disaster resilience of the entire region. In Leyte Province, the planned tide embankments and road heightening as structural measures against storm surges cut across from Tacloban City to the Municipalities of Palo and Tanauan. Establishing an inter-regional DRRMC reflecting the geo-hazard risk, such as the Leyte Gulf Disaster Risk Reduction and Management Council, can be a good option to enhance regional level recovery and reconstruction efforts. For example, Samar Province initiated MOAs on mutual assistance for an emergency response with the municipalities in the province.

Hence, inter-LGU cooperation and regional linkages are encouraged for mutual assistance for the emergency response, recovery and reconstruction toward resilient cities, and mainstreaming DRRM in development. The partnerships and networks may also build across regions so that LGUs can call for assistance from outside the affected area if damage is extended as such as was experienced in Yolanda's case.

3.3.6 Institutionalization of Preparation of a Recovery and Reconstruction Plan in a LDRRMP

Improving the recovery and reconstruction process not only benefits the affected community by accelerating the process to bring it back to normality but also contributes to the improvement of disaster resilience. For this reason, two suggestions proposed are 1) preparation of a manual for recovery and reconstruction planning and 2) preparation of a prior recovery and reconstruction plan as part of a LDDMP.

(1) Preparation of a Manual for Recovery and Reconstruction Planning

A recovery and reconstruction plan is a type of plan that is hoped will never be used. When it is required during the aftermath of a disaster, the preparation of a recovery and reconstruction plan becomes a challenging task due to constraints on time and resources and other difficulties and confusion caused by the disaster. However, RRP shall be prepared promptly and appropriately through the deliberation of recovery and reconstruction policies based on careful analysis and assessment of the damage and needs data and consensus-building among residents, business owners, the governments, and other stakeholders. In order to assist the planning during the difficult time, the manual provides guidelines for the planning of RRP including a planning approach and process, and essential issues and concerns to be considered in the plan. The manual for RRP preparation shall cover critical components in the planning as follows, but not limited to:

- Setting of goals, objectives, strategies and planning term of recovery and reconstruction,
- Planning method and process (decision-making, community participation, etc.),
- Data collection and analysis (e.g., PDNA),
- Temporary and permanent shelter planning,

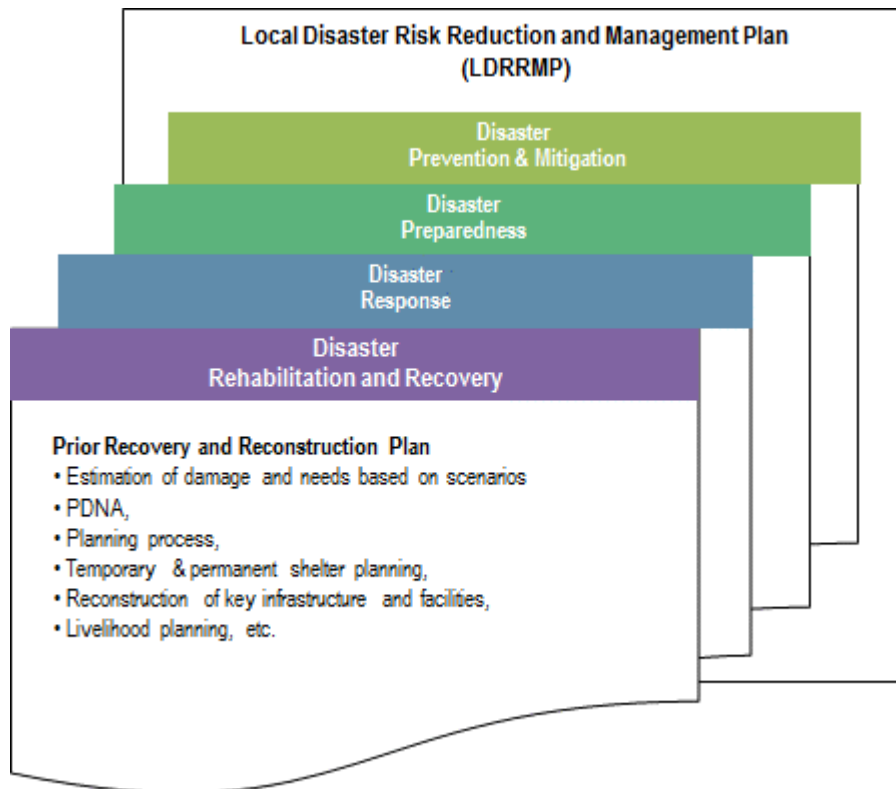
- Planning of rehabilitation and reconstruction of facilities and infrastructure,
- DRRM measures (structural and non-structural measures),
- Land use (spatial planning),
- Planning for economic recovery,
- Planning for livelihood improvement,
- Planning for the recovery of health and education sectors,
- Gender sensitive planning and issues concerned with the vulnerable,
- Monitoring and evaluation of recovery and reconstruction, and
- Integration of RRP to LDRRMPs, CLUPs, CDP, and other local plans.

(2) Institutionalization of a Recovery and Reconstruction Plan in a LDRRP

Although a RRP is supposed to be prepared after a disaster, a RRP before the disaster, namely a prior recovery and reconstruction plan can be prepared. It is suggested that a prior RRP shall be integrated into LDRRMPs, as one of the four areas of DRRM.

Preparation of a prior RRP brings about two advantages in preparation of RRP and disaster risk reduction and mitigation. The existence of a prior RRP lessens the burden to prepare a RRP in the aftermath of disaster and results in the production of a better quality of RRP. Because critical issues in recovery and reconstruction are already considered and a basic framework of the plan and policies to address such issues are described in a prior RRP, the required tasks for the preparation of a RRP are deferred to the adjustment of the prior RRP to the reality of the disaster, such as level of damage and required inputs, based on the assessment of damage and needs, and consultation of residents and other stakeholders. Hence, the governments are able to focus on the implementation of recovery and reconstruction projects and programs. In addition, the preparation of a prior RRP improves disaster preparedness, because its planning process expands the understanding of disaster risk and potential damages and leads to the selection of more effective disaster risk reduction and mitigation measures. CDRA, newly added analysis of risk of disaster and climate change risk in CLUP by HLURB, provides good insights on the vulnerability of the community. The estimation of damage in preparation of a prior RRP shall be developed based on analysis of CDRA and will offer clear pictures of the damage and inputs required for recovery and reconstruction. LGUs will be able to evaluate the effectiveness of the current structural and non-structural measures against disaster and propose appropriate improvement or alternation of the measures to improve disaster resilience. The new strategies for DRRM identified from the analysis for a prior RRP suggest the directions for long-term physical development to be reflected in CLUP and vice versa. In fact, many of the current LDRRMPs in the Study Area do not include the components for recovery and reconstruction. A prior RRP shall be integrated into LDRRMPs as the main components of the area of recovery and reconstruction.

Taking a scenario-based approach, a prior-RRP is prepared in accordance with the level of estimated damage. The scenario-based approach is adopted by NDRP and the Disaster Preparedness Manual. In the Manual, actions taken by relevant organizations are described by three levels of disaster. Consistent to the Manual (or any other existing plans), a prior-RRP is prepared for the recovery and reconstruction from the estimated damage of three different levels of disaster. In the planning of a prior RRP, the expected physical and nonphysical damage shall be estimated and the needs and required inputs for recovery and reconstruction are examined for the disaster levels defined. The disaster category needs to be decided with consultation among the stakeholders. It should be underlined that the prior RRP differs from the RRP actually prepared after a disaster in several aspects. The prior RRP is a minimal RRP, which does not necessarily entail all items to be included in the RRP, but only contain the critical and indispensable topics and issues in recovery and reconstruction such as: estimation of damage and needs based on scenarios, PDNA, planning process, temporary and permanent shelter planning, reconstruction of key infrastructure and facilities, and livelihood planning.



Source: JICA Study Team

Figure 3.3-1 A Prior Recovery and Reconstruction Plan in a LDRRMP

In a nutshell, institutionalization of recovery and reconstruction planning in the Philippine DRRM system is an important step to advance disaster resilience and the capacity of the community. Focusing on response and preparedness, the current DRRM efforts rather neglected recovery and reconstruction. Capacity building for reconstruction and recovery planning should be provided

through training, seminar and workshops on a manual of RR planning, preparation of RRP and a prior RRP, and the integration of RRP to the other local plans. The manual for RRP preparation can be excellent study materials for the government officials to deepen their understanding of disaster risk and to improve preparedness for disaster.

3.3.7 From Recovery and Reconstruction to Development

(1) Monitoring and Evaluation of Recovery and Reconstruction

In order to lead recovery and reconstruction properly, it is necessary to conduct periodical monitoring and evaluation. At first, a plan for the assessment of recovery and reconstruction shall be prepared to clarify the goals and objectives of the assessment, evaluation items, evaluation criteria, and indicators, which are derived from the mid-term goals and objectives stated in RRP. The assessment items are to evaluate 1) the progress of implementation of programs and projects for recovery and reconstruction, 2) accomplishment of the stated goals and objectives, and 3) the overall long term recovery and reconstruction. Clear and measurable indicators should be selected to evaluate the micro and macro level progress in recovery and reconstruction.

The results of the assessment become inputs to adjust the policies, programs and projects in RRP, LDRRMPs, local development plans and investment plans. It is recommended to update the RRP periodically in accordance with the progress of recovery and reconstruction. In principle, the monitoring and evaluation schedule should be adjusted to a plan of the revision of the RRP.

(2) Connecting Recovery and Reconstruction to Development

The recovery and reconstruction policies proposed in this report are prepared for the planning period of eight years after the disaster. The phases of recovery and reconstruction shift from the provision of temporary shelter and emergency livelihood support to rehabilitation and reconstruction of facilities and infrastructure, permanent shelter construction, development of disaster mitigation measures, and the recovery of the regional economy. Along with the progress of the recovery, reconstruction programs and projects are gradually replaced by programs and projects for DRRM and development in the long run. This transition should be carefully facilitated by reflecting the RRP in R/LDRRMPs and local development plans, including CLUPs and CDPs, PDPFP, and RDPs. Particularly, in the case of recovery and reconstruction from a mega disaster like Yolanda, which would bring about devastating impacts across regions, regional and/provincial strategies for recovery and reconstruction may be required to raise the standard of resilience of the region/province for a while. LGOs, organizations and agencies in charge of preparation and implementation of DRRMPs, development plans, and relevant programs and projects, such as LGUs, LDRRMCs and a development council should be engaged in coordination and integration of the strategies for recovery and reconstruction. It is also essential to adjust the strategies, policies, and projects and programs for DRRM and development to the RRP. At the regional level, RDMMMC, which is in charge of the preparation of RDRRMPs, and RDC responsible for the

approval of RDPs and development projects and programs in the region shall be closely coordinated to facilitate the progress of recovery and reconstruction and development.

Chapter 4 The Way Forward

In the JICA Forums in March 2015, one of the most frequently stressed by the LGUs and the central government was that they were facing the challenge how to assure the sustainability of the collaborative works between the Philippine side and JICA. It was widely recognized that such assuring sustainability definitely contribute to the realization of Build Back Better after typhoon Yolanda.

In this line, it is expected that the JICA Project should continue further focusing on the following.

- Build common understandings on necessity of disaster prevention among LGU officials by use of hazard maps
- Seamless improvement of evacuation plan
- Consolidate livelihood means, secure and expand market

The line agencies of central government as well as LGUs are expected to continue and develop the outcomes in the course of the efforts for recovery and reconstruction toward Build Back Better.