Joint Evaluation of Japan's Official Development Assistance (ODA) to the Disaster Risk Reduction and Management (DRRM) Sector in the Republic of the Philippines

March 2016

Preface

This Study Report for the Joint Evaluation of Japan's ODA to the Disaster Risk Reduction and Management (DRRM) in the Republic of the Philippines was conducted by the National Economic and Development Authority- Monitoring and Evaluation Staff (NEDA-MES) and the Embassy of Japan, with the collaboration of Mr. Rey Gerona, an independent evaluator, as entrusted by the Ministry of Foreign Affairs (MOFA) in Fiscal Year 2015. The ODA Evaluation Division of MOFA and the JICA Headquarters, Tokyo has also provided guidance in the conduct of this Joint Evaluation Study.

The Joint Evaluation was established for the aim of ensuring accountability of Japan's ODA to the citizens of the Philippines and Japan, providing feedback to both governments, to support the effective and efficient management of ODA, and promoting the capacity development of Partner Country evaluations.

This Evaluation Study was conducted with the following objectives: (1) to review Japan's overall policies to the Disaster Risk Reduction and Management (DRRM) in the Republic of the Philippines; (2) drawing on lessons from the review, to make recommendations for reference in policy planning on future assistance to the Philippines by the Government of Japan and its effective and efficient implementation; and (3) to ensure accountability by making the evaluation results widely available to the general public.

The Joint Evaluation benefited from the cooperation of the following providers of development cooperation and government agencies during the course of the study: JICA-Philippines Office, the Asian Development Bank (ADB), the United Nations Development Programme (UNDP), Department of Public Works and Highways (DPWH), the Philippine Atmospheric, Geophysical and Astronomical Services Administration (PAGASA), the Philippine Institute of Volcanology and Seismology (PHIVOLCS), Office of Civil Defense of the Department of National Defense (OCD-DND), Department of Education, and the Provincial Government of Albay.

March 2016

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Abbreviations

AADMER	ASEAN Agreement on Disaster Management and Emergency Response
ADB	Asian Development Bank
APEC	Asia-Pacific Economic Cooperation
ASEAN	Association of Southeast Asian Nations
CCA	Climate Change Act (or Adaptation)
CBARAD	Community Based Adaptation and Resilience Against Disaster (Iloilo project)
CAS	Country Assistance Strategy
DepEd	Department of Education
DSWD	Department of Social Welfare and Development
DOF	Department of Finance
DRF	Disaster Response Facility (ADB)
DRR	Disaster risk reduction
DRRM	Disaster Risk Reduction and Management
EOJ	Embassy of Japan (in the Philippines)
GEF	Global Environment Fund
GoA-DFAT	Government of Australia-Department of Foreign Affairs and Trade
GGP	Grant Assistance for Human Security Projects
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
IWRM	Integrated Water Resources Management
ITCZ	Inter-Tropical Convergence Zone
JFDR	Japan Fund for Poverty Reduction
JFJCM	Japan Fund for the Joint Crediting Mechanism
JICA	Japan International Cooperation Agency
JOCV	Japan Overseas Cooperation Volunteer
PHRD	Japan Policy and Human Resources Development Fund
JSDF	Japan Social Development Fund
KDC	Knowledge for Development Centers (WB)
LGU	Local Government Unit
M&E	Monitoring and Evaluation
MES	Monitoring and Evaluation Staff
MOFA	Ministry of Foreign Affairs (Japan)
NCCAP	National Climate Change Action Plan
NDRRMC	National Disaster Risk Reduction and Management Council
NDRRMF	National Disaster Risk Reduction and Management Framework
NDRRMP	National Disaster Risk Reduction and Management Plan
NEDA	National Economic and Development Authority
NGO	Non-Governmental Organization (Japanese)
OCD	Office of Civil Defense
ODA	Official Development Assistance
O&M	Operations and Management
PAGASA	Philippine Atmospheric, Geophysical and Astronomical Services Administration
PDP	Philippine Development Plan
PHIVOLCS	Philippine Institute of Volcanology and Seismology

PMO	Project Management Office
POPSTIRP	Post-Ondoy and Pepeng Short-Term Infrastructure Rehabilitation Project
RA	Republic Act (National Law)
SATREPS	Science and Technology Research Partnership for Sustainable Development
SMEs	Small and Medium Enterprises (Japanese)
TAF	Technical Assistance Facility
TCGP	JICA Partnership Program
TCP	Technical Cooperation Project
UNDP	United Nations Development Programme
UNISDR	United Nations International Strategy for Disaster Risk Reduction
UNWC	United Nations World Conference

Summary

Joint Evaluation of Japan's ODA to the Disaster Risk Reduction Management (DRRM) Sector in the Republic of the Philippines

1. Country: Republic of the Philippines

2. Evaluators:
(1) Embassy of Japan in the Philippines (EOJ);
(2)National Economic and Development Authority - Monitoring and Evaluation Staff, and
(3) Rey Gerona (Independent Consultant)

3. Period of the Evaluation Study: January 13, 2016 – March 31, 2016

4. Background, objectives and scope of the Evaluation:
With common experiences on natural disasters, Japan has been assisting the Philippines reduce and manage disaster risks by implementing related programs and projects through Japan's Official Development Assistance (ODA). With disaster management and climate change adaptation highly prioritized in Japan's development assistance efforts, and in light of the forthcoming preparation of the new six-year development planning of the Philippines, NEDA and the EOJ have jointly conducted a review of Japan's ODA in the disaster risk reduction and management (DRRM) sector in the Philippines, between January 2016 and March 2016.

The objective of the evaluation is to review Japan's ODA in the disaster risk reduction and management (DRRM) sector in the Philippines by: (1) collecting information about DRRM efforts of the Government of the Philippines; (2) obtaining lessons from DRRM-related projects supported by Japan's ODA; and (3) formulating recommendations for Japan's future assistance policies in the Philippines. In evaluating Japanese ODA to the DRRM sector in the Philippines, the evaluation reviewed the following: (1) relevance of policies; (2) effectiveness of results; and (3) appropriateness of processes of the completed projects supported by Japan's ODA in the Philippines.

Since it is impossible to cover all the projects in this evaluation, the Evaluation Team selected two ODA loan projects and two Grant Aid projects, which are different from each other in terms of implementing agency and location with the expectation that these representative sample projects can provide an outline of Japan's ODA projects on DRRM. The projects are listed below:

Project Title	Implementing Agency	Loan/ Grant Amount	Location (Province/ Region)	Year Closed
Loan				
1. Iloilo Flood Control Project Phase II (IFCP II)	Department of Public Works and Highways (DPWH)	¥6,790 million	Ilo-ilo, Region VI	2010
2. Post Ondoy and Pepeng Short-term Infrastructure Rehabilitation Project (POPSTIRP)	DPWH	¥9,912 million	National Capital Region, Cordillera Administrative Region, I, II, III, IV-A, IV-B, and V	2013
Grants				
1. Project for Improvement	DOST-	¥3,065	Metro Manila, Region II;	2014

of the Meteorological Radar System	PAGASA	million	Region V; and Region VIII	
2. Project for Evacuation Shelter Construction in Disaster Vulnerable Areas in Province of Albay	Local Government Unit - Albay	¥739 million	Albay, Region V	2013

The Evaluation Team also took into account the important benefits from the combination of different schemes of Japan's ODA, i.e., (1) Grant Aid and Technical Cooperation in the Project for Improvement of the Meteorological Radar System; (2) Grant Aid and Japanese Overseas Cooperation Volunteers (JOCV) in the Project for Evacuation Shelter Construction in Disaster Vulnerable Areas in Province of Albay; and (3) ODA loan and Grass-roots Technical Cooperation Projects in Iloilo.

5. Brief Summary of the Evaluation Results:

(a) Relevance of Policies

The current DRR assistance policy of Japan's ODA to the Philippines is in line with Japan's ODA Charter. The Japan's ODA Charter has four pillars, one of which is about "addressing global issues," which includes disasters. During the World Conferences on DRR, the Japanese government had presented its basic policies and demonstrated its efforts in DRR cooperation through Japan's ODA.

Japan's DRRM experiences, knowledge and technological capability have been widely disseminated and utilized in the Philippines. Over the last decade, Japan's ODA has been encouraging Japanese NGOs, universities, local governments and even Japanese small and medium enterprises in the private sector to help develop DRRM human resources and infrastructure of the Philippines through such assistance schemes as the JICA Partnership Program, Survey for Technology Promotion of Japanese Small and Medium Enterprises (SMEs) and Science and Technology Research Partnership for Sustainable Development (SATREPS), as well as through the Grant Assistance scheme for Japanese NGO Projects. Involving the Japanese private sector, NGOs, universities and local governments in Japan's international cooperation on DRR through Japan's ODA does not only benefit the Philippines but may also contribute to revitalizing Japan's economy, as Japan remains one of the biggest trading partners of the Philippines.

The assistance policy of Japan's ODA towards the DRRM sector in the Philippines is also consistent with the Disaster Risk Reduction (DRR) assistance policies and priorities of other donors, which are in line with the Hyogo Framework of Action and the Sendai Framework of Action. The contents of Japan's Country Assistance Policy for the Philippines' DRRM are highly complementary with other donors' assistance priorities in the DRRM sector that covers institution building, human resource development, economic and social infrastructure development and reconstruction of livelihoods of disaster victims.

(b) Effectiveness of Results[1]

Although Japan's ODA to the Philippines has declined, the financial assistance of Japan's ODA to the DRRM sector in the Philippines has actually increased as Japan continuously disbursed its commitments to the DRR global initiatives, which was

[1] Quantitative assessments are addressed by JICA's Ex-Post Evaluations, which are used as reference in this evaluation (e.g., ex-post evaluation of the Iloilo Flood Control project, etc.)

collectively agreed upon during the World Conferences on DRR. Japan's ODA inputs to the case projects of this study had been sufficient to produce expected outputs and sustain positive results of those outputs to the targeted population and regions of the Philippines.

In the Philippines, the sustained utilization of Japan's ODA outputs by the beneficiaries is attributed to the follow-through technical cooperation projects after economic infrastructure facilities and equipment are established. For example, people's awareness about disaster prevention and resiliency after the completion of the Iloilo flood control project was increased by the implementation of the JICA Partnership Program called CBARAD, with the Iloilo city government. The utilization of weather data generated by the radar systems improved by Japan's Grant Aid has been maximized through the Technical Cooperation Project (TCP)that enhances the capability of PAGASA weather forecasters. The students' knowledge about disaster prevention and resiliency is continuously being updated after Japan's Grant Aid built the evacuation shelters cum school buildings in Albay province through the dispatch of Japanese volunteers to the provincial government and the Department of Education (DepEd). These initiatives show how Japan's ODA maximized the achievements of the expected outputs at different levels by combining technical and financial assistance and by mobilizing Japanese resources including the private sector and NGOs for DRRM activities at the international development arena.

The outcomes caused by effectively producing the outputs of Japan's ODA projects in the Philippines have been tremendous at different levels. For example, the evacuation shelters built by Japan's Grant Aid in Albay have been keeping families safe during disasters (e.g., Typhoon Nona in December 2015, etc.), as well as the Iloilo flood control facilities built by Japan's ODA loans and therefore kept them continuously productive economically and socially during and after the disasters. The immediate infrastructure rehabilitation project (POPSTIRP) by Japan's ODA loan aid did not only prevent further damage to roads and flood control structures but also ensured the safety of the local population. The weather observation radar systems in Virac, Aparri and Guiuan, improved by Japan's Grant Aid starting in 2009, had since then advanced the capability of Filipino forecasters in accurately determining directions and landfalls of storms and the amount of rainfalls in specific areas, thus making timely and appropriate public warnings now possible.

The impacts attained by Japan's ODA on the DRRM sector in the Philippines have been remarkable. For example, people's trust and confidence in the government's weather forecasting and warning capability had been kept at a high level from very low levels 30 or 40 years ago. Economic investments in the previously disaster-prone areas, such as Iloilo city, had been increasing overtime, keeping local economies more vibrant and providing more economic opportunities for the people.

(c) Appropriateness of Processes

In recent years, Japan's ODA in the Philippines' DRRM sector have mobilized knowledge and technologies of DRR-related Japanese universities, local governments, private sector companies and NGOs. The domestic and overseas consultation and coordination processes essentially required in designing, planning, implementing and monitoring Japan's ODA DRRM supported projects in the Philippines have been properly facilitated by JICA.

In the Philippines, there are presently numerous organizations involved in the DRRM sector. Their specific roles and responsibilities are made clear and have been institutionalized through the enactment of national laws on climate change (Republic Act

9729 in 2009) and on disaster risk reduction and management (Republic Act 10121 in 2010). Climate change adaptation and disaster risk reduction are clearly delineated between the central government and local governments through these laws. Because of a highly institutionalized consultation and coordination system of the DRRM sector in the Philippines, JICA is continuously making efforts to effectively facilitate appropriate consultation and coordination processes of Japanese organizations involved in Japan's ODA in the DRR activities.

The Embassy of Japan and JICA are continuously making efforts to intensify coordination not only with the Philippine government agencies but also with other providers of development cooperation. This is done for the purpose of maximizing the utilization of the results of ODA resources by Philippine recipient organizations. Further, JICA is also making efforts to connect new and pipelined projects to previously implemented DRR-related projects of Japan's ODA in the Philippines to generate more synergistic effects, such as the case of the completed ODA loan-Iloilo Flood Control Project and the on-going community-based JICA Partnership Program.

6. Recommendations

(1) ***Continue to focus assistance policy at enabling the Philippines to mitigate and manage disaster risks.***

Towards this goal, the Evaluation Team recommends that Japan's ODA to the DRRM sector in the Philippines continues to prioritize assistance in the fields where Japan has comparative advantages, such as: (i) institution building; (ii) human resource development; (iii) economic and social infrastructure development; and (iv) reconstruction of livelihoods of disaster victims.

(2) ***Make Japan's ODA projects DRR-sensitive and inclusive.***

Most projects supported by Japan's ODA in the Philippines have incorporated or included aspects of poverty alleviation, environment, women and other social considerations. In the same manner, the Evaluation Team recommends to include in future projects of Japan's ODA considerations or features on disaster risk reduction and resiliency, in consultation with relevant stakeholders to ensure their participation during the project planning and implementation processes.

(3) ***Continue to strengthen the complementation of Technical Cooperation Projects, JICA Partnership Programs and ODA loans/ Grant Aid projects.***

Sustained utilization of facilities built and equipment provided by Japan's ODA loans and Grant Aid projects are enhanced by implementing follow-through assistance that further develop human resources and institutional capacities of implementing agencies, especially in reconstructing people's livelihoods after disasters. This is demonstrated by the case projects covered by this evaluation. As such, the Evaluation Team recommends that the planning and designing of Japan's ODA continue to complement Technical Cooperation Projects, JICA Partnership Programs and ODA loans or Grant Aid-supported projects for improved sustainability and better outcomes.

(4) ***Present and pipelined projects must be linked to past related projects.***

The year 2014 marked the 50th anniversary of Japan's ODA in the Philippines. This year (2016) marks the 60th year of dispatching Japanese volunteers to many organizations in the Philippines. The development cooperation between Japan and the Philippines through Japan's ODA had indeed gone a long way. Many of the old facilities built by Japan's ODA loans and Grant Aid programs are still very much in use by several government agencies. In order to maximize Japan's ODA impacts, the Evaluation Team recommends that future DRR projects, as much as possible, be linked or take into account the useful lessons from the experiences of past cooperation projects. Initially, the findings and lessons learned from this Joint Evaluation should feed back to the

planning and improved design of future projects.

(5) ***Pursue collaborative projects with other providers of development cooperation in the Philippines DRRM sector.***

While the Philippine government is appropriately mapping pipeline ODA projects based on the strengths and weaknesses of each development partner, the EvaluationTeam recommends that Japan's ODA initiates project formulation processes that encourage collaboration with other providers of development cooperation in the DRRM sector, not only for resource complementation and better synergies, but also for promoting Japan's DRRM concepts, technologies and practices in the international development spectrum. There are existing opportunities for such initiatives to flourish. In weather and flood forecasting and warning, for example, various providers of development cooperation, such as KOICA, etc. are assisting PAGASA-DOST improve capacities of related equipment and staff competence to draw more accurate data-based conclusions for real-time public warnings.

(6) ***Encourage more active participation of the Government of the Philippines oversight agencies, such as the Department of Finance (DOF) and NEDA in designing, planning, financing, monitoring and evaluating Japan's ODA in the DRRM sector.***

The Evaluation Team recommends that concerned government agencies be encouraged to actively participate in project formulation activities, implementation monitoring and project evaluation activities performed by JICA, such as the ex-ante evaluation or appraisal missions; mid-term reviews and ex-post evaluation missions to enhance project accountability and local ownership.

The Department of Finance (DOF) coordinates domestic and external financing, including ODA resources for national development programs and projects. NEDA, on the other hand, is an oversight agency tasked not only to coordinate assistance of providers of development cooperation but also to monitor progress of project implementation and evaluate results of ODA support in the DRRM sector. More specifically, NEDA has several offices involved in the DRRM efforts in the Philippines: the Regional Development Staff (RDS), which is involved in the national development coordination mirrored by NEDA Regional offices in-charge of regional and LGU coordination in the DRRM sector; the Project Investment Staff (PIS), which is involved in investment programming; Infrastructure and Agriculture, Natural Resources, and Environment Staffs involved in the coordination, planning and designing of DRRM projects under their sectors, and the Monitoring and Evaluation Staff (MES), which is responsible for progress monitoring and results evaluation of ODA-supported projects.

Source: www.freeusandworldmaps.com

1. Outline of the Evaluation

1.1 Background

With common experiences on natural disasters, Japan has been assisting the Philippines reduce and manage disaster risks by implementing related programs and projects under Japan's Official Development Assistance (ODA). With disaster management and climate change adaptation highly prioritized in development assistance efforts, and in light of the forthcoming new six-year development planning of the Philippines, the Ministry of Foreign Affairs of Japan, through the Embassy of Japan (EOJ) in the Philippines, organized a Joint Evaluation Team (hereinafter, the Evaluation Team) to conduct a review of Japan's ODA in the Disaster Risk Reduction and Management (DRRM) sector in the Philippines from January 2016 to March 2016.

For this purpose, the EOJ hired the services of an evaluation consultant to assist in the conduct of this joint evaluation.

1.2 Objectives

The objective of the evaluation is to review Japan's ODA in the Disaster Risk Reduction and Management (DRRM) sector in the Philippines by:

1) Collecting information about DRRM efforts of the Government of the Philippines
2) Obtaining lessons from DRRM-related projects supported by Japan's ODA; and
3) Formulating recommendations for future assistance policies of Japan's ODA in the Philippines

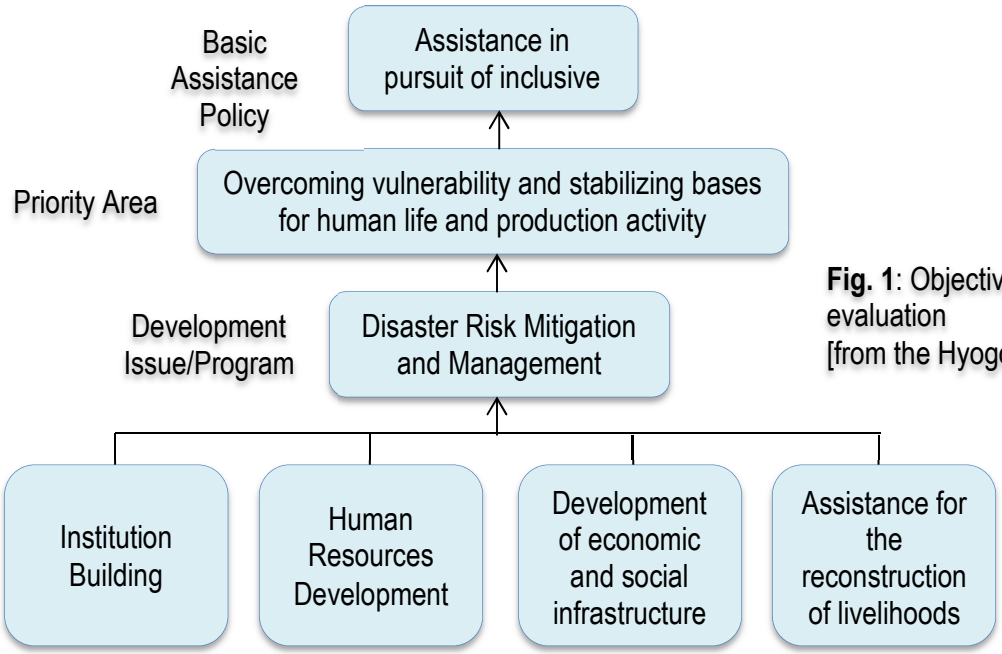

Fig. 1: Objective Tree of the evaluation
[from the Hyogo Initiative]

1.3 Scope

In evaluating Japanese ODA to the DRRM sector in the Philippines, the evaluation reviewed the following: (1) relevance of policies; (2) effectiveness of results; and (3) appropriateness of processes of the completed projects supported by Japan's ODA in the Philippines. Since it is impossible to cover all the projects in this evaluation, the Evaluation Team decided to choose two ODA loan projects and two Grant Aid projects, which are different from each other in terms of implementing agency and location with the expectation that these representative sample projects can provide an outline of Japan's ODA projects on DRRM. The projects are the following:

Table 1. Scope of the Joint Evaluation Study

Project Title	Implementing Agency	Loan/ Grant Amount	Location (Province/ Region)	Year Closed
Loan				
1. Iloilo Flood Control Project Phase II (IFCP II)	DPWH	¥6,790 million	Iloilo, Region VI	2010
2. Post Ondoy and Pepeng Short-term Infrastructure Rehabilitation Project (POPSTIRP)	DPWH	¥9,912 million	National Capital Region, Cordillera Administrative Region, I, II, III, IV-A, IV-B, and V	2013
Grants				
1. Project for Improvement of the Meteorological Radar System	DOST – PAGASA	¥3,065 million	PAG-ASA – Metro Manila, NCR; Cagayan, Region II; Catanduanes, Region V; Eastern Samar (Region VIII)	2014
2. Project for Evacuation Shelter Construction in Disaster Vulnerable Areas in Province of Albay	Local Government Unit – Albay	¥739 million	Albay, Region V	2013

The Joint Evaluation took into account the important benefits from the combination of different types of Japan's ODA i.e., (1) Grant Aid and Technical Cooperation in the Project for Improvement of the Meteorological Radar System; (2) Grant Aid and Japanese Overseas Cooperation Volunteers (JOCV) in the Project for Evacuation Shelter Construction in Disaster Vulnerable Areas in Province of Albay; and (3) ODA Loan and Grass-roots Technical Cooperation projects in Iloilo.

1.4 Methodologies

1.4.1 Evaluation Framework

The evaluation is guided by the ODA Evaluation Guidelines of the ODA Evaluation Division of the Minister's Secretariat of the Ministry of Foreign Affairs (MOFA) of Japan. The Framework was developed by MOFA of Japan andNEDA-MES.

Japan's assistance in the DRRM sector in the Philippines is evaluated from the perspectives/ criteria of (1) relevance of policies, (2) effectiveness of results; and (3) appropriateness of processes. The following table presents the indicators used in the joint evaluation.

Table 2. Evaluation Indicators per Criteria

Criteria	Indicators
Relevance of policies	Consistency with Japan 's ODA policy & strategy
	Consistency with the policy of the Philippine Disaster Risk Reduction and Management
	Consistency with the international agenda in Disaster Risk Reduction and Management effort
Effectiveness of results	Level of sufficient inputs from different stakeholders
	Extent in which expected outputs, outcomes at different levels have been achieved
	Impacts on Disaster Risk Reduction and Management in the Philippines
	Level of sustainability of projects and programs (in term of models, human resources/capacity, finance, materials)
Appropriateness of processes	Appropriateness of Consultation & Coordination
	Degree of coordination between JICA with other donors who have the same goal in the Philippines.
	Degree of coordination between Philippine partners
	Appropriatness of planning, implementation, monitoring and evaluation process among Philippine stakeholders

Source: MOFA

See **Annex 1** for the details of the Joint Evaluation Framework of Japan's ODA to the DRRM sector in the Philippines.

1.4.2 Data Gathering Methods

The evaluation used three main methods to gather data. These are: (1) secondary data collection and review;(2) key informant interviews; and (3) project site visits, which include on-site interviews and direct observations on the outputs, outcomes and impacts of Japan's ODA to the DRRM sector.

(1) Secondary data collection and review.
Reports and DRRM-related literature were collected from various sources including the Embassy of Japan, the JICA-Philippines Office, the Philippine government organizations; and internet sources. Collection of secondary data was mostly done in Metro Manila. See **Annex 2** for the list of collected secondary data

(2) Key Informant Interview.
Key informants from major organizations involved in the DRRM sector in the Philippines were identified and interviewed in their offices in Metro Manila. On-site interviews were also conducted during the project site visits in Albay, Iloilo and Pangasinan provinces. See **Annex 3** for the list of organizations represented by the interviewees during the evaluation.

(3) Project site visits.
In order to better appreciate the "effectiveness of results" and "appropriateness of processes" in completed projects supported by Japan's ODA in the Philippines, project site visits were conducted in Albay province (for the Grant Aid project on Evacuation Shelter Construction in Disaster Vulnerable Areas in the Province of Albay), Iloilo City (for the ODA Loan project on Iloilo Flood Control Project); and Camarines Sur and Pangasinan provinces (for the road component and flood control component of the ODA loan project on Post-Ondoy and Pepeng Short-Term Infrastructure Rehabilitation, respectively). Project site visits were no longer conducted for the Grant Aid project on Improvement of Meteorological Radar System because the sites were very far from each other. Substantial discussion and demonstration of data in the PAGASA main office in Quezon City however complemented the absence of project site visits.

1.4.3 Data Analysis Method

The results of each data gathering method (i.e., secondary data collection, key informant interviews, project site visits) were consolidated per data gathering method, and were compared against the main Evaluation Questions contained in the Evaluation Framework and the Items of the Report.

Team meetings between the Joint Evaluation Team members and the Consultant were periodically held for purposes of sharing observations, insights and opinions especially on the three perspectives, i.e., (1) relevance of policies; (2) effectiveness of results; and (3) appropriateness of processes.

The draft report was circulated to the Joint Evaluation Team members to further validate and strengthen quantitative findings and generate more opinions and views.

1.4.4 Execution Method

The evaluation was conducted by the EOJ and NEDA, in collaboration with an independent consultant. The members of the Joint Evaluation Team are as follows:

EOJ and JICA

1. Mr. Koji Otani, Second Secretary, Embassy of Japan (In-charge of ODA projects for DRRM)
2. Mr. Hayato Nakamura, Project Formulation Advisor (DRRM), JICA

NEDA - Monitoring and Evaluation Staff

1. Ms. Gemma B. Agagas, Senior Economic Development Specialist
2. Ms. Mildred F. Delos Reyes, Senior Economic Development Specialist
3. Ms. Maria Sherinna Ysabel S. Jose, Senior Economic Development Specialist
4. Ms. Nikki Ann C. Bermudez, Senior Economic Development Specialist

Consultant

1. Mr. Rey Gerona (Independent Consultant)

1.5 Limitations

Because of time constraints, the evaluation could only cover four projects. As such, the opinions formed based on both qualitative and quantitative findings from the four case projects may not necessarily represent the overall situation of Japan's ODA to the DRRM sector in the Philippines.

While the evaluation was guided by a framework (see **Annex 1**), criteria and indicators (Table 2, above), standards were not defined to differentiate DRRM projects from other infrastructure projects (e.g., flood control project and dam construction project, solar electrification project; solid waste management project, drainage, quarrying and de-silting projects; etc.). The evaluation considered the data collected from JICA and other providers of development cooperation as self-declared DRRM projects and tries to tone down discussions about costs of assistance in the Report (e.g., how much was the investment of Japan's ODA for DRRM in the Philippines, etc.). The evaluation did not realign the list of DRRM projects of providers of development cooperation with those enumerated by the Philippines' Joint Memorandum Circular 2013-1 (JMC) of the Department of Budget and Management (DBM) and the Department of Interior and Local Government (DILG) concerning allocation and utilization of local DRRM fund (see **Annex 8**).

1.6 Schedules of the Evaluation

The evaluation was undertaken intermittently between January 2016 and March 2016, with the month of January mostly spent for organizing and planning the evaluation. See **Annex 4** for the list of main activities and schedules of the evaluation.

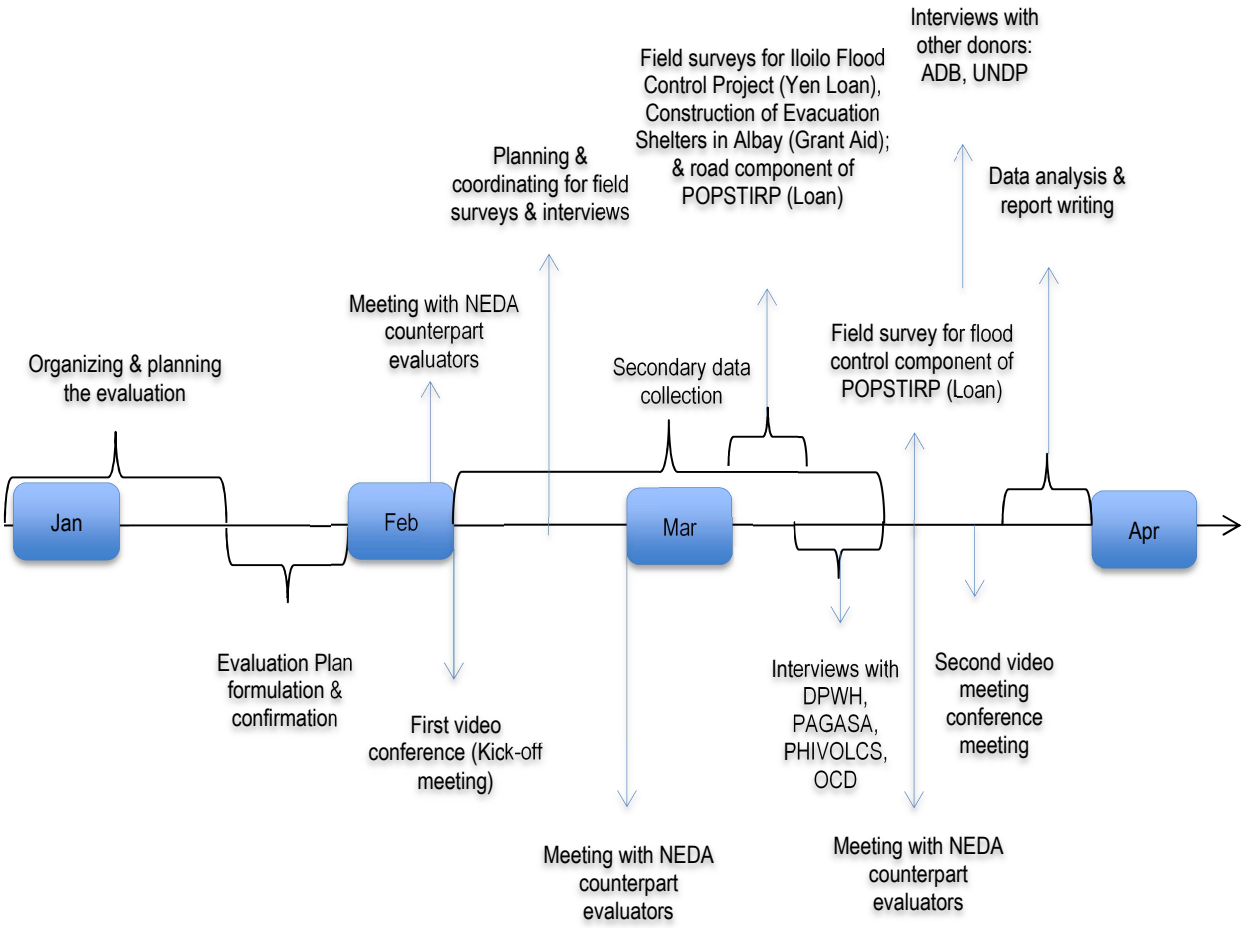

Fig. 2: Timelines of the evaluation

2. Definitions of Disaster Risk Reduction (DRR)

According to the United Nations International Strategy for Disaster Risk Reduction (UNISDR), Disaster Risk Reduction (DRR) is the concept and practice of reducing disaster risks through systematic efforts to analyze and reduce the causal factors of disasters (UNISDR, 2016).

Furthermore, DRR also refers to the implementation of policies which controls its underlying risk drivers such as unequal economic development, poorly planned and managed urban and regional development, the decline of regulatory ecosystem services, poverty and inequality, weak governance and weak local capacities (UNISDR, 2009).

The UNISDR definition of DRR has also been adopted in Republic Act (RA) 10121 or the Philippine Disaster Risk Reduction and Management Act of 2010. Moreover, RA 10121 set out the paradigm shift in the Philippines from disaster preparedness and response to Disaster Risk Reduction and Management (Government of the Republic of the Philippines, 2011).

Prevention and Mitigation are two concepts closely relevant to DRR. Prevention refers to the measures to reduce the level of exposure to hazards while Mitigation refers to measures that reduce the level of vulnerability (UNISDR).

3. International Movements of the DRRM sector

3.1 United Nations World Conference (UNWC) on Disaster Risk Reduction

3.1.1 Past Conferences of UNWC

In December 1987, the United Nations (UN) General Assembly designated the 1990s as a decade for the international community to pay special attention to fostering international cooperation in the field of natural disaster risk reduction (United Nations, 1987). Under this agenda, the first UNWC on Disaster Risk Reduction was held in Yokohama, Japan in 1994 and the Yokohama Strategy for a Safer World: Guidelines for Natural Disaster Prevention, Preparedness and Mitigation and its Plan of Action ("Yokohama Strategy") was adopted. Among the Principles adopted in the Yokohama Strategy are (1) Risk Assessment is a required step for the adoption of adequate and successful disaster reduction policies and measures; (2) Disaster prevention and preparedness are of primary importance in reducing the need for disaster relief; and (3) Preventive measures are most effective when they involve participation at all levels, from the local community through the national government including regional and international levels. The role of the international community to share the necessary technology to prevent, reduce and mitigate disasters has also been highlighted as a core principle of the strategy.

In 2004, a review of the Yokohama Strategy was conducted and the following gaps and challenges were identified: (1) Governance: organizational, legal and policy frameworks; (2) Risk identification, assessment, monitoring and early warning; (3) Knowledge management and education; (4) Reducing underlying risk factors; and (5) Preparedness for effective response and recovery (United Nations, 2004). These five areas formed the basis for developing a relevant framework for action for the decade 2005–2015.

The second UNWC on Disaster Risk Reduction was held in January 2005 in Kobe, Hyogo, Japan wherein the new framework for action for the year 2005-2015, Building the Resilience of Nations and Communities to disasters, was adopted. Building a strategic and systematic approach to reducing vulnerabilities and risks to hazards to strengthen resilience of nations and communities to disasters was highlighted during the conference (United Nations, 2004).

Resilience, one of the emerging principles during the second UNWC is defined by the United Nations (2004, p. 4) as "the capacity of a system, community or society potentially exposed to hazards to adapt, by resisting or changing in order to reach and maintain an acceptable level of functioning and structure. This is determined by the degree to which the social system is capable of organizing itself to increase this capacity for learning from past disasters for better future protection and to improve risk reduction measures."

The second UNWC also affirmed disaster risk reduction roles as a cross-cutting and relevant issue in the context of sustainable development and hence, in the achievement of an internationally agreed development goals.

3.1.2 Third UNWC on Disaster Risk Reduction

Following the various stakeholder consultations which began in 2012, the Sendai Framework for Disaster Risk Reduction 2015-2030 was formally adopted during the Third UNWC on Disaster Risk Reduction held in Sendai, Japan in 2015. Among the new concepts introduced are the shift from disaster management to disaster risk management and the realization of disaster risk as an expected outcome (UNISDR, 2015).

The Sendai Framework aims to achieve the following outcome for the next 15 years: "The substantial reduction of disaster risk and losses in lives, livelihoods and health and in the economic, physical, social, cultural and environmental assets of persons, businesses, communities and countries."

To realize this outcome, the following goals must be pursued: "Prevent new and reduce existing disaster risk through the implementation of integrated and inclusive economic, structural, legal, social, health, cultural, educational, environmental, technological, political and institutional measures that prevent and reduce hazard exposure and vulnerability to disaster, increase preparedness for response and recovery, and thus strengthen resilience."

The Sendai Framework is also planned to be an action-oriented framework to enable Governments and other relevant stakeholders to implement in a supportive and complementary manner.

Seven global targets are also identified in the framework in view of its action-oriented nature.

<u>Seven Global Targets under the Sendai Framework</u>

(a) Substantially reduce global disaster mortality by 2030, aiming to lower the average per 100,000 global mortality rate in the decades 2020–2030 compared to the period 2005–2015;
(b) Substantially reduce the number of affected people globally by 2030, aiming to lower the average global figure per 100,000 in the decade 2020–2030 compared to the period 2005–2015;
(c) Reduce direct disaster economic loss in relation to global Gross Domestic Product (GDP) by 2030;
(d) Substantially reduce disaster damage to critical infrastructure and disruption of basic services, among them health and educational facilities, including through developing their resilience by 2030;
(e) Substantially increase the number of countries with national and local disaster risk reduction strategies by 2020;

(f) Substantially enhance international cooperation to developing countries through adequate and sustainable support to complement their national actions for the implementation of the present Framework by 2030;
(g) Substantially increase the availability of and access to multi-hazard early warning systems and disaster risk information and assessments to people by 2030.

Through drawing lessons from past disasters, the concept of "Build Back Better" is also encouraged especially during post-disaster, rehabilitation and the recovery phase. This concept is encapsulated in the Sendai Framework as one of the four priority areas of action.

Sendai Framework Priorities for Action

Priority 1: Understanding disaster risk.
Priority 2: Strengthening disaster risk governance to manage disaster risk.
Priority 3: Investing in disaster risk reduction for resilience.
Priority 4: Enhancing disaster preparedness for effective response and to "Build Back Better" in recovery, rehabilitation and reconstruction.

The Sendai Framework also calls for the further strengthening of North-South, South-South and Triangular cooperation. Developed countries should play a role in supporting South-South and Triangular cooperation. Financing of appropriate and environmentally sound technology for Developing countries are also important in reducing disaster risks.

3.2 Overview of Other Movements of DRRM in the International Arena

3.2.1 DRR Policies of the Association of Southeast Asian Nations (ASEAN)

The foundation for regional cooperation, coordination, technical assistance, and resource mobilization in all aspects of disaster management and emergency response in the ASEAN region is set by the Agreement on Disaster Management and Emergency Response AADMER of December 2009 (ASEAN, 2015). The AADMER supports ongoing and planned national initiatives of ASEAN Member States, and complementing national capacities and existing work programs. The AADMER also symbolizes ASEAN's commitments to the Hyogo Framework for Action.

A Strategic Policy Document was formulated in 2015 to enhance the existing AADMER in response to the new challenges in the region: Institutionalization and Communications, Finance and Resource Mobilization, and Partnerships and Innovations are the three mutually-inclusive strategic elements identified to guide the direction of the implementation of AADMER to 2025.

The further institutionalization of AADMER requires a multi-layered and cross-sectoral governance approach driving the integration of the ASEAN Socio-Cultural Community, the ASEAN Economic Community and the ASEAN Political Security Community on disaster management and emergency response. It also entails the strengthening of disaster management and emergency response at the national and sub-national (city, provincial and community) levels.

The financial and resource mobilization strategic element requires the increase in ASEAN Member States' contributions, with traditional and non-traditional sources of funding and other modalities of support, while still ensuring that the process and content is driven by ASEAN. It also initiates the inclusion of small and medium-sized enterprises, micro-

insurance, insurance pooling and capital markets in the pursuit of a disaster-resilient region by 2025.

The third strategic element on partnerships and innovations proposes working together with non-traditional partners for disaster management and emergency response. This element highlights the strengths of partnering with entities at regional, national, and local levels in the public, private and people sectors. Moreover, this strategic element emphasizes the importance of drawing on the local knowledge and capacity of civil society organizations. The ASEAN Coordinating Centre for Humanitarian Assistance on disaster management can be a network coordinator of regional centers for excellence in disaster leadership and management to facilitate knowledge creation, policy analysis and training for the next generation of practitioners. It finally recognizes that the ASEAN think-tank community can provide strategic policy analysis and support the development of the region as a global thought-leader in disaster management and emergency response.

Through these three mutually inclusive strategic elements, ASEAN's goal is to be a pioneer in transforming the disaster management landscape in the Southeast Asian region and beyond, and strengthen its leadership to maintain ASEAN Centrality.

3.2.2 DRR Policies of the Asia-Pacific Economic Cooperation (APEC)

In 2008, the APEC leaders adopted the APEC Principles on Disaster Response and Cooperation. The ASEAN Agreement on Disaster Management and Emergency Response (AADMER) served also the basis of APEC leaders to guide in developing effective and comprehensive regional DRR mechanisms.

From 2010-2014, practical disaster risk management, private sector and civil society involvement, facilitating business continuity and resiliency planning, establishing common standards for emergency early warning systems in cross-border transportation, integrated disaster risk financing policies, robust networking among disaster management agencies, improving supply chain resiliency, reducing barriers to the movement of emergency responders and humanitarian relief across borders, increased data sharing, and the application of science and technology. The priority programs and initiatives by APEC leaders are highlighted in **Annex 5.**

4. Outline of the DRRM Sector in the Philippines

4.1 Socio-geographic Characteristics of the Philippines

The Philippines is one of the largest archipelago nations in the world. It is situated in Southeast Asia in the Western Pacific Ocean. The country is divided into three main islands or geographical areas, namely: Luzon, Visayas, and Mindanao. It is known to be a "mega biodiversity country", with a high percentage of flora and fauna endemism (UNDP, 2013)[2].

The Philippines is also considered one of the most natural hazard-prone countries in the world. The World Risk Report (2014) ranks the Philippines second (out of 171 countries) in terms of "risk of becoming a victim of a disaster brought about by an extreme natural event." An ADB report (2012)[3] indicated that up to 60 percent of the country's land area is exposed to multiple hazards, with 74 percent of its population being vulnerable to natural disasters. Its

[2] UNDP. 2013. About the Philippines. http://www.ph.undp.org/
[3] ADB. 2012. Country Operations Business Plan, 2013-2015. Manila.

position along the Western Pacific Basin (where monsoons, thunderstorms, inter-tropical convergence zone (ITCZ), and typhoons build up), makes the country vulnerable to an average of 20 tropical cyclones a year, nine of which will make landfalls. The Philippines is also exposed to other extreme natural events such as droughts, earthquakes and volcanic eruptions, but tropical cyclones (i.e., typhoons, storms and associated flooding) have been recorded to affect the largest population (about 9.3 million), as well as accounting for about three-quarters of recorded deaths and two-thirds of damage (ADB, 2012)[4].

4.2 Development Policies of the DRRM Sector of the Philippines

While the magnitude of natural hazards is outside the control of the government, the scale and effect of disasters is dependent on the vulnerability of the country's economy and its people (World Bank, 2010)[5]. Vulnerability is highly influenced by the effectiveness and efficiency of Disaster Risk Management (DRM), Disaster Risk Reduction (DRR) and Climate Change Adaptation (CCA) measures. In response to the growing urgency of the issue of disasters, climate change, risk and preparedness (among others), the Philippine government has drawn up, at the national level, the Philippine Disaster Risk Reduction and Management Act (Republic Act 10121) and the National Disaster Risk Reduction and Management Plan, as well as other related plans and policies.

4.3 The Philippine Disaster Risk Reduction and Management Act or Republic Act 10121 (RA 10121)[6]

RA 10121 was passed in 2010 to provide a legal and institutional basis for Disaster Risk Reduction and Management (DRRM) in the Philippines. It acknowledges the country's need to "adopt a disaster risk reduction and management approach that is holistic, comprehensive, integrated, and proactive in lessening the socio-economic and environmental impacts of disasters including climate change, and promoting the involvement and participation of all sectors and all stakeholders concerned at all levels, especially the local community."

4.4 National Disaster Risk Reduction and Management Framework[7]

Section 6A of the RA 10121 provides the basis for the development of a new national DRRM Framework. To this end, the National Disaster Reduction and Management Framework (NDRRMF) was crafted in June 2011 to serve as the principal guide in achieving a "safer, adaptive and disaster-resilient Filipino communities toward sustainable development". The Framework also "conveys a paradigm shift from reactive to proactive DRRM with the end view of increasing people's resilience and decreasing their vulnerabilities". It promotes principles such as: "building back better" or building upon lessons learned from good practices; addressing the underlying causes of vulnerability; and increasing adaptive capacity.

4.5 National Disaster Risk Reduction and Management Plan 2011-2018

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[4] Ibid.
[5] World Bank. 2010. *Philippines Discussion Note No. 18: Disaster Risk Management.* Draft. 15 June. Manila.
[6] Government of the Philippines. 2010. *Republic Act 10121 – The Philippine Disaster Risk Reduction and Management Act.* Manila.
[7] Government of the Philippines. 2010. *National Disaster Risk Reduction and Management Plan 2011-2018.* Manila.

The Disaster Risk Reduction and Management (DRRM) policy of the Philippines is anchored on the National Disaster Risk Reduction and Management Plan (NDRRMP) 2011-2028 published in 2011. The NDRRM Plan 2011-2018 fulfills the requirements of RA 10121 and is consistent with the NDRRMF. It serves as the government's roadmap on how DRRM shall contribute to gender-responsive and rights-based sustainable development. It shall promote inclusive growth, build adaptive capacities of communities, increase the resilience of vulnerable sectors, and optimize disaster mitigation opportunities with the end view of promoting people's welfare and security.

The Plan highlights the importance of mainstreaming DRRM and CCA in the different stages of the development process (policy formulation, development planning, budgeting, and implementation) in the sectors of environment, agriculture, water, energy, health, education, land use and urban planning, infrastructure and housing. Taking the lead in the DRRM is the National Disaster and Risk Management Council (NDRMC), which has the overall responsibility of coordinating the NDRRM Plan.

The NDRRMP covers four thematic areas: (1) Disaster Prevention and Mitigation; (2) Disaster Preparedness; (3) Disaster Response; and (4) Disaster Rehabilitation and Recovery, which correspond to the structure of the National Disaster Risk Reduction and Management Council (NDRRMC).

Table 3: Four Priority Areas of the NDRRMP

Priority Area	Long Term Goals	Objectives	Lead Agencies
Prevention and Mitigation	Avoid hazards and mitigate their potential impacts by reducing vulnerabilities and exposure and enhancing capacities of communities	Reduce vulnerability and exposure of communities to all hazards	Department of Science and Technology
		Enhance capacities of communities to reduce their own risks and cope with the impacts of all hazards	
Disaster Preparedness	Establish and strengthen capacities of communities to anticipate, cope and recover from the negative impacts of emergency occurrences and disasters	Increase the level of awareness of the community to the threats and impacts of all hazards, risks and vulnerabilities	Department of Interior and Local Government
		Equip the community with the necessary skills to cope with the negative impacts of a disaster	
		Increase the capacity of institutions	
		Develop and implement comprehensive national and local disaster preparedness policies, plans and systems	

Disaster Response	Provide life preservation and meet the basic subsistence needs of affected population based on acceptable standards during or immediately after a disaster	To decrease the number of preventable deaths and injuries	Department of Social Welfare and Development
		To provide basic subsistence needs of affected population	
		To immediately restore basic social services	
Rehabilitation and Recovery	Restore and improve facilities, livelihood and living conditions and organizational capacities of affected communities, and reduced disaster risks in accordance with the "building back better" principle	To restore people's means of livelihood and continuity of economic activities and business	National Economic and Development Authority
		To restore shelter and other buildings/installation	
		To reconstruct infrastructure and other public utilities;	
		To assist in the physical and psychological rehabilitation of persons who suffered from the effects of disaster	

Source: NDRRMP 2011-2018

Further, the NDRRMP sets down the expected outcomes, outputs, key activities, indicators, lead agencies, implementing partners and timelines under each of the four distinct yet mutually reinforcing thematic areas. The goals of each thematic area lead to the attainment of the country's overall DRRM vision, as shown below.

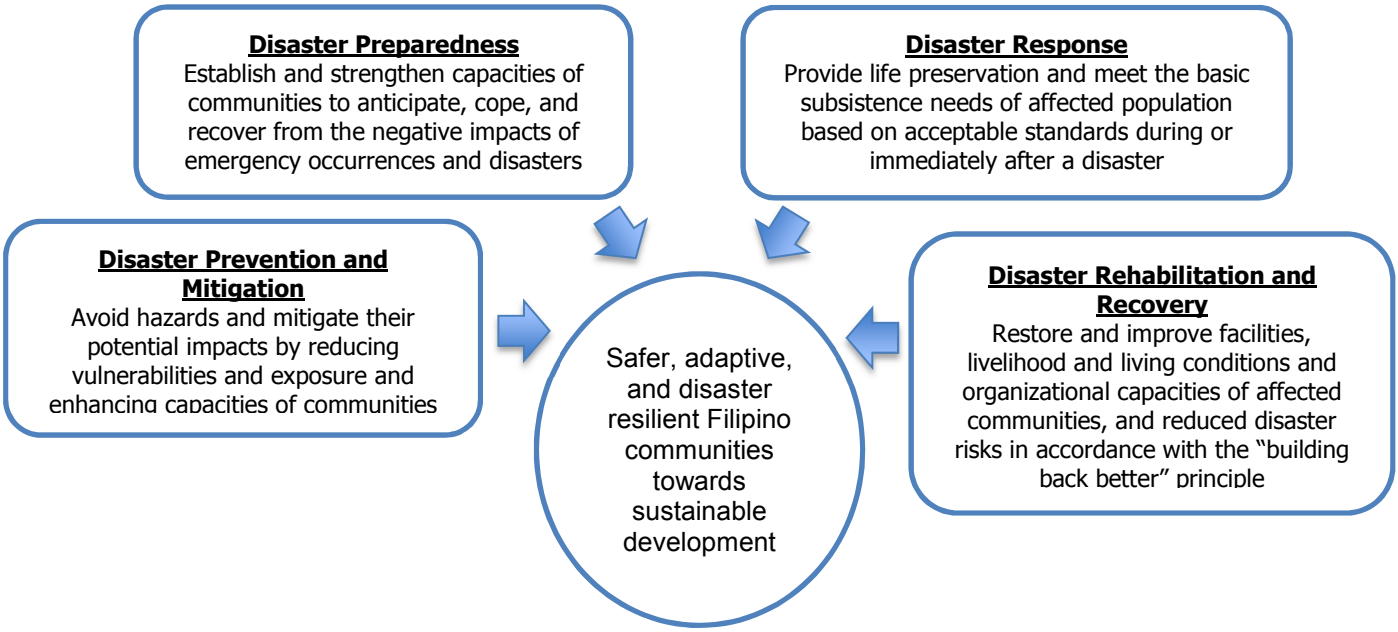

Fig.3: Overall DRRM Vision of the Philippines

4.6 Related National Plans and Policies

4.6.1 The Philippine Development Plan 2011-2016 (PDP 2011-2016) [8]

The NDRRMP seeks to leverage on the Philippine Development Plan (PDP 2011-2016), which has been the national development roadmap and the government's guide in formulating policies and implementing development programs in the last six years. The PDP seeks to achieve inclusive growth, generate mass employment, and reduce poverty.

The PDP has identified DRRM and CCA as major cross-cutting themes. Thus, these have been integrated into the different sectors and subsectors using various strategies to address the underlying causes of people's vulnerabilities and contribute to the reduction of people's risks to disasters. Broadly, the PDP's approaches to DRRM and CCA revolve around:

1. Mainstreaming DRRM and CCA into existing policies
2. Reducing vulnerability through continued and sustained assessments in high-risk areas
3. Integrating DRRM and CCA in all educational levels and in specialized technical training and research programs
4. Raising public awareness of DRR and CCA through effective communication plans
5. Increasing resilience of communities through the development of climate change-sensitive technologies
6. Strengthening capacity of communities to respond to disasters
7. Institutionalizing DRRM and CCA in various sectors and increasing local and community participation
8. Pushing for the practice and use of Integrated Water Resources Management (IWRM) and prioritizing the construction of flood control structures
9. Intensifying development and utilization of renewable and alternative sources of energy.

4.6.2 National Climate Change Action Plan[9]

The National Climate Change Action Plan (NCCAP) outlines the agenda for climate change adaptation and mitigation for 2011 to 2038. The NCCAP's ultimate goal is to "build the adaptive capacities of women and men in their communities, increase the resilience of vulnerable sectors and natural ecosystems to climate change and optimize mitigation opportunities towards gender-responsive and rights-based sustainable development." The NCCAP has seven strategic priorities: (1) food security; (2) water efficiency; (3) ecosystem and environmental stability; (4) human security; (5) climate-smart industries and services; (6) sustainable energy; (7) knowledge and capacity development.

[8] Government of the Philippines. 2011. *Philippine Development Plan 2011-2016.* Manila.
[9] Government of the Philippines. 2011. *National Climate Change Action Plan.* Manila.

5. Assistance Policies of Other Donors for DRRM in the Philippines

Several development partners have supported the Government of the Philippines improve its national and local capacity on DRRM, to better respond to and prepare for disasters.

5.1 World Bank (WB)

The World Bank Country Assistance Strategy (CAS) provides a comprehensive framework for Disaster Assistance and Management and Climate Change Adaptation interventions for the Philippines. Some of the examples are the reduction of farmer's vulnerability to crop risk through the support of innovative solutions (e.g., weather risk insurance schemes) and improvement of disaster risk financing instruments at the national and local levels for preparedness, response and recovery.

From 2008-2009, the Bank supported these initiatives through the Global Facility for Disaster Reduction and Recovery (GFDR) technical assistance and Global Environment Fund (GEF) grant-funded activities. On knowledge and learning, a series of programs were put in place to build the government's capacity on disaster risk management. Also, virtual courses on disaster risk management were offered to national and local agencies through partnerships with the Asian Institute of Management, the Bank Group's network of Knowledge for Development Centers (KDCs) and other international partners, supported by the WB Institute and the Bank Group's Global Distance Learning Network. Moreover, a broader program of capacity building covering topics related to strategy formulation, development planning, and financial management is being developed to strengthen the core competencies of local governments, which could incorporate explicit components of disaster risk management at the local levels.

5.2 Asian Development Bank (ADB)

The ADB, through its Disaster and Emergency Assistance Policy, supports the Philippine government's goals to strengthen the nation's capacity, reduce its exposure, and enhance disaster preparedness. The Country Partnership Strategy, 2011–2016 highlights the mainstreaming of DRR into ADB-funded operations through the following:

(1) Disaster Risk Management – Facilitate integrated DRM by working with the government to develop risk-sensitive land use planning in order to reduce the physical, social, and economic vulnerability of communities to earthquakes and floods;

(2) Capacity Development and Risk Screening – Support the government's DRM-DRR capacity by mainstreaming it into relevant projects. ADB will work with the government to screen development projects (through a risk screening tool) for hazard-induced risks and to ensure that risks are addressed in the design of ADB-financed investment projects.

(3) Disaster Risk Financing – Work with the government and the private sector to develop sustainable long-term solutions to assist with the development and implementation of Disaster Response Facility (DRF) modalities that are demand-based and will consider lessons learned from other DRF mechanisms implemented in the Asia and Pacific region as well as developing economies in Latin America.

5.3 Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)

GIZ supports local, regional and national structures in conducting risk analyses, assessing risks and establishing corresponding early warning systems. Transferring technical expertise and creating awareness of known risks ensures that the managing risk is incorporated into

social and political structures. Moreover, GIZ supports the creation or improvement of legal frameworks as well as political guidelines and strategies for emergency preparedness and response; and capacity development for appropriate post-disaster response in the fields of human resource management, legislation, finance, and the strengthening of emergency preparedness and response of committees.

GIZ's services in the field of DRM are grouped into the following three categories: (1) Disaster prevention and mitigation - covers activities designed to prevent the negative impact of extreme natural events in the medium and long-term. These include risk analyses to identify the threat and assess the vulnerability of an urban society, in addition to political, legal, economic and infrastructure related guidelines and measures; (2) Disaster preparedness – consists of planning and practicing measures to be taken in the event of a disaster in order to minimize loss and damage. GIZ support partners in establishing local early warning systems, developing emergency plans, developing the relevant institutional capacity and setting up disaster management committees from the regional to local level; and (3) Disaster-resilient recovery – incorporates the lessons learned from a disaster in addition to measures in the fields of prevention/mitigation and preparedness.

5.4 Government of Australia-Department of Foreign Affairs and Trade (GoA-DFAT)

In the last several years, Australia and the Philippines have worked together to ensure the people in the Philippines, who are vulnerable to natural disasters and climate change, are more resilient to their impacts. With the leadership of the national government agencies, local government units, especially in urban areas, are capacitated in terms of planning and implementing appropriate local climate change and disaster risk management action strategies.

The GoA-DFAT (formerly, AusAID) has been supporting the technological requirements of the Department of Social Welfare and Development (DSWD) especially in carrying out its mandated functions for disaster response by establishing a Aus$5 million Technical Assistance Facility (TAF) in the DSWD. The TAF is designed as a mechanism to effectively coordinate technical assistance of various donor organizations and in the process, capacitate DSWD's human resources in responding to disasters.

6. Japan's Assistance Towards the DRRM Sector in the Philippines

6.1 Japan's DRRM Policies

6.1.1 ODA Charter

According to Japan's Official Development Assistance Charter (Ministry of Foreign Affairs, 2003), global issues such as natural disasters is also one of the four priority issues that the Government of Japan aims to address through its Official Development Assistance.

6.1.2 Hyogo Cooperation Initiative

World leaders during the World Conference on Disaster Risk Reduction on January 2005 in Hyogo, Japan collectively drew out a 10-year action plan called the Hyogo Framework for Action 2005-2015. According to this framework, the priorities for action are the following:

(1) Ensure that disaster risk reduction is a national and a local priority with a strong institutional basis for implementation.

(2) Identify, assess and monitor disaster risks and enhance early warnings.
(3) Use knowledge, innovation and education to build a culture of safety and resilience at all levels.
(4) Reduce the underlying risk factors.
(5) Strengthen disaster preparedness for effective response at all levels.

The key activities for each Priority Action are found in **Annex 6** of this Report.

6.1.3 Sendai Cooperation Initiative

Taking into account the experience gained through the implementation of the Hyogo Framework for Action, and in pursuance of the expected outcome and goals, world leaders drew out a successor instrument to the Hyogo Framework in Sendai, Japan on March 2015. This 15-year successor instrument is called the Sendai Framework for Disaster Risk Reduction 2015-2030.

The Sendai Framework acknowledged the need for focused action within and across sectors by States at local, national, regional and global levels in the following four priority areas:

Priority 1: Understanding disaster risk.
Priority 2: Strengthening disaster risk governance to manage disaster risk.
Priority 3: Investing in disaster risk reduction for resilience.
Priority 4: Enhancing disaster preparedness for effective response and to “Build Back Better” in recovery, rehabilitation and reconstruction.

In their approach to DRR, states, regional and international organizations and other relevant stakeholders should take into consideration the key activities listed under each of these four priorities and should implement them, as appropriate, taking into consideration respective capacities and capabilities, in line with national laws and regulations.

In the context of increasing global interdependence, concerted international cooperation, an enabling international environment and means of implementation are needed to stimulate and contribute to developing the knowledge, capacities and motivations for disaster risk reduction at all levels, in particular for developing countries. The key areas under each Priority are attached in **Annex 5**.

6.1.4 Country Assistance Program

Considering that the Philippines is prone to natural disasters, Japan’s Country Assistance Programs for the Philippines over the years include measures to strengthen the country’s adaptation capacities to various forms of hazards and risks like flooding, earthquakes, tsunamis, volcanic disasters, etc.

Japan's support includes both soft and hard components. Hard components cover the development of infrastructure development for DRRM such as flood control; soft components cover the enhancement of systems such as planning and implementation of proper evacuation procedures. The capacity of targeted local government units will also be taken into consideration in crafting the system of maintenance and operation, and also the enhancement of institutional structures.

Japan also facilitates the prevalence of earthquake-resistant infrastructure and the promotion of a better understanding of various disaster risks (meteorological phenomenon, earthquakes, tsunamis, volcanic eruptions, etc.), based on Japanese experience. In facing abrupt natural disasters, both prompt emergency assistance and response to needs of

rehabilitation and reconstruction will be considered. Further, Japan supports watershed management including forestry management which will contribute to mitigate damages by the disaster.

(1) Country Assistance Program 2000

In Japan's Country Assistance Program 2000 for the Philippines, Environmental Protection and anti-disaster measures are identified as a Priority Area. Aid for flood and sand control and earthquake-related measures will be continued along with capacity building programs for government institutions [Ministry of Foreign Affairs of Japan, 2000].

Protecting Life from Natural Disasters is one of the approaches to the Priority Development Issues identified in Japan's Country Assistance Program for the Philippines, which is Assistance for empowerment of the poor and improvement of living conditions of the poor.

(2) Country Assistance Program 2008

In the 2008 CAP, protecting life from natural disasters is one of the approaches to one of the Priority Development Issues identified in Japan's Country Assistance Program for the Philippines, which is "assistance for empowerment of the poor and improvement of living conditions of the poor."

Included in this approach is to support the development, maintenance and management of flood control and erosion control infrastructure; strengthen disaster preparedness including evacuation plans; support proper forest and coastal area management, support prompt emergency assistance and rehabilitation and reconstruction [Government of Japan, 2008].

6.1.5 Country Assistance Policy of 2012

Under the 2012 Country Assistance Policy, overcoming vulnerability and stabilizing bases for human life and production activity is one of the three Priority Areas. One of the ways to address this Priority Area is through providing assistance on the improvement of both "hard" and "soft" infrastructures to address issues related to natural disasters and environment [Japan International Cooperation Agency (JICA), 2012].

Hard components include the development of infrastructure for DRRM such as flood control; soft components cover the enhancement of systems such as planning and implementation of proper evacuation procedures. The capacity of targeted local government units is also taken into consideration in crafting the system of maintenance and operation, and also the enhancement of institutional structures.

6.2 Japan's ODA Projects in the DRRM Sector of the Philippines (2005-2014)

Japan has been the top donor country to the Philippines for the last three decades. More than 50% of the total ODA in the Philippines is being provided by Japan. Japan's ODA to the Philippines comes in the form of Grant Aid, Technical Cooperation and ODA Loans.

Additionally, Japan's ODA to the Philippines is also funneled through multi-lateral organizations such as the Asian Development Bank (ADB) which manages the $703 million-Japan Fund for Poverty Reduction (JFPR) and the $32 million-Japan Fund for the Joint Crediting Mechanism (JFJCM); and the World Bank, which manages the $396 million-Japan Social Development Fund (JSDF) and the $3 billion-Japan Policy and Human Resources Development Fund (PHRD), among others.

Except for the contributions to the multi-lateral organizations, which are implemented by MOFA, Japan's ODA in the DRRM sector in the Philippines is implemented by JICA through central government agencies of the Philippines, local government units and NGOs, with loans implemented through central government agencies including most of the Grant Aid and Technical Cooperation projects, which are also implemented through local government units (LGUs).

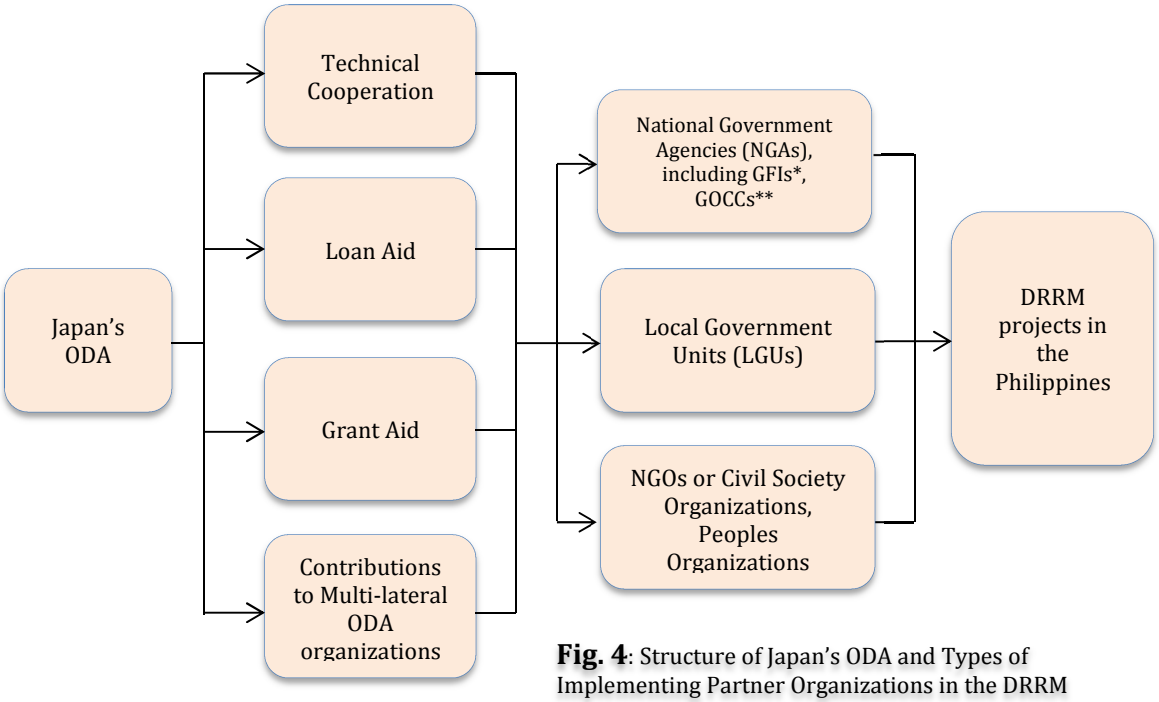

Fig. 4: Structure of Japan's ODA and Types of Implementing Partner Organizations in the DRRM sector in the Philippines
* GFI=Government Financing Institutions
** GOCC=Government-Controlled Corporations

JICA's assistance schemes however allows Japan's ODA in the DRRM sector to be implemented directly through local governments and NGOs or peoples organizations. Since 1966, JICA has been dispatching Japanese Volunteers directly to LGUs and NGOs providing advisory services and training at the grassroots level. In early 2000, JICA assisted Philippine NGOs through its Community Empowerment Program (CEP) for grassroots development projects including those related to DRR. In 2002, JICA started assisting Japanese NGOs, through its JICA Partnership Program (JPP), implemented grassroots development including DRR projects. Also in 2002, JICA started assisting Japanese universities, local governments and SMEs implement community-based disaster risk reduction projects through its JICA Partnership Program scheme.

Additionally, the EOJ has been assisting Philippine NGOs implement grassroots development projects through its Grant Assistance for Human Security Projects (GGP) which started in 1989. In 2002, the EOJ also started assisting Japanese NGOs implement community-based grassroots development including DRR projects through its Grant Assistance for Japanese NGO Projects.

Most of the projects funded by Japan's ODA in the Philippines are related to climate change adaptation (e.g., environmental preservation and conservation) and resiliency to natural disasters (e.g., disaster-resilient infrastructure, flood control management, capacity development). Even before the global initiatives on DRR, Japan's ODA in the Philippines were already taking serious attentions to disaster risk reduction and management by

embedding disaster resiliency concepts and practices in most of the technical cooperation, ODA loans and Grant Aid projects. In the last 15 years however, DRR has been highly pitched in Japan's ODA projects in the Philippines.

For the last 12 years, Japan's ODA has been supporting 60 projects in the DRRM sector in the Philippines, at least 21 of these projects are still on-going (see **Annex 7** for the list of DRRM projects funded by Japan's ODA).

Table 4: Number of DRRM-related Projects Supported by Japan's ODA in the Philippines, 2003-2015

Assistance Scheme	No. of DRRM-related Projects		
	Completed	Ongoing	Total
1. Grant Assistance for Japanese NGO projects (by Embassy of Japan)	1		1
2. Individual Expert Dispatch		2	2
3. SATREPS (Science and Technology Research)	2		2
4. Development Study Program (DSP)	5	5	10
5. Yen Loan Technical Assistance (YLTA)		1	1
6. ODA Loan	13	5	18
7. Technical Cooperation Program (TCP)	8	1	9
8. JICA Partnership Program		7	7
9. Grant Aid	10		10
TOTAL	**39**	**21**	**60**

Sources: Embassy of Japan, DPWH, JICA

Because of time constraints, the evaluation could not examine all 60 DRRM-related projects supported by Japan's ODA in the Philippines for the last 12 years. But in order to obtain lessons from DRRM-related projects, the evaluation chose two completed ODA loan projects and another two completed Grant Aid projects as case studies for this evaluation.

Table 5: Case Projects of the Evaluation

Assistance Scheme	Name of Project	Year completed
ODA Loans	1) Iloilo Flood Control Project II	2010
	2) Post-Ondoy and Pepeng Short-Term Infrastructure Rehabilitation Project	2013
Grant Aid	3) The Project for Improvement of the Meteorological Radar System	2014
	4) Project for Evacuation Shelter Construction in Disaster Vulnerable Areas in Province of Albay	2013

Source: Terms of Reference of the Evaluation, January 2016

6.3 Evaluation Results of the Case Projects[10]

6.3.1 The Iloilo Flood Control Project-Phase II

With a total loan amount of 6.79 billion Yen payable in 30 years, this project improved four river systems and a creek in Iloilo city and Pavia municipality in Iloilo province between 2002 and 2010 with Typhoon Fengshen (called, typhoon Frank locally) disrupting the project implementation in 2008 and killed more than 2,000 people.

Relevance of Policies

According to the ex-post evaluation of JICA in 2014, the project is consistent with Japan's ODA policy on "environmental protection and anti-disaster measures". This evaluation affirms that the project is consistent with the policy of the Philippines' DRRM, as well as with the international agenda on DRR. The project was also found to be consistent with the past and present development plans of the Philippine government as well as with the development needs of Iloilo province, being one of the fast-rising economic centers in central Philippines today. Without the project, economic activities of Metro Iloilo could have been sluggish and non-dynamic as it is these times.

Effectiveness of Results

This evaluation confirms the conclusion of JICA's ex-post evaluation in 2014 about the effectiveness of the results of the Iloilo flood control project.

Box 1:

Iloilo Flood Control Project-Phase II

Implementing Agency	DPWH
Loan Amount, million Yen	6,790
Disbursed Amount, million Yen	6,728
Loan start	March 2002
Loan closed	September 2010
% rate/year, construction Fixed 30 years, 10 years grace period	1.70%
% rate/year, consulting Fixed 40 years, 10 years grace period	0.75%

Outcomes:

1) Discharge capacity is improved

Measurement Point	Baseline (1998)	Target (2007)	Ex-post (2013)
Jaro Bridge	204	150	150
Aganan Bridge	260	550	800
Tigum Bridge	354	450	600
Carpenter's Bridge	296	350	350

Unit: m3/second

2) No flood-related disaster since the completion of the project in 2011

Related JICA Projects:

- DSP 1995, Iloilo Flood Control Project (FS)
- Dispatch of Individual Experts on river management (DPWH)
- TCP, 2000-2005, Enhancement of Capabilities in Flood Control and Sabo Engineering of DPWH
- TCP, 2005-2010, Strengthening the Flood Management Function of DPWH
- TCGP 2012-2017, Community-based Adaptation and Resiliency Against Disasters

Source: Ex-post evaluation report, JICA 2014

The project achieved planned outputs, namely: 1) river improvement works for Aganan River, Tigum River, Jaro River, Iloilo River and Ingore Creek including construction of 3 bridges; 2) construction of floodways including construction of 4 bridges; and 3) development of two resettlement sites. Because of the damage brought by Typhoon Frank in 2008, repair work of damaged project structures, construction of riverbank protection walls and 14 material recovery facilities (MRFs) were included as part of additional outputs [results of interviews

[10] Quantitative assessments and evaluation ratings are done by JICA's ex-post evaluations which are used as references by this study (e.g., Iloilo Flood Control Project, etc.)

with local DPWH, NEDA, CPDO in March 2016]. Outputs were achieved as planned. In some areas within the city, these outputs were complemented by additional infrastructure investments made by national governments after project completion such as rehabilitation/conservation of old bridges alongside the new bridges built by the project, construction of pedestrian walks along the riverbanks and road widening of the main highway leading to the new Iloilo Airport including construction of bike lanes and service roads.

After project completion, flooding due to overflows from rivers was no longer experienced in Iloilo City even during the strong typhoons in the last three years (Yolanda and Quinta). Some low-lying areas may have experienced some flooding during times of heavy rainfall, but key informants observed that flooding subsided after a few hours. Before the project, flooding lasted more than one day. According to key officials and residents interviewed, there has been no damage to life and property after project completion due to the prevention of flooding. Although the project was intended to prevent floods with a 20-year return period, the massive river structures constructed under the project can accommodate floodwaters brought about by strong typhoons as experienced in recent years.

Due to flood mitigation especially in flood prone areas and relocation of informal residents to new sites, sanitation and living conditions of households in low-lying areas and relocations of new housing sites have vastly improved after the project. According to DPWH informants, the project has become the "catalyst of development in Iloilo City and nearby towns" as infrastructure investments by government and private sector poured into Iloilo over the last three years.

The CPDO, however, claimed that government investments (e.g., road widening) are part of master plans, some of which were funded by JICA. But he also claimed that the development of old bridges and riverbanks into pedestrian walkways and parks would not have happened without the project. Private investments in residential and commercial establishments significantly increased even during project construction in anticipation of the flood mitigation effects of the project (CPDO). Property values increased about ten-fold after project completion due to strong demand for commercial and residential land uses within the areas benefited by the flood control project (CPDO).

Iloilo City's vibrant economy may be partly attributed to the flood mitigation brought about by the project. Investors would have not invested in the city if nothing was done to alleviate flooding. The success of the project demonstrated good governance by both national and local officials. This in turn attracted more project investments in Iloilo City both by the public and private sector. Examples are the commercial complex development projects by leading property developers and the riverside promenade and bridge conservation projects of DPWH and the city government.

Appropriateness of Processes

Japan's consultation process in this project was found appropriate. The project invested time and money for social preparations before the start of civil works or construction activities. Social preparation was a key factor in the successful relocation of families to be affected by the construction of Jaro floodway and flood control structures along riverbanks. Stakeholder consultations are important in any project that will affect people's well-being. The long and tedious consultation process adopted by JICA in this project was well appreciated by government actors and affected communities.

Japan's planning process in this project was also found appropriate. This project was planned way back in the 1990s with assistance from JICA. Feasibility studies and detailed engineering studies also form part of the planning process to determine not only the

technical, economic and environmental soundness of the project but also the project's social acceptability and social safeguards that need to be put in place. Thus, even during the planning stage, consultation with stakeholders and affected families was already built into the process. While the main project facilities seem to be well-planned, the design and location of material recovery facilities (MRFs) may not have been well-thought of as some of them were observed to be under-utilized. Subsequent planning and implementation of DRRM-related Technical Cooperation project, such as CBARAD, enhances the relevance, effectiveness and sustainability of hard infrastructure projects such as the IFCP. Flood control projects may have to be planned in conjunction with DRRM and CCA sector plans at the local, regional and national level.

Japan's implementation process for this project was likewise found appropriate. Key informants revealed that the successful execution of the project may be attributed to the thorough project studies and social preparation conducted by Japan Bank for International Cooperation (JBIC) before and during the construction of the project. The close supervision of construction by JICA hired consultants also contributed to the good quality of work by foreign contractors and local sub-contractors. Close coordination between the JICA-hired consultants and the project management office was also a key to the success of the project (DPWH-VI office). Delay in project turnover to the DPWH is affecting the full assumption of project O&M by DPWH and the LGUs. Potential right of way problems should be identified by government prior to the start of the project. This Jaro Floodway construction suffered long delays due to a court case filed by affected residents.

Japan's M&E process for this project was appropriate. M&E played a big role in the management of implementation of this project. According to the DPWH, project contractors were required to submit periodic reports to the project management office which formed the basis of project monitoring, inspection and validation activities by PMO and JICA. Regular monitoring enabled the PMO and JICA to identify and address implementation issues in a timely manner thereby avoiding further delays in project implementation (DPWH-VI office). There are several lessons to be learned from this project. It might be worthwhile for JICA to document and share these lessons to project planners and implementers especially of large-scale project intervention which have the potential to influence urban development.

The degree of coordination between Philippine partners in this project as well is found appropriate. The project coordination mechanism was established through the PMO right from the start of project activities. This coordination mechanism was sustained after project completion in 2014 resulting in additional infrastructure investments in the city using the budget of DPWH such as the restoration/preservation of old bridges along rivers (e.g., Carpenter's Bridge), construction of promenades and pedestrian walkways along riverbanks and road widening projects. (DPWH, CPDO). The Memorandum of Agreement between DPWH and Iloilo City Government is still pending as the City Mayor is still reviewing the draft MOA forwarded by DPWH to the city. (CPDO). During the visit to the completed project facilities, weeds have overgrown along some portions of river embankments. According to the DPWH, clearing of weeds along river embankments is the responsibility of the city government while the desilting of waterways will be assumed by the national government as this entails huge cost. In 2015, DPWH allocated Php50 million to desilt the Jaro floodway. Closer coordination with the city to clarify its responsibilities for O&M should be observed. Apparently, the city is worried about the huge cost of O&M of project facilities such that the Mayor needs to be clarified on the extent of participation of the city in project O&M.

The degree of coordination with other donors is also appropriate. This project was well coordinated with other donors through the NEDA infrastructure investment prioritization process thereby avoiding duplication or overlapping of efforts among donors (NEDA-VI office). No other donors are involved in flood control projects in Iloilo City except JICA.

6.3.2 The Post-Ondoy and Pepeng Short-Term Infrastructure Rehabilitation Project

In a rare phenomenon in the Philippines, two strong typhoons (Ondoy and Pepeng), almost in tandem, devastated Metro Manila and Luzon island, affecting a 9 million population and killing more than 1,000 people. Typhoon Ondoy caused widespread heavy flooding in Metro Manila, while Typhoon Pepeng caused several landslides that made many provincial roads impassable. DPWH immediately started restoring road links but because restoration works required a huge amount of budget, the Government of the Philippines (GOP) requested the Government of Japan (GOJ) for an ODA loans for the rehabilitation projects for roads and bridges and flood control structures damaged by the typhoons.

JICA just started its ex-post evaluation for this project at the time of this evaluation.

Box 2:
Post-Ondoy and Pepeng Short-Term Infrastructure Rehabilitation Project

Implementing Agency	DPWH
Loan Amount, million Yen	9,912
Disbursed Amount, million Yen	
Loan start	2010
Loan closed	2013
% rate/year,	0.01%

Outputs, Outcomes and Impacts:
- 460 damaged roads and bridges were repaired or improved; and 266 flood control structures were restored
- Further damages to roads, bridges and flood control structures destroyed by Ondoy and Pepeng typhoons were prevented
- Continued government rehabilitation services were facilitated
- Continuity of livelihood activities of affected families made possible

Related JICA Projects:
- Post-Disaster Standby Loan, 50 billion Yen; 2014; DOF

Source: Loan Agreement, Project Completion Report (DPWH); results of group discussions with some village residents

Relevance of policies

Like the Iloilo Flood Control project, this project is consistent with the disaster risk reduction management policy of the Philippines, the Philippine Development Plan and the development needs of the areas hit hard by the prolonged stays of both typhoons in Luzon Island in 2009.

Effectiveness of Results

Through this project, 266 flood control structures were restored and 460 roads and bridges were repaired or improved, restoring the functionality of damaged flood control structures and road links all over Metro Manila and Luzon provinces. By restoring the functionality of road and bridge structures as well as flood control facilities, government services were continually made accessible and economic activities of people in affected areas were sustained and have even increased. Results of interviews with beneficiaries in the project sites revealed that rescue, relief and rehabilitation services of the national and local governments were made possible because of the restoration of the functionality of roads, bridges and flood control facilities in the areas. With functional roads, bridges and flood control structures, economic activities of the people have returned to normalcy and have even increased over time. Several typhoons had come and gone after 2009, but beneficiaries in the project areas remained confidently secured with the restored roads, bridges and flood control facilities, still functional six years after the catastrophic phenomena in 2009.

Appropriateness of Processes

The consultation and coordination process of Japan's ODA in this project was appropriately adequate, despite time limitations to conclude an ODA loan agreement with the Department of Finance (DOF), the DPWH and with oversight agencies. The communication and institutionalized feedback system between the DPWH central office, regional offices and District Engineering Offices (DEOs) were perfectly working in identifying and prioritizing destroyed roads, bridges and flood control structures for the project's intervention. Degree of coordination between and among other donors and with other Philippine partner organizations had been appropriately adequate as well.

The designing and planning aspects of project implementation of this project was mainly entrusted to DPWH, as the objective of the project intervention was only to restore the existing structures of roads, bridges and flood control structures damaged by the typhoons Ondoy and Pepeng.

The project was mainly implemented by DPWH. There was no Technical Assistance (TA) component for this project. However, JICA separately hired the services of Monitoring Specialists to ensure proper and quality implementation process of the project. As such, the planning, implementation and monitoring aspects of this project is deemed appropriate.

6.3.3 The Project for Improvement of the Meteorological Radar System

The project constructed radar tower buildings in Virac, Catanduanes, Aparri, Cagayan and Guiuan, Eastern Samar and provided meteorological radar, data display system and generators for data satellite communication. The locations of the radars are very strategic to observe and forecast weather and climate activities, especially tropical cyclones. Before these radars, weather observation, forecasting and warnings were based on satellite data which usually require more time to calculate forecasts of the distance of the satellite from the earth's surface. With the new radars, the actual position of tropical cyclones and their landfall estimates are more accurately determined, even if the tropical cyclones are still far from the Philippine Area of Responsibility (PAR).

Box 3:
The Project for Improvement of the Meteorological Radar System

Implementing Agency	PAGASA-DOST
Grant Amount, million Yen	3,065 million Yen
Project start	2009
Project end	2013
Outputs, Outcomes & Impacts: • Radar tower buildings were constructed each in Virac, Aparri and Guiuan equipped with meteorological data display systems, generators and communication equipment • Storm locations are effectively tracked, directions and landfalls are more accurately forecasted; rainfall estimation made more accurate	
Related JICA Projects: • Grant Aid, Rehabilitation of Guiuan Radar • TCP, Strengthening of Flood Forecasting and Warning Administration, 2004-2006 • TCP, Weather Observation, Forecasting and Warning Capacity Enhancement Project, 2014-2017	
Source: Grant Aid Agreement, results of interviews with PAGASA	

This Grant Aid project is also complemented with a 3-year Technical Cooperation Project (TCP) of JICA, which will end in 2017. The ongoing TCP has maximized the technical applications of the installed radars through continuous trainings of PAGASA staff by Japanese experts.

Relevance of Policies

This project is consistent with the DRR policy of the Philippines, the national development plan and the needs of the PAGASA in terms of technology upgrade of early-warning systems.

Effectiveness of Results

The results of this project are highly effective in accurately generating data, interpreting data and in disseminating timely appropriate warnings to the specific public. Through the radars, rainfall can also be accurately estimated, thereby providing timely flood warnings to people in specific areas forecasted to be affected by weather system disturbances. The effectiveness and efficiency of the radars were already tested over time since their installation and functioning in 2011. Every day, media personnel are present in the PAGASA office to gather weather information and disaster risk warnings and disseminate the same to the public.

The outcome and impacts of this project are tremendous. Forty years ago, it was difficult for PAGASA to provide the public a 5-day weather outlook, including prediction of rain, 24-hour weather forecast, and amount of rainfall. JICA has since supported PAGASA to increase PAGASA's capability in natural disaster preparedness and mitigation, hydro-meteorological services, weather research, and flood forecasting for dam operations.

From 1980 to 2009, the Philippines incurred $7.16 billion economic losses due to natural disasters, based on data from the UNESCAP Asia Pacific Disaster Report 2010. These included floods, storms, and earthquake over a 30-year period.

"JICA's assistance, particularly the trainings, helped us maintain the radar equipment and utilize timely, reliable and accurate data. We used to rely on analog pictures for data encoding so that our meteorologists can interpret the data. The state-of-the-art technology systems we received from Japan improved all that," said the Division Chief of PAGASA's Weather Forecasting Office.

Appropriateness of Processes

Since 1973, JICA has implemented several ODA projects with PAGASA, namely the Flood Forecasting and Warning System for Dam Operations Project or FFWS (1973-1986) covering five major dams in Luzon, as well as capacity building projects such as Strengthening Flood Forecasting and Warning Administration (2004-2006), Flood Forecasting and Warning System for Dam Operations (2010-2012) and Strengthening of Flood Forecasting and Warning System in Pampanga and Agno River Basins (2011). At present, PAGASA has both Japanese and Korean satellites and Japanese and US radars, working together to draw more accurate and actual data-based conclusions for real-time public warnings.

The processes of Japan's ODA in this project have been adequate and appropriate. Consultations with other donors also assisting PAGASA, like KOICA, were appropriately conducted during the survey and design phase of the project. Consultations and historical data validations were also conducted appropriately with other Philippine organizations like the local government units concerned in this project.

The processes of planning, implementing and monitoring this project have been aided by the on-going Technical Cooperation project. JICA-Philippines office is also conducting independent monitoring during the project implementation process and properly facilitating documentation requirements towards the end of the project, such as the Deed of Donation

and annual reporting by recipient organizations on the status of donated facilities and equipment.

6.3.4 Project for Evacuation Shelter Construction in Disaster Vulnerable Areas in Province of Albay

Box 4:
Project for Evacuation Shelter Construction in Disaster Vulnerable Areas in Province of Albay

Implementing Agency	Provincial Government of Albay
Grant Amount, million Yen	739 million Yen
Project start	2011
Project end	2013

Outputs, Outcomes and Impacts:
- Three 2--storey evacuation shelters were constructed each in 6 schools (where? Spec, designed to withstand wind velocity of 350-km per hour
- Utilized as evacuation shelters during disasters and as school buildings when there is no evacuation activity
- Increased student enrolments
- Increased students' academic performances were observed

Related JICA Projects:
- Dispatch of Japanese volunteers to APSEMO-Provincial Government.

Source: The Embassy of Japan Website (http://www.ph.emb-japan.go.jp/pressandspeech/press/pressreleases/2014/15.html)

The project constructed three 2-storey school buildings cum evacuation shelters in each of the six different sites in the province of Albay. In each site, there are two 2-storey school buildings cum evacuation shelters and a kitchen building. The school buildings cum evacuation shelters are complete with classrooms, office, toilet and shower units. The kitchen building on the other hand is complete with a space for kitchen, laundry and a room for the generator. The buildings were built strong to withstand 350-km per hour wind velocity.

Relevance of Policies

Like the three other case projects earlier discussed in this report, this project is consistent with the DRR policy of the Philippines, the national development plan and the needs of the provincial government of Albay, where people's productive activities are always threatened by the activities of the Mayon volcano and typhoons.

Effectiveness of Results

The results of this project are proven highly effective. The level of inputs (resources) from Japan's ODA was sufficient to keep the effectiveness of the project outputs high. The resources of the Provincial government, including city and municipal governments are also sufficient to shoulder maintenance requirements of donated facilities and equipment.

The facilities have been used many times as evacuation centers since their turn-over in 2014. The facilities are also utilized effectively as school buildings for two consecutive school years already (2014-2015 and 2015-2016). One school building cum evacuation center and the kitchen building in Polangui North Central School have been utilized by the Polangui municipal government as its office Monday-Friday since August 2015, because the Municipal Hall buildings were destroyed earlier by a typhoon. The Department of Education (DepEd) had also decided to utilize the Grant Aid facilities as dormitories for some 650 student-athletes in the 2016 National Sports Competition to be held during the last week of March 2016, except for Polangui North Central School, all other five recipient-schools (i.e., Gogon Elementary School; Sto. Domingo Elementary School, Libon Community College, Polangui Elementary School, and Oas Elementary School) reported to have their enrolments increased and their students academically performing well (e.g., Gogon Central School, etc.).

The Grant Aid facilities are used mostly for educational purposes because evacuees stay there only temporarily, the longest of which was about three weeks when the Mayon volcano has had rumbling activities in 2015.

Appropriateness of Processes

The consultation and coordination processes of this project were considered appropriate. The provincial government, the municipal and city governments concerned, the local DepEd officials were properly consulted about the project, including the PHIVOLCS authorities for identifying the spots within the recipient-schools safe from the earth's movements. So, the degree of coordination among Philippine partners had been extensive for this project. Coordination with other donors has been conducted for this project so that constructing similar projects by other donors in the same schools were avoided. The Spanish government through the AECID constructed 10 units of evacuation shelters cum school buildings in other schools in the province.

The designing and planning of this project had been extensive. A JICA Preparatory Study was conducted in March 2011 for this project, which served as the Basic Design Study activity of Japan's Grant Aid program. The study report was explained by the Japanese study team to the Provincial Government and other parties concerned, the results of which became the basis for the procurement activities of the project.

Under the Grant Aid program, the monitoring of the project implementation for this project was carried out by a Japanese consultant hired by JICA, which monitored the progress of implementation by the Japanese contractor which employed local workers. The JICA-Philippines office additionally checked the progress of project implementation from time to time during construction period. At the time of evaluation, the Deed of Donation and Memoranda of Agreements between the Provincial Government and the DepEd (schools), and the municipal and city governments where the Grant Aid facilities are located, are being prepared by the JICA – Philippines Office. The results of these documentation activities are important to facilitate regular budget allocation for maintenance requirements and government audit.

7. Summary of Results

7.1 Relevance of Policies

The current DRR assistance policy of Japan's ODA to the Philippines is in line with Japan's ODA Charter. The Japan's ODA Charter has four pillars, one of which is about "addressing global issues" which includes disasters. During the World Conferences on DRR, the Japanese government had presented its basic policies and demonstrated its efforts in DRR cooperation through Japan's ODA.

Japan's DRRM experiences, knowledge and technological capability have been widely disseminated and utilized in the Philippines. Over the last decade, Japan's ODA has been encouraging Japanese NGOs, universities, local governments and even Japanese small and medium enterprises in the private sector to help develop DRRM human resources and infrastructure of the Philippines through such assistance schemes as the JICA Partnership Program, Survey for Technology Promotion of Japanese SMEs and SATREPS as well as through the Grant Assistance scheme for Japanese NGO Projects. Involving the Japanese private sector, NGOs, universities and local governments in Japan's international cooperation on DRR through Japan's ODA does not only benefit the Philippines but may

also contribute to revitalizing Japan's economy, as Japan remains one of the biggest trading partners of the Philippines.

The assistance policy of Japan's ODA towards the DRRM sector in the Philippines is also consistent with the DRR assistance policies and priorities of other donors, which are in line with the Hyogo Framework of Action and the Sendai Framework of Action. The contents of Japan's Country Assistance Policy for the Philippines' DRRM are highly complementary with other donors' assistance priorities in the DRRM sector that covers institution building, human resource development, economic and social infrastructure development and reconstruction of livelihoods of disaster victims.

7.2 Effectiveness of Results[11]

Although Japan's ODA to the Philippines has declined, the financial assistance of Japan's ODA to the DRRM sector in the Philippines has actually increased as Japan continuously disbursed its commitments to the DRR global initiatives, which was collectively agreed upon during the World Conferences on DRR. Japan's ODA inputs to the case projects of this study had been sufficient to produce expected outputs and sustain positive results of those outputs to the targeted population and regions of the Philippines.

In the Philippines, the sustained utilization of Japan's ODA outputs by the beneficiaries is attributed to the follow-through Technical Cooperation Projects after economic infrastructure facilities and equipments are established. For example, people's awareness about disaster prevention and resiliency after the completion of the Iloilo flood control project was increased by the implementation of the JICA Partnership Program called, CBARAD with the Iloilo city government. The utilization of weather data generated by the radar systems improved by Japan's Grant Aid has been maximized through the Technical Cooperation Project (TCP) that enhances the capability of PAGASA weather forecasters. The students' knowledge about disaster prevention and resiliency is continuously being updated after Japan's Grant Aid built the evacuation shelters cum school buildings in Albay province through the dispatch of Japanese volunteers to the provincial government and DepEd. These initiatives show how Japan's ODA maximized the achievements of expected outputs at different levels by combining technical and financial assistance and by mobilizing Japanese resources including the private sector and NGOs for DRRM activities at the international development arena.

The outcomes caused by effectively producing the outputs of Japan's ODA projects in the Philippines have been tremendous at different levels. For example, the evacuation shelters built by Japan's Grant Aid in Albay have been keeping families safe during disasters (e.g., Typhoon Nona in December 2015, etc.) as well as the Iloilo flood control facilities built by Japan's ODA loans and therefore kept them continuously productive economically and socially during and after the disasters. The immediate infrastructure rehabilitation project (POPSTIRP) by Japan's ODA loan did not only prevent further damage to roads and flood control structures but also ensured the safety of the local population. The weather observation radar systems in Virac, Aparri and Guiuan improved by Japan's Grant Aid starting in 2009 had since then advanced the capability of Filipino forecasters in accurately determining directions and landfalls of storms and the amount of rainfalls in specific areas thus making timely and appropriate public warnings now possible.

[11] Quantitative assessments are addressed by JICA's Ex-Post Evaluations which are used as references by this evaluation (e.g., ex-post evaluation of the Iloilo Flood Control project, etc.)

The impacts attained by Japan's ODA in the DRRM sector in the Philippines have been remarkable. For example, people's trust and confidence in the government's weather forecasting and warning capabilities had been kept at a high level from very low levels 30 or 40 years ago. Economic investments in the previously disaster-prone areas, such as Iloilo city, had been increasing overtime, keeping local economies more vibrant and providing more economic opportunities for the people.

7.3 Appropriateness of Processes

In recent years, Japan's ODA in the Philippines' DRRM sector have mobilized knowledge and technologies of DRR-related Japanese universities, local governments, private sector companies and NGOs. The domestic and overseas consultation and coordination processes essentially required in designing, planning, implementing and monitoring Japan's ODA DRRM supported projects in the Philippines have been properly facilitated by JICA.

In the Philippines, there are presently numerous organizations involved in the DRRM sector. Their specific roles and responsibilities are made clear and have been institutionalized through the enactment of national laws on climate change (Republic Act 9729 in 2009) and on disaster risk reduction and management (Republic Act 10121 in 2010). Climate change adaptation and DRR are clearly delineated between the central government and local governments through these laws. Because of a highly institutionalized consultation and coordination system of the DRRM sector in the Philippines, JICA is continuously making efforts to effectively facilitate appropriate consultation and coordination processes of Japanese organizations involved in Japan's ODA in the DRR activities.

The Embassy of Japan and JICA are also continuously making efforts to intensify coordination not only with the Philippine government agencies but also with other providers of development cooperation. This is done for the purpose of maximizing the utilization of the results of ODA resources by Philippine recipient organizations. Further, JICA is also making efforts to connect new and pipelined projects to previously implemented DRR-related projects of Japan's ODA in the Philippines to generate more synergistic effects such as the case of the completed ODA loan-Iloilo Flood Control Project and the on-going community-based JICA Partnership Program.

8. Recommendations and Lessons Learned

8.1 Recommendations

(1) ***Continue to focus assistance policy at enabling the Philippines to mitigate and manage disaster risks.***
Towards this goal, is the Evaluation Team recommends that Japan's ODA to the DRRM sector in the Philippines continues to prioritize assistance in the fields where Japan has comparative advantages such as: (i) institution building; (ii) human resource development; (iii) economic and social infrastructure development; and (iv) reconstruction of livelihoods of disaster victims.

(2) ***Make Japan's ODA projects DRR-sensitive and inclusive.***
Most projects supported by Japan's ODA in the Philippines have incorporated or included aspects of poverty alleviation, environment, women and other social considerations. In the same manner that the Evaluation Team recommends to include in future projects of Japan's ODA important considerations or features on disaster risk reduction and resiliency, in consultation with relevant stakeholders to ensure their participation during the project planning and implementation processes.

(3) ***Continue to strengthen the complementation of Technical Cooperation Projects and ODA loans/ Grant Aid projects.***

Sustained utilization of facilities built and equipment provided by Japan's ODA loan and Grant Aid projects are enhanced by implementing follow-through assistance that further develop human resources and institutional capacities of implementing agencies, especially in reconstructing people's livelihoods after disasters. This is demonstrated by the case projects covered by this evaluation. As such, the Evaluation Team recommends that the planning and designing of Japan's ODA continue to complement Technical Cooperation Projects and ODA loans or Grant Aid-supported projects for improved sustainability and better outcomes.

(4) ***Present and pipelined projects must be linked to past related projects.***

The year 2014 marked the 50th anniversary of Japan's ODA in the Philippines. This year (2016) marks the 60th year of dispatching Japanese volunteers to many organizations in the Philippines. The development cooperation between Japan and the Philippines through Japan's ODA had indeed gone a long way. Many of the old facilities built by Japan's ODA loans and Grant Aid programs are still very much in use by several government agencies. In order to maximize Japan's ODA impacts, the Evaluation Team recommends that future DRR projects, as much as possible, be linked or take into account the useful lessons from the experiences of past cooperation projects. Initially, the findings and lessons learned from this Joint Evaluation should feed back to the planning and improved design of future projects.

(5) **Pursue collaborative projects with other providers of development cooperation in the Philippines DRRM sector.**

While the Philippine government is appropriately mapping pipeline ODA projects based on the strengths and weaknesses of each development partner, the Evaluation Team recommends that Japan's ODA initiates project formulation processes that encourage collaboration with other providers of development cooperation in the DRRM sector not only for resource complementation and better synergies, but also for promoting Japan's DRRM concepts, technologies and practices in the international development spectrum. There are existing opportunities for such initiatives to flourish. In weather and flood forecasting and warning, for example, various providers of development cooperation such as KOICA, etc. are assisting PAGASA-DOST improve capacities of related equipment and staff competence to draw more accurate data-based conclusions for real-time public warnings.

(6) ***Encourage more active participation of the Government of the Philippines oversight agencies, such as the Department of Finance (DOF) and NEDA in designing, planning, financing, monitoring and evaluating Japan's ODA in the DRRM sector.***

The Evaluation Team recommends that concerned government agencies be encouraged to actively participate in project formulation activities, implementation monitoring and project evaluation activities performed by JICA, such as the ex-ante evaluation or appraisal missions; mid-term reviews and ex-post evaluation missions to enhance project accountability and local ownership.

The Department of Finance (DOF) coordinates domestic and external financing, including ODA resources for national development programs and projects. NEDA, on the other hand, is an oversight agency tasked not only to coordinate assistance of providers of development cooperation but also to monitor progress of project implementation and evaluate results of ODA support in the DRRM sector. More specifically, NEDA has several offices involved in the DRRM efforts in the Philippines: the Regional Development Staff (RDS), which is involved in the national development coordination mirrored by NEDA Regional offices in-charge of regional and LGU coordination in the DRRM sector; the Project Investment Staff (PIS), which is involved in investment programming; Infrastructure and Agriculture, Natural Resources, and Environment Staffs involved in the coordination, planning and designing of

DRRM projects under their sectors, and the Monitoring and Evaluation Staff (MES), which is responsible for progress monitoring and results evaluation of ODA-supported projects.

8.2 Lessons Learned

Conduct of appropriate monitoring and evaluation of projects by oversight agencies and development partners results in effective and timely decision-making, consequently avoiding implementation delays. Japan's ODA in the Philippines has demonstrated the importance of the facilitation, monitoring and evaluation roles of JICA overseas offices, such as the JICA-Philippines office, before, during and after project implementation.

Further, participatory approaches in the formulation of results indicators during the design and planning phases for Japan's ODA (Technical Cooperation, ODA loan, and Grant Aid projects) under the DRR sector is necessary to put more focus on projects' results. Consequently, planning for the measurement of results indicators, and providing funds thereof must also be incorporated during the design of the projects.

Sustainability measures, such as commitments of entities in terms of providing budget and manpower capable of operating the facilities must be identified and assigned during implementation or prior to completion.

Both the Japanese and Philippine Governments must take stock of lessons learned and experiences from completed projects by continually conducting evaluation studies and sharing knowledge gained from the studies. More importantly, these should be fed in the planning and design of future assistance projects.

ANNEX 1

FRAMEWORK FOR EVALUATION OF JAPAN'S ODA TO DISASTER RISK REDUCTION AND MANAGEMENT IN THE PHILIPPINES

Viewpoint	Tool	Criteria	Indicators	Required information	Information Sources	Methods
Purpose	Objective Tree	Relevance of policies	Consistency with Japan 's ODA policy & strategy	Japan's assistance framework to Disaster Risk Reduction and Management in the Philippines	MOFA, JICA,	Desk study Interview responsible person(s)
			Consistency with the policy of Philippine Disaster Risk Reduction and Management	National strategies and plans on Disaster Risk Reduction and Management	Government of the Philippines	Desk study Interview responsible person(s)
			Consistency with international agenda in Disaster Risk Reduction and Management effort	International agenda on Disaster Risk Reduction and Management	UN agencies	Desk study
Results	Results hierachy	Effective-ness of results	Level of sufficient inputs from different stakeholders	Inputs (both financial and non-financial, such as human resources, time) from JICA, GOP	JICA Government of the Philippines	Review projects´ proposals and projects´ reports
			Extent in which expected outputs, outcomes at different levels have been achieved	Results (outputs and outcomes) of projects	JICA Government of the Philippines	Review and analyse reports Collect available data respective to expected outputs and outcomes Interview responsible person(s, direct observation
			Impacts on Disaster Risk Reduction and Management in the Philippines	Data on Disaster Risk Reduction and Management efforts in the Philippines	Government of the Philippines	Reports on Disaster Risk Reduction effort in the Philippines Interview responsible person(s)
			Level of sustainable of projects and program (in term of models, human resources/capacity, finance, materials)	Post-project operation and maintenance (for the sustainability of project effectiveness)	JICA Government of the Philippines	Desk Review of relevant documents, including budgetary arrangements. Direct Observation & Interviews

Viewpoint	Tool	Criteria	Indicators	Required information	Information Sources	Methods
Processes	Flow Chart	Appropriateness of processes	Appropriateness of Consultation & Coordination	Process of consultation and coordination Flow of information/communication between stakeholders	JICA Government of the Philippines	Desk Review on relevant documents Interviews people involved in the process of consultation and coordination
			Degree of coordination between JICA with other donors who have the same goal in the Philippines.	Involvement in networks Agreements with other donors	JICA Government of the Philippines	Desk Review on relevant documents Interviews with officials and experts of Japan and Philippine Government
			Degree of coordination between Philippine partners	Coordination between stakeholders in the program Coordination between them with other related partners	Government of the Philippines	Interview managers of organisations
			Appropriateness of planning, implementation, monitoring and evaluation process among Philippine stakeholders	Management structures Procedures & methods of planning Procedures and mechanism for operations and maintenance Procedures of monitoring and evaluation of project activities	Government of the Philippines	Interviews people involved in the process of planning, implementation, M&E

Annex 2

List of Collected Secondary Data References
[as of March 31, 2016]

Name/Title	Information Source	No. of Pages	Year Published	File
1. Action Plan for Strengthening of the Strategic Partnership	MOFA	8	-	pdf
2. Assessment of Disaster Risk Reduction and Management (DRRM) at the Local Level	COA	32	2014	pdf
3. Building Resilient Communities Risk Management and Response to Natural Disasters through Social Funds and Community-Driven Development Operations	The World Bank	430	-	pdf
4. Cooperation Road Map for Quality Infrastructure Development in the Transport Sector in Metropolitan Manila Area	MOFA	3	-	pdf
5. Country Assistance Evaluation of the Philippines (Summary)	MOFA/Third Party Evaluation	29	Mar 2011	pdf
6. Country Assistance Policy for the Republic of the Philippines	MOFA	3	April 2012	pdf
7. Grant Agreement for the Project for Evacuation Shelter Construction in Disaster Vulnerable Areas in the Province of Albay	-	7	Aug 2011	word
8. Ex-ante Evaluation Report Post-Ondoy and Pepeng Short-Term Infrastructure Rehabilitation Project	JICA	6	-	pdf
9. Ex-Post Evaluation Report Iloilo Flood Control Project-I & II	JICA/Octavia Japan Ltd.	9	-	pdf
10. Final Report Post Ondoy and Pepeng Short-Term Infrastructure Rehabilitation Project	DPWH/Katahira & Engineers International	182	Oct 2012	pdf
11. Guidelines for the Partner Country-led Evaluations	MOFA	18	Apr 2015	word
12. Hyogo Framework for Action 2005-2015	UN	5	-	word
13. Institutional and Policy Landscapes of Disaster Risk Reduction and Climate Change Adaptation in Asia and the Pacific-Philippines	ICRAF/UNISDR	69	Sep 2010	word
14. Integrating Disaster Risk Reduction and Climate Change Adaptation (DRR/CCA) in Local Development Planning and Decision-making Processes (Mid-Term Report)	AusAID-assisted and UN-administered Project	91	Dec 2012	pdf

15. Japan's ODA Data-Philippines	MOFA	3	-	pdf
16. Japan's ODA for NHMSs in Southeast Asia	JICA/Kota Katsumata	29	Mar 2014	pdf
17. List of DRRM projects supported by JICA 2003-2015	JICA	1	-	excel
18. Memorandum on Post Ondoy and Pepeng Short-Term Infrastructure Rehabilitation Project Between JICA and DOF	-	181	Jun 2010	pdf
19. Mid-Term Review and Evaluation Report Integrating Disaster Risk Reduction and Climate Change Adaptation (DRR/CCA) in Local Development Planning and Decision-making Processes	AusAID/UNDP	91	Dec 2012	pdf
20. Minutes of Discussions on the Basic Design Study for the Project for the Improvement of Meteorological Radar System in the Philippines	JICA	9	Nov 2008	pdf
21. National Disaster Risk Reduction and Management Plan 2011-2028	NDRRMC	70	-	pdf
22. ODA Evaluation Guidelines 8th Edition	MOFA	43	May 2013	pdf
23. Philippine Development Plan 2011-2016 Mid-Term Update	NEDA	374	2014	pdf
24. Philippine development Plan 2011-2016 Revalidated Results Matrices	NEDA	92	2014	pdf
25. Preparatory Study Report on the Project for Evacuation Shelter Construction in Disaster Vulnerable Areas in the Province of Albay	JICA/Mohri, Architect and Associates Inc.	126	Mar 2011	pdf
26. Project Briefer Iloilo Flood Control Project-II	JICA/DPWH	4	-	word
27. Project Completion Report Post-Ondoy and Pepeng Short-Term Infrastructure Rehabilitation Project	JICA	39	-	pdf
28. Rolling Plan for the Philippines (CAS Attachment)	MOFA	9	April 2012	pdf
29. Sendai Framework for Disaster Risk Reduction 2015-2030	UN	8	Mar 2015	word
30. Strategic Research Into National and Local Capacity Building for DRM-Philippines Fieldwork report	Oxford Policy Management	79	Mar 2015	pdf
31. The Preparatory Study for Sector Loan on Disaster Risk Management in the Republic of the Philippines	JICA/CTI Engineering International Co., Ltd.	87	Jan 2010	pdf

Annex 3

List of Organizations Visited and Represented by Interviewees

1. Embassy of Japan, Pasay City
   1.1 Second Secretary (In-charge of ODA projects for DRRM)
2. JICA-Philippine Office, Makati City
   2.1. Senior Representative (1 person)
   2.2. Project Formulation Advisor (Disaster Management), Poverty Reduction Section (1)
   2.3. Resident Representatives (2 persons)
   2.4. Senior Program Officers (2 persons)
3. National Economic and Development Authority (NEDA
   3.1. Director, Monitoring and Evaluation Staff (MES) (1)
   3.2. Senior Economic Specialists (5 persons)
4. Department of Public Works and Highways (DPWH)
   4.1. Bureau of Maintenance (BOM)
      4.1.1 Director, BOM (1)
      4.1.2 BOM staff (2 persons)
   4.2. FCMC
      4.2.1 Assistant Director, FCMC (1)
      4.2.2 FCMC staff (4 persons)
5. National Economic and Development Authority-Region V (NEDA-V)
   5.1 NEDA-V Regional Director (1)
   5.2 Economic Development Specialist (1)
   5.3 Senior Economic Development Specialist (3 persons)

6 Provincial Government of Albay
   6.1 Provincial Governor, Province of Albay (1)
   6.2 Provincial Government Department Head, APSEMO (1)
   6.3 Special Operations Officer IV, APSEMO (1)
   6.4 Provincial Engineer (1)
   6.5 Planning and Programming Division, Provincial Engineer's Office (2 persons)

7 Department of Public Works and Highways-Regional Office V (DPWH-V)
   7.1 Regional Director, DPWH-V (1)
   7.2 Chief, Maintenance Division, DPWH-V (1)
   7.3 Staff Maintenance Division (2 persons)

8 Department of Education (DepEd)
   8.1 Albay Division Office
      8.1.1 Division Superintendent (1)
      8.1.2 Project Development Officer II-LDRRM Coordinator (1)
   8.2 DRRMS Staff of DepEd-Central Office
      8.2.1 Technical Assistant (1 person)
      8.2.2 Project Development Officer II (1)
   8.3 Legazpi City Division Office
      8.3.1 Division Superintendent (1)
      8.3.2 Project Development Officer II (1)
   8.4 Recipient Schools
      8.4.1 Gogon Elementary School
         8.4.1.1 School Principal (1)

8.4.2 Sto. Domingo Elementary School
8.4.2.1 Grade VI Teacher (1)
8.4.2.2 Grade IV Teacher (1)
8.4.2.3 Grade V Teacher (1)
8.4.2.4 Grade IV Teacher/OIC-Principal (1)
8.4.3 Libon Community College
8.4.3.1 College Administrator (1)
8.4.4 Polangui Elementary School
8.4.4.1 School Principal (1)
8.4.4.2 Grade V Teacher (1)
8.4.4.3 Grade VI Teacher (1)
8.4.5 Oas South Central School
8.4.5.1 School Principal (1)
8.4.5.2 SPED Teacher (1)

9 National Economic and Development Authority-Region VI (NEDA-VI)
9.1 NEDA-VI Regional Director (1)
9.2 Asst. Regional Director (1)
9.3 Senior Economic Development Specialist (1)
9.4 Senior Economic Development Specialist (1)

10 Department of Public Works and Highways, Region VI (DPWH-VI)
10.1 Chief, Planning and Engineering Division (1)
10.2 Chief, Planning Section (1)

11 City Planning and Development Office (CPDO), LGU Iloilo City
11.1 City Planning and Development Coordinator (1)

12 Selected Project Sites of Iloilo Flood Control Project
12.1 Barangay San Isidro
12.1.1 Former City Councilor (1)
12.1.2 CBARAD Project Coordinator (1)
12.1.3 CSWDO Staff (1)
12.1.4 Barangay Kagawad (1)
12.1.5 Past President, PWD Federation, Iloilo City (1)
12.1.6 Barangay Resident (1)
12.2 Barangay Dungon A
12.2.1 Barangay Residents (3 persons)
12.2.2 Pre-school Teacher (1)

13 PAGASA-DOST
13.1 Division Chief, Weather Observation Office (1 person)
13.2 Chief Adviser, JICA-PAGASA TCP on Enhancing Capacity on Weather Observation, Forecasting and Warning (1)
13.3 Project Coordinator, JICA-PAGASA TCP on Enhancing Capacity on Weather Observation, Forecasting and Warning (1)

14 PHIVOLCS-DOST
14.1 Director (1)

15 Office of Civil Defense-Department of National Defense (OCD-DND)
15.1 Undersecretary (1)
15.2 Technical Staff (1)
15.3 Planning staff, PPD (1)

15.4 Chief, Education and Training (1)
15.5 Chief, NDRRM Division Service (1)
16 DPWH-Agno Flood Control System (AFCS)
16.1 AFCS Office, Tumana, Rosales, Pangasinan
16.1.1 Engineer III/Caretaker (1)
16.1.2 AFCS staff, Engineer II (2 persons)
16.2 Flood Control Beneficiaries/POPSTIRP, Barangay San Vicente, San Manuel, Pangasinan
16.2.1 Barangay Residents (14 persons)
17 Asian Development Bank (ADB)
17.1 Principal Country Specialist, Philippines Country Office, Southeast Asia Department (1)
18 United Nations Development Programme (UNDP)
18.1 Team Leader, Energy and Development (1)
18.2 Project Associate, Resilience and Peace Building (1)
19 Via Television Conferencing, JICA-Net System
19.1 MOFA (Tokyo)
19.1.1 4 persons
19.2 JICA (Tokyo)
19.2.1 4 persons

Annex 4

Evaluation Activities and Schedules
EOJ-NEDA Joint Evaluation of Japan's ODA on the DRRM sector in the Philippines

Date	Place	Activity	
January 13-15	Metro Manila	Collect secondary reference materials	
January 16-31	Metro Manila	Make Tentative Plan of Implementation, collect comments then finalize Evaluation Study Plan	
February 1	NEDA-Pasig	Meeting with NEDA-MES counterparts	
February 2-4	Metro Manila	Make and submit First Progress Report	
February 5	JICA Makati	Conduct Kick-off meeting via TV conference with participants from Tokyo	
February 6-28	Metro Manila	Collect and review secondary data, make field survey plans for case projects; coordinate with concerned agencies concerning schedules of field visits and interviews	
February 29	NEDA-Pasig	Meeting with NEDA-MES counterparts concerning final preparations for the joint field surveys	
March 1-2	Metro Manila	Prepare for field surveys in Legazpi and Iloilo cities	
March 3	Team A (Legazpi City) Team B (Iloilo City)	Team A* [Construction of Evacuation Shelter in Albay-Grant Aid]	Team B** [Iloilo Flood Control-Yen Loan]
		Courtesy call/interview with NEDA-Region V staff	Courtesy call/interview with NEDA-Region VI staff
		Courtesy call/interview with Provincial Governor	Courtesy call/interview with DPWH-Region VI staff
		Focus Group Interview with staff of APSEMO and PEO	Conduct direct observation around flood control facilities
		Courtesy call/interview with DPWH-region V staff concerning POPSTIRP Yen Loan project (roads and bridges component)	
March 4	Team A (Legazpi city, Sto. Domingo, Libon, Polangui and Oas municipalities) Team B (Iloilo city)	Interview DepEd-Albay Division Officials, interview DepEd-Legazpi City Division officials	Focus group discussions with residents/beneficiaries in Barangay Dungon A and San Isidro, Jaro District
		Conduct direct observations and interviews with school principals and teachers in 5 recipient schools of Gogon, Sto. Domingo, Libon, Polangui and Oas	Interview with Iloilo city government officials

March 5-6	Pantao, Albay Province (Km 502)	Conduct direct observation of some of the roads and bridges component of POPSTIRP with Engineers of DPWH-Region V office	
	Balatan, Camarines Sur (Km486+100)		
March 5	Camarines Sur	Make and submit Second Progress Report	
March 6-14	Metro Manila	Reconfirm schedules of interviews and remaining field visits (POPSTIRP-flood control component), continue collecting secondary data; determine data gaps; make outlines for interviews	
March 15	DPWH, Manila City	Conduct interviews with DPWH officials: • Flood Control Management Cluster (FCMC) • Bureau of Maintenance (BOM)	
March 16	Quezon City	Conduct interviews with: • PAGASA (Improvement of Radar System-Grant Aid) • PHIVOLCS and • Office of Civil Defense (OCD)	
March 17	Pangasinan*** province (Urdaneta City, San Manuel municipality)	Conduct courtesy call/interview with DPWH-Flood Control field staff in Urdaneta, Pangasinan (with NEDA counterparts)	
		Conduct direct observation in some segments of the flood control component of POPSTIRP project in San Manuel, Pangasinan	
		Conduct focus group discussions with barangay residents/beneficiaries in Barangay Narra, San Manuel, Pangasinan	
March 18	Pangasinan	Conduct on-site Team meeting with NEDA counterparts to consolidate individual findings and impressions	
March 19-20	Metro Manila	Review data gaps and prepare for interviews for other donor organizations	
March 21	Pasig City	Conduct interview with Asian Development Bank (ADB)	
March 22	Makati City	Conduct interview with UNDP	
March 23	JICA Makati	TV conference with NEDA, EOJ, JICA, Tokyo officials JICA-Net system. Make presentation on the Progress of the study: results of field visits and interviews	
March 24-28	Metro Manila	Make Draft Report and circulate to team members	
March 29	Taguig City	Interview with World Bank (WB)	
March 29-30	Metro Manila	Collect comments on the draft report	
March 31	NEDA-MES	Make presentation on the results of the study	
	Metro Manila	Make and submit final report incorporating comments and suggestions from stakeholders	

* Team A members:

(1) Engr. Rey Gerona, Consultant
(2) Ms. Gemma Agagas, NEDA-MES Staff/Ms. Arlyn Ramirez, Senior Economic Development Specialist, NEDA-Regional Office-V
(3) Ms. Mildred Delos Reyes, NEDA-MES Staff/Mr. Joel Lustina, Senior Economic Development Specialist, NEDA-Regional Office-V
(4) Ms. J-Ann Militar, Senior Program Officer, JICA-Philippine Office
(5) Ms. Marian Aniban, Technical Assistant, DepEd DRRMS (central office)
(6) Ms. Mishelle Somido, Project Development Officer I, DepEd DRRMS (central office)

** Team B members:

(1) Mr. Nick Baoy, Consultant
(2) Ms. Nikki Bermudez, NEDA-MES Staff
(3) Ms. Maria Sherinna Ysabel Jose, NEDA-MES Staff
(4) Ms. Cathy Palanca, Senior Program Officer, JICA-Philippine Office

*** Visiting Team members:

(1) Engr. Rey Gerona, Consultant
(2) Mr. Nick Baoy, Consultant
(3) Ms. Gemma Agagas, NEDA-MES Staff
(4) Ms. Mildred Delos Reyes, NEDA-MES Staff
(5) Ms. Maria Sherinna Ysabel Jose, NEDA-MES Staff

Annex 5

APEC Pillars and Potential Areas of Collaboration

APEC formulated the following four pillars of disaster risk reduction (DRR). Under these four pillars, APEC identified potential areas of collaboration. These are shown in the table below:

Pillar	Potential Area of Collaboration
(1) Pillar 1: Prevention and Mitigation- identification and evaluation of existing hazards, vulnerabilities, and exposure of communities and livelihoods.	Utilization of science, technology and research to prepare for, prevent and mitigate disaster impacts; Promotion of open access to non-sensitive risk and hazard mapping information, which is understandable and easily accessible for households, communities, businesses, and governments to ensure making appropriate decisions; Identification of vulnerable and hazardous areas, and taking mitigation steps to reduce disaster risks of affected communities. Conservation of ecosystems, e.g., wetlands, mangroves, dunes, forests, that can provide natural protection to reduce the vulnerability of and risks in APEC communities; Enhancement and harmonization of infrastructure standards to make them responsive to the increased frequency and impact of disasters and the “new normal”; and Facilitation of the establishment of appropriate mechanisms and tools to finance investments in prevention, mitigation and risk transfer, in collaboration with the private sector, particularly the capital markets and insurance industry.
(2) Pillar 2: Preparedness- harnessing of regional cooperation to strengthen early warning mechanisms for trans-boundary hazards. It also involves enhancing urban and rural planning using risk and hazard mapping techniques and information, and strengthening critical infrastructure, including social and cultural infrastructure	Voluntary sharing of non-sensitive information and best practices to improve early warning systems and development of comprehensive disaster risk management systems utilizing current and advanced science and technology as well as Information and Communications Technologies; Capacity-building and voluntary technology-transfers to sustain development, improvement and exchange of important Disaster Risk Reduction (DRR) skills, knowledge, and technologies, as mutually agreed; Emphasis of government and business cooperation in a whole-of-society approach to preparedness; Development of financial and enterprise tools that are suitable to the DRR goals and objectives of APEC communities; and Building resilience of Micro Small Medium Enterprises, livelihoods and businesses against disasters through responsive business continuity plans and micro-insurance, among others.
(3) Pillar 3: Response- this	Establishment, engagement in and promotion of joint

Pillar	Potential Area of Collaboration
focuses on engaging stakeholders of the affected economies in operational interventions immediately after a disaster. It involves the identification and assessment of impacts to the economy and marketplace following the disaster and the implementation of response programs.	and/or collective emergency response policies taking into account recognized international and regional humanitarian response procedures, where appropriate, to reduce barriers to the movement of emergency responders and humanitarian relief across borders; Utilization of communication mechanisms to expedite the flow of goods after transportation disruptions in order to assist in trade recovery; Encouragement of appropriate donations after disasters in order to expedite the movement of goods and reduce chokepoints in the supply chain; and Promotion of market-based response mechanisms/approaches to address impacts to markets and economic systems.
(4) Pillar 4: Rehabilitation and Build Back Better- this involves the enabling of disaster-affected communities to rehabilitate and build back better through ensuring minimal disruption in livelihood and other economic activities; fast-tracking the rehabilitation of affected economic activities after a disaster; fostering education continuity; rehabilitating affected ecological ecosystems; and improving the overall living conditions of affected and at-risk communities and businesses	Mainstreaming of DRR and climate change adaptation into local and economy-level development planning; Promotion of local level action for long-term and sustained impact of DRR interventions; Promotion of coherence and mutual reinforcement among local, economy-level, regional, and global DRR policies and programs; and Ensure gender, age and disability-responsiveness of DRR policies, plans, and programs.

APEC also identified the following enabling environments for disaster risk reduction: community participation; society and ecosystem-based approaches of disaster risk governance; a strong system of disaster risk financing; and science and innovation based policymaking; infrastructure resiliency; ecological conservation and inclusiveness of women and other vulnerable sectors.

Annex 6

Key Activities of the Priorities for Action under the Hyogo and Sendai Frameworks

A. Hyogo Framework for Action, 2005-2015

Priority Ranking	Key Activities
1	(1) For National institutional and legislative frameworks a) Support the creation and strengthening of national integrated disaster risk reduction mechanisms, such as multi-sectoral national platforms with designated responsibilities at the national through to the local levels to facilitate coordination across sectors. National platforms should also facilitate coordination across sectors, including by maintaining a broad based dialogue at national and regional levels for promoting awareness among the relevant sectors. b) Integrate risk reduction, as appropriate, into development policies and planning at all levels of government, including in poverty reduction strategies and sectors and multi sector policies and plans. c) Adopt, or modify where necessary, legislation to support disaster risk reduction, including regulations and mechanisms that encourage compliance and that promote incentives for undertaking risk reduction and mitigation activities. d) Recognize the importance and specificity of local risk patterns and trends, decentralize responsibilities and resources for disaster risk reduction to relevant sub- national (2) Activities pertaining to resources needed a) Assess existing human resource capacities for disaster risk reduction at all levels and develop capacity-building plans and programmes for meeting ongoing and future requirements. b) Allocate resources for the development and the implementation of disaster risk management policies, programmes, laws and regulations on disaster risk reduction in all relevant sectors and authorities at all levels of administrative and budgets on the basis of clearly prioritized actions. c) Governments should demonstrate the strong political determination required to promote and integrate disaster risk reduction into development programming. (3) Activities concerning community participation a) Promote community participation in disaster risk reduction through the adoption of specific policies, the promotion of networking, the strategic management of volunteer resources, the attribution of roles and responsibilities, and the delegation and provision of the necessary authority and resources.
2	(1) Activities related to national and local risk assessments a) Develop, update periodically and widely disseminate risk maps and related information to decision-makers, the general public and communities at risk in an appropriate format. b) Develop systems of indicators of disaster risk and vulnerability at national and sub-national scales that will enable decision-makers to assess the impact of disasters 12 on social, economic and environmental conditions and disseminate the results to decision- makers, the public and populations at risk. c) Record, analyse, summarize and disseminate statistical information on disaster occurrence, impacts and losses, on a regular bases through

	international, regional, national and local mechanisms. (2) Activities related to Early Warning a) Develop early warning systems that are people centered, in particular systems whose warnings are timely and understandable to those at risk, which take into account the demographic, gender, cultural and livelihood characteristics of the target audiences, including guidance on how to act upon warnings, and that support effective operations by disaster managers and other decision makers. b) Establish, periodically review, and maintain information systems as part of early warning systems with a view to ensuring that rapid and coordinated action is taken in cases of alert/emergency. c) Establish institutional capacities to ensure that early warning systems are well integrated into governmental policy and decision-making processes and emergency management systems at both the national and the local levels, and are subject to regular system testing and performance assessments. d) Implement the outcome of the Second International Conference on Early Warning held in Bonn, Germany, in 200313, including through the strengthening of coordination and cooperation among all relevant sectors and actors in the early warning chain in order to achieve fully effective early warning systems. e) Implement the outcome of the Mauritius Strategy for the further implementation of the Barbados Programme of Action for the sustainable development of small island developing States, including by establishing and strengthening effective early warning systems as well as other mitigation and response measures. (3) Activities concerning Capacity Development a) Support the development and sustainability of the infrastructure and scientific, technological, technical and institutional capacities needed to research, observe, analyze, map and where possible forecast natural and related hazards, vulnerabilities and disaster impacts. b) Support the development and improvement of relevant databases and the promotion of full and open exchange and dissemination of data for assessment, monitoring and early warning purposes, as appropriate, at international, regional, national and local levels. c) Support the improvement of scientific and technical methods and capacities for risk assessment, monitoring and early warning, through research, partnerships, training and technical capacity- building. Promote the application of in situ and space-based earth observations, space technologies, remote sensing, geographic information systems, hazard modeling and prediction, weather and climate modeling and forecasting, communication tools and studies of the costs and benefits of risk assessment and early warning. d) Establish and strengthen the capacity to record, analyze, summarize, disseminate, and exchange statistical information and data on hazards mapping, disaster risks, impacts, and losses; support the development of common methodologies for risk assessment and monitoring.

	(4) Activities related to Regional and emerging risks a) Compile and standardize, as appropriate, statistical information and data on regional disaster risks, impacts and losses. b) Cooperate regionally and internationally, as appropriate, to assess and monitor regional and trans-boundary hazards, and exchange information and provide early warnings through appropriate arrangements, such as, inter alia, those relating to the management of river basins. c) Research, analyze and report on long-term changes and emerging issues that might increase vulnerabilities and risks or the capacity of authorities and communities to respond to disasters.
3	(1) Activities related to information management and exchange a) Provide easily understandable information on disaster risks and protection options, especially to citizens in high-risk areas, to encourage and enable people to take action to reduce risks and build resilience. The information should incorporate relevant traditional and indigenous knowledge and culture heritage and be tailored to different target audiences, taking into account cultural and social factors. b) Strengthen networks among disaster experts, managers and planners across sectors and between regions, and create or strengthen procedures for using available expertise when agencies and other important actors develop local risk reduction plans. c) Promote and improve dialogue and cooperation among scientific communities and practitioners working on disaster risk reduction, and encourage partnerships among stakeholders, including those working on the socioeconomic dimensions of disaster risk reduction. d) Promote the use, application and affordability of recent information, communication and space-based technologies and related services, as well as earth observations, to support disaster risk reduction, particularly for training and for the sharing and dissemination of information among different categories of users. e) In the medium term, develop local, national, regional and international user- friendly directories, inventories and national information-sharing systems and services for the exchange of information on good practices, cost-effective and easy-to-use disaster risk reduction technologies, and lessons learned on policies, plans and measures for disaster risk reduction. f) Institutions dealing with urban development should provide information to the public on disaster reduction options prior to constructions, land purchase or land sale. g) Update and widely disseminate international standard terminology related to disaster risk reduction, at least in all official United Nations languages, for use in programme and institutional development, operations, research, training curricula and public information programmes. (2) Activities related to education and training a) Promote the inclusion of disaster risk reduction knowledge in relevant sections of school curricula at all levels and the use of other formal and informal channels to reach youth and children with information; promote

	the integration of disaster risk reduction as an intrinsic element of the United Nations Decade of Education for Sustainable Development (2005–2015). b) Promote the implementation of local risk assessment and disaster preparedness programmes in schools and institutions of higher education. c) Promote the implementation of programmes and activities in schools for learning how to minimize the effects of hazards. d) Develop training and learning programmes in disaster risk reduction targeted at specific sectors (development planners, emergency managers, local government officials, etc.). e) Promote community-based training initiatives, considering the role of volunteers, as appropriate, to enhance local capacities to mitigate and cope with disasters. f) Ensure equal access to appropriate training and educational opportunities for women and vulnerable constituencies; promote gender and cultural sensitivity training as integral components of education and training for disaster risk reduction. (3) Activities related to research g) Develop improved methods for predictive multi-risk assessments and socioeconomic cost–benefit analysis of risk reduction actions at all levels; incorporate these methods into decision-making processes at regional, national and local levels. h) Strengthen the technical and scientific capacity to develop and apply methodologies, studies and models to assess vulnerabilities to and the impact of geological, weather, water and climate-related hazards, including the improvement of regional monitoring capacities and assessments. (4) Activities related to public awareness i) Promote the engagement of the media in order to stimulate a culture of disaster resilience and strong community involvement in sustained public education campaigns and public consultations at all levels of society.
4	(1) Activities related to environmental and natural resources a) Encourage the sustainable use and management of ecosystems, including through better land-use planning and development activities to reduce risk and vulnerabilities. b) Implement integrated environmental and natural resource management approaches that incorporate disaster risk reduction, including structural and non-structural measures, such as integrated flood management and appropriate management of fragile ecosystems. c) Promote the integration of risk reduction associated with existing climate variability and future climate change into strategies for the reduction of disaster risk and adaptation to climate change, which would include the clear identification of climate- related disaster risks, the design of specific risk reduction measures and an improved and routine use of climate risk information by planners, engineers and other decision-makers.

	(2) Activities related to social and economic development practices a) Promote food security as an important factor in ensuring the resilience of communities to hazards, particularly in areas prone to drought, flood, cyclones and other hazards that can weaken agriculture-based livelihoods. b) Integrate disaster risk reduction planning into the health sector; promote the goal of "hospitals safe from disaster" by ensuring that all new hospitals are built with a level of resilience that strengthens their capacity to remain functional in disaster situations and implement mitigation measures to reinforce existing health facilities, particularly those providing primary health care. c) Protect and strengthen critical public facilities and physical infrastructure, particularly schools, clinics, hospitals, water and power plants, communications and transport lifelines, disaster warning and management centres, and culturally important lands and structures through proper design, retrofitting and re-building, in order to render them adequately resilient to hazards. d) Strengthen the implementation of social safety-net mechanisms to assist the poor, the elderly and the disabled, and other populations affected by disasters. Enhance recovery schemes including psycho-social training programmes in order to mitigate the psychological damage of vulnerable populations, particularly children, in the aftermath of disasters. e) Incorporate disaster risk reduction measures into post-disaster recovery and rehabilitation processes and use opportunities during the recovery phase to develop capacities that reduce disaster risk in the long term, including through the sharing of expertise, knowledge and lessons learned. f) Endeavor to ensure, as appropriate, that programmes for displaced persons do not increase risk and vulnerability to hazards. g) Promote diversified income options for populations in high-risk areas to reduce their vulnerability to hazards, and ensure that their income and assets are not undermined by development policy and processes that increase their vulnerability to disasters. h) Promote the development of financial risk-sharing mechanisms, particularly insurance and reinsurance against disasters. i) Promote the establishment of public–private partnerships to better engage the private sector in disaster risk reduction activities; encourage the private sector to foster a culture of disaster prevention, putting greater emphasis on, and allocating resources to, pre- disaster activities such as risk assessments and early warning systems. j) Develop and promote alternative and innovative financial instruments for addressing disaster risk. (3) Activities related to land use planning and other technical measures a) Incorporate disaster risk assessments into the urban planning and management of disaster-prone human settlements, in particular highly populated areas and quickly urbanizing settlements. The issues of informal or non-permanent housing and the location of housing in high-

	risk areas should be addressed as priorities, including in the framework of urban poverty reduction and slum-upgrading programmes. b) Mainstream disaster risk considerations into planning procedures for major infrastructure projects, including the criteria for design, approval and implementation of such projects and considerations based on social, economic and environmental impact assessments. c) Develop, upgrade and encourage the use of guidelines and monitoring tools for the reduction of disaster risk in the context of land-use policy and planning. d) Incorporate disaster risk assessment into rural development planning and management, in particular with regard to mountain and coastal flood plain areas, including through the identification of land zones that are available and safe for human settlement, e) Encourage the revision of existing or the development of new building codes, standards, rehabilitation and reconstruction practices at the national or local levels, as appropriate, with the aim of making them more applicable in the local context, particularly in informal and marginal human settlements, and reinforce the capacity to implement, monitor and enforce such codes, through a consensus-based approach, with a view to fostering disaster-resistant structures.
5	a) Strengthen policy, technical and institutional capacities in regional, national and local disaster management, including those related to technology, training, and human and material resources. b) Promote and support dialogue, exchange of information and coordination among early warning, disaster risk reduction, disaster response, development and other relevant agencies and institutions at all levels, with the aim of fostering a holistic approach towards disaster risk reduction. c) Strengthen and when necessary develop coordinated regional approaches, and create or upgrade regional policies, operational mechanisms, plans and communication systems to prepare for and ensure rapid and effective disaster response in situations that exceed national coping capacities. d) Prepare or review and periodically update disaster preparedness and contingency plans and policies at all levels, with a particular focus on the most vulnerable areas and groups. Promote regular disaster preparedness exercises, including evacuation drills, with a view to ensuring rapid and effective disaster response and access to essential food and non-food relief supplies, as appropriate, to local needs. e) Promote the establishment of emergency funds, where and as appropriate, to support response, recovery and preparedness measures. f) Develop specific mechanisms to engage the active participation and ownership of relevant stakeholders, including communities, in disaster risk reduction, in particular building on the spirit of volunteerism.

B. Sendai Framework for Disaster Risk Reduction, 2015-20130

Priority	Key Activities
1	(1) At the national and local levels a) To promote the collection, analysis, management and use of relevant data and practical information and ensure its dissemination, taking into account the needs of different categories of users, as appropriate; b) To encourage the use of and strengthening of baselines and periodically assess disaster risks, vulnerability, capacity, exposure, hazard characteristics and their possible sequential effects at the relevant social and spatial scale on ecosystems, in line with national circumstances c) To develop, periodically update and disseminate, as appropriate, location-based disaster risk information, including risk maps, to decision makers, the general public and communities at risk of exposure to disaster in an appropriate format by using, as applicable, geospatial information technology; d) To systematically evaluate, record, share and publicly account for disaster losses and understand the economic, social, health, education, environmental and cultural heritage impacts, as appropriate, in the context of event-specific hazard-exposure and vulnerability information; e) To make non-sensitive hazard-exposure, vulnerability, risk, disaster and loss-disaggregated information freely available and accessible, as appropriate; f) To promote real time access to reliable data, make use of space and in situ information, including geographic information systems (GIS), and use information and communications technology innovations to enhance measurement tools and the collection, analysis and dissemination of data; g) To build the knowledge of government officials at all levels, civil society, communities and volunteers, as well as the private sector, through sharing experiences, lessons learned, good practices and training and education on disaster risk reduction, including the use of existing training and education mechanisms and peer learning; h) To promote and improve dialogue and cooperation among scientific and technological communities, other relevant stakeholders and policymakers in order to facilitate a science- policy interface for effective decision-making in disaster risk management; i) To ensure the use of traditional, indigenous and local knowledge and practices, as appropriate, to complement scientific knowledge in disaster risk assessment and the development and implementation of policies, strategies, plans and programmes of specific sectors, with a cross-sectoral approach, which should be tailored to localities and to the context; j) To strengthen technical and scientific capacity to capitalize on and consolidate existing knowledge and to develop and apply methodologies

	and models to assess disaster risks, vulnerabilities and exposure to all hazards; k) To promote investments in innovation and technology development in long-term, multi- hazard and solution-driven research in disaster risk management to address gaps, obstacles, interdependencies and social, economic, educational and environmental challenges and disaster risks; l) To promote the incorporation of disaster risk knowledge, including disaster prevention, mitigation, preparedness, response, recovery and rehabilitation, in formal and non-formal education, as well as in civic education at all levels, as well as in professional education and training; m) To promote national strategies to strengthen public education and awareness in disaster risk reduction, including disaster risk information and knowledge, through campaigns, social media and community mobilization, taking into account specific audiences and their needs; n) To apply risk information in all its dimensions of vulnerability, capacity and exposure of persons, communities, countries and assets, as well as hazard characteristics, to develop and implement disaster risk reduction policies; o) To enhance collaboration among people at the local level to disseminate disaster risk information through the involvement of community-based organizations and non- governmental organizations. (2) At the global and regional levels a) To enhance the development and dissemination of science-based methodologies and tools to record and share disaster losses and relevant disaggregated data and statistics, as well as to strengthen disaster risk modeling, assessment, mapping, monitoring and multi-hazard early warning systems; b) To promote the conduct of comprehensive surveys on multi-hazard disaster risks and the development of regional disaster risk assessments and maps, including climate change scenarios; c) To promote and enhance, through international cooperation, including technology transfer, access to and the sharing and use of non-sensitive data and information, as appropriate, communications and geospatial and space-based technologies and related services; maintain and strengthen in situ and remotely-sensed earth and climate observations; and strengthen the utilization of media, including social media, traditional media, big data and mobile phone networks, to support national measures for successful disaster risk communication, as appropriate and in accordance with national laws; d) To promote common efforts in partnership with the scientific and technological community, academia and the private sector to establish, disseminate and share good practices internationally; e) To support the development of local, national, regional and global user-friendly systems and services for the exchange of information on good

	practices, cost-effective and easy-to-use disaster risk reduction technologies and lessons learned on policies, plans and measures for disaster risk reduction; f) To develop effective global and regional campaigns as instruments for public awareness and education, building on the existing ones (for example, the "One million safe schools and hospitals" initiative; the "Making Cities Resilient: My city is getting ready" campaign; the United Nations Sasakawa Award for Disaster Risk Reduction; and the annual United Nations International Day for Disaster Reduction), to promote a culture of disaster prevention, resilience and responsible citizenship, generate understanding of disaster risk, support mutual learning and share experiences; and encourage public and private stakeholders to actively engage in such initiatives and to develop new ones at the local, national, regional and global levels; g) To enhance the scientific and technical work on disaster risk reduction and its mobilization through the coordination of existing networks and scientific research institutions at all levels and in all regions, with the support of the United Nations Office for Disaster Risk Reduction Scientific and Technical Advisory Group, in order to strengthen the evidence- base in support of the implementation of the present Framework; promote scientific research on disaster risk patterns, causes and effects; disseminate risk information with the best use of geospatial information technology; provide guidance on methodologies and standards for risk assessments, disaster risk modeling and the use of data; identify research and technology gaps and set recommendations for research priority areas in disaster risk reduction; promote and support the availability and application of science and technology to decision-making; contribute to the update of the publication entitled "2009 UNISDR Terminology on Disaster Risk Reduction"; use post-disaster reviews as opportunities to enhance learning and public policy; and disseminate studies; h) To encourage the availability of copyrighted and patented materials, including through negotiated concessions, as appropriate; i) To enhance access to and support for innovation and technology, as well as in long-term, multi-hazard and solution-driven research and development in the field of disaster risk management.
2	(1) At the national and local levels a) To mainstream and integrate disaster risk reduction within and across all sectors and review and promote the coherence and further development, as appropriate, of national and local frameworks of laws, regulations and public policies, which, by defining roles and responsibilities, guide the public and private sectors in: (i) addressing disaster risk in publically owned, managed or regulated services and infrastructures; (ii) promoting and providing incentives, as relevant, for actions by persons, households, communities and businesses; (iii) enhancing relevant mechanisms and initiatives for disaster risk transparency, which may include financial incentives, public awareness-

	raising and training initiatives, reporting requirements and legal and administrative measures; and (iv) putting in place coordination and organizational structures; b) To adopt and implement national and local disaster risk reduction strategies and plans, across different timescales, with targets, indicators and time frames, aimed at preventing the creation of risk, the reduction of existing risk and the strengthening of economic, social, health and environmental resilience; c) To carry out an assessment of the technical, financial and administrative disaster risk management capacity to deal with the identified risks at the local and national levels; d) To encourage the establishment of necessary mechanisms and incentives to ensure high levels of compliance with the existing safety-enhancing provisions of sectoral laws and regulations, including those addressing land use and urban planning, building codes, environmental and resource management and health and safety standards, and update them, where needed, to ensure an adequate focus on disaster risk management; e) To develop and strengthen, as appropriate, mechanisms to follow up, periodically assess and publicly report on progress on national and local plans; and promote public scrutiny and encourage institutional debates, including by parliamentarians and other relevant officials, on progress reports of local and national plans for disaster risk reduction; f) To assign, as appropriate, clear roles and tasks to community representatives within disaster risk management institutions and processes and decision-making through relevant legal frameworks, and undertake comprehensive public and community consultations during the development of such laws and regulations to support their implementation; g) To establish and strengthen government coordination forums composed of relevant stakeholders at the national and local levels, such as national and local platforms for disaster risk reduction, and a designated national focal point for implementing the Sendai Framework for Disaster Risk Reduction 2015–2030. It is necessary for such mechanisms to have a strong foundation in national institutional frameworks with clearly assigned responsibilities and authority to, inter alia, identify sectoral and multi-sectoral disaster risk, build awareness and knowledge of disaster risk through sharing and dissemination of non-sensitive disaster risk information and data, contribute to and coordinate reports on local and national disaster risk, coordinate public awareness campaigns on disaster risk, facilitate and support local multi-sectoral cooperation (e.g. among local governments) and contribute to the determination of and reporting on national and local disaster risk management plans and all policies relevant for disaster risk management. These responsibilities should be established through laws, regulations, standards and procedures;

	h) To empower local authorities, as appropriate, through regulatory and financial means to work and coordinate with civil society, communities and indigenous peoples and migrants in disaster risk management at the local level; i) To encourage parliamentarians to support the implementation of disaster risk reduction by developing new or amending relevant legislation and setting budget allocations; j) To promote the development of quality standards, such as certifications and awards for disaster risk management, with the participation of the private sector, civil society, professional associations, scientific organizations and the United Nations; k) To formulate public policies, where applicable, aimed at addressing the issues of prevention or relocation, where possible, of human settlements in disaster risk-prone zones, subject to national law and legal systems. (2) At the global and regional levels a) To guide action at the regional level through agreed regional and subregional strategies and mechanisms for cooperation for disaster risk reduction, as appropriate, in the light of the present Framework, in order to foster more efficient planning, create common information systems and exchange good practices and programmes for cooperation and capacity development, in particular to address common and trans-boundary disaster risks; b) To foster collaboration across global and regional mechanisms and institutions for the implementation and coherence of instruments and tools relevant to disaster risk reduction, such as for climate change, biodiversity, sustainable development, poverty eradication, environment, agriculture, health, food and nutrition and others, as appropriate; c) To actively engage in the Global Platform for Disaster Risk Reduction, the regional and sub-regional platforms for disaster risk reduction and the thematic platforms in order to forge partnerships, periodically assess progress on implementation and share practice and knowledge on disaster risk-informed policies, programmes and investments, including on development and climate issues, as appropriate, as well as to promote the integration of disaster risk management in other relevant sectors. Regional intergovernmental organizations should play an important role in the regional platforms for disaster risk reduction; d) To promote trans-boundary cooperation to enable policy and planning for the implementation of ecosystem-based approaches with regard to shared resources, such as within river basins and along coastlines, to build resilience and reduce disaster risk, including epidemic and displacement risk; e) To promote mutual learning and exchange of good practices and information through, inter alia, voluntary and self-initiated peer reviews among interested States; f) To promote the strengthening of, as appropriate, international voluntary mechanisms for monitoring and assessment of disaster risks, including relevant data and information, benefiting from the experience of the

	Hyogo Framework for Action Monitor. Such mechanisms may promote the exchange of non-sensitive information on disaster risks to the relevant national Government bodies and stakeholders in the interest of sustainable social and economic development.
3	(1) At the national and local levels a) To allocate the necessary resources, including finance and logistics, as appropriate, at all levels of administration for the development and the implementation of disaster risk reduction strategies, policies, plans, laws and regulations in all relevant sectors; b) To promote mechanisms for disaster risk transfer and insurance, risk-sharing and retention and financial protection, as appropriate, for both public and private investment in order to reduce the financial impact of disasters on Governments and societies, in urban and rural areas; c) To strengthen, as appropriate, disaster-resilient public and private investments, particularly through structural, non-structural and functional disaster risk prevention and reduction measures in critical facilities, in particular schools and hospitals and physical infrastructures; building better from the start to withstand hazards through proper design and construction, including the use of the principles of universal design and the standardization of building materials; retrofitting and rebuilding; nurturing a culture of maintenance; and taking into account economic, social, structural, technological and environmental impact assessments; d) To protect or support the protection of cultural and collecting institutions and other sites of historical, cultural heritage and religious interest; e) To promote the disaster risk resilience of workplaces through structural and non-structural measures; f) To promote the mainstreaming of disaster risk assessments into land-use policy development and implementation, including urban planning, land degradation assessments and informal and non-permanent housing, and the use of guidelines and follow-up tools informed by anticipated demographic and environmental changes; g) To promote the mainstreaming of disaster risk assessment, mapping and management into rural development planning and management of, inter alia, mountains, rivers, coastal flood plain areas, dry lands, wetlands and all other areas prone to droughts and flooding, including through the identification of areas that are safe for human settlement, and at the same time preserving ecosystem functions that help to reduce risks; h) To encourage the revision of existing or the development of new building codes and standards and rehabilitation and reconstruction practices at the national or local levels, as appropriate, with the aim of making them more applicable within the local context, particularly in informal and marginal human settlements, and reinforce the capacity to implement, survey and enforce such codes through an appropriate approach, with a view to fostering disaster-resistant structures; i) To enhance the resilience of national health systems, including by

	integrating disaster risk management into primary, secondary and tertiary health care, especially at the local level; developing the capacity of health workers in understanding disaster risk and applying and implementing disaster risk reduction approaches in health work; promoting and enhancing the training capacities in the field of disaster medicine; and supporting and training community health groups in disaster risk reduction approaches in health programmes, in collaboration with other sectors, as well as in the implementation of the International Health Regulations (2005) of the World Health Organization; j) To strengthen the design and implementation of inclusive policies and social safety-net mechanisms, including through community involvement, integrated with livelihood enhancement programmes, and access to basic health-care services, including maternal, newborn and child health, sexual and reproductive health, food security and nutrition, housing and education, towards the eradication of poverty, to find durable solutions in the post-disaster phase and to empower and assist people disproportionately affected by disasters; k) People with life-threatening and chronic disease, due to their particular needs, should be included in the design of policies and plans to manage their risks before, during and after disasters, including having access to life-saving services; l) To encourage the adoption of policies and programmes addressing disaster-induced human mobility to strengthen the resilience of affected people and that of host communities, in accordance with national laws and circumstances; m) To promote, as appropriate, the integration of disaster risk reduction considerations and measures in financial and fiscal instruments; n) To strengthen the sustainable use and management of ecosystems and implement integrated environmental and natural resource management approaches that incorporate disaster risk reduction; o) To increase business resilience and protection of livelihoods and productive assets throughout the supply chains, ensure continuity of services and integrate disaster risk management into business models and practices; p) To strengthen the protection of livelihoods and productive assets, including livestock, working animals, tools and seeds; q) To promote and integrate disaster risk management approaches throughout the tourism industry, given the often heavy reliance on tourism as a key economic driver. (2) At the global and regional levels a) To promote coherence across systems, sectors and organizations related to sustainable development and to disaster risk reduction in their policies, plans, programmes and processes; b) To promote the development and strengthening of disaster risk transfer and sharing mechanisms and instruments in close cooperation with

	partners in the international community, business, international financial institutions and other relevant stakeholders; c) To promote cooperation between academic, scientific and research entities and networks and the private sector to develop new products and services to help to reduce disaster risk, in particular those that would assist developing countries and their specific challenges; d) To encourage the coordination between global and regional financial institutions with a view to assessing and anticipating the potential economic and social impacts of disasters; e) To enhance cooperation between health authorities and other relevant stakeholders to strengthen country capacity for disaster risk management for health, the implementation of the International Health Regulations (2005) and the building of resilient health systems; f) To strengthen and promote collaboration and capacity-building for the protection of productive assets, including livestock, working animals, tools and seeds; g) To promote and support the development of social safety nets as disaster risk reduction measures linked to and integrated with livelihood enhancement programmes in order to ensure resilience to shocks at the household and community levels; h) To strengthen and broaden international efforts aimed at eradicating hunger and poverty through disaster risk reduction; i) To promote and support collaboration among relevant public and private stakeholders to enhance the resilience of business to disasters.
4	(1) National and local levels a) To allocate the necessary resources, including finance and logistics, as appropriate, at all levels of administration for the development and the implementation of disaster risk reduction strategies, policies, plans, laws and regulations in all relevant sectors; b) To promote mechanisms for disaster risk transfer and insurance, risk-sharing and retention and financial protection, as appropriate, for both public and private investment in order to reduce the financial impact of disasters on Governments and societies, in urban and rural areas; c) To strengthen, as appropriate, disaster-resilient public and private investments, particularly through structural, non-structural and functional disaster risk prevention and reduction measures in critical facilities, in particular schools and hospitals and physical infrastructures; building better from the start to withstand hazards through proper design and construction, including the use of the principles of universal design and the standardization of building materials; retrofitting and rebuilding; nurturing a culture of maintenance; and taking into account economic, social, structural, technological and environmental impact assessments; d) To protect or support the protection of cultural and collecting institutions and other sites of historical, cultural heritage and religious interest;

	e) To promote the disaster risk resilience of workplaces through structural and non-structural measures; f) To promote the mainstreaming of disaster risk assessments into land-use policy development and implementation, including urban planning, land degradation assessments and informal and non-permanent housing, and the use of guidelines and follow-up tools informed by anticipated demographic and environmental changes; g) To promote the mainstreaming of disaster risk assessment, mapping and management into rural development planning and management of, inter alia, mountains, rivers, coastal flood plain areas, dry lands, wetlands and all other areas prone to droughts and flooding, including through the identification of areas that are safe for human settlement, and at the same time preserving ecosystem functions that help to reduce risks; h) To encourage the revision of existing or the development of new building codes and standards and rehabilitation and reconstruction practices at the national or local levels, as appropriate, with the aim of making them more applicable within the local context, particularly in informal and marginal human settlements, and reinforce the capacity to implement, survey and enforce such codes through an appropriate approach, with a view to fostering disaster-resistant structures; i) To enhance the resilience of national health systems, including by integrating disaster risk management into primary, secondary and tertiary health care, especially at the local level; developing the capacity of health workers in understanding disaster risk and applying and implementing disaster risk reduction approaches in health work; promoting and enhancing the training capacities in the field of disaster medicine; and supporting and training community health groups in disaster risk reduction approaches in health programmes, in collaboration with other sectors, as well as in the implementation of the International Health Regulations (2005) of the World Health Organization; j) To strengthen the design and implementation of inclusive policies and social safety-net mechanisms, including through community involvement, integrated with livelihood enhancement programmes, and access to basic health-care services, including maternal, newborn and child health, sexual and reproductive health, food security and nutrition, housing and education, towards the eradication of poverty, to find durable solutions in the post-disaster phase and to empower and assist people disproportionately affected by disasters; k) People with life-threatening and chronic disease, due to their particular needs, should be included in the design of policies and plans to manage their risks before, during and after disasters, including having access to life-saving services; l) To encourage the adoption of policies and programmes addressing disaster-induced human mobility to strengthen the resilience of affected people and that of host communities, in accordance with national laws

	and circumstances; m) To promote, as appropriate, the integration of disaster risk reduction considerations and measures in financial and fiscal instruments; n) To strengthen the sustainable use and management of ecosystems and implement integrated environmental and natural resource management approaches that incorporate disaster risk reduction; o) To increase business resilience and protection of livelihoods and productive assets throughout the supply chains, ensure continuity of services and integrate disaster risk management into business models and practices; p) To strengthen the protection of livelihoods and productive assets, including livestock, working animals, tools and seeds; q) To promote and integrate disaster risk management approaches throughout the tourism industry, given the often heavy reliance on tourism as a key economic driver. (2) Global and regional levels a) To promote coherence across systems, sectors and organizations related to sustainable development and to disaster risk reduction in their policies, plans, programmes and processes; b) To promote the development and strengthening of disaster risk transfer and sharing mechanisms and instruments in close cooperation with partners in the international community, business, international financial institutions and other relevant stakeholders; c) To promote cooperation between academic, scientific and research entities and networks and the private sector to develop new products and services to help to reduce disaster risk, in particular those that would assist developing countries and their specific challenges; d) To encourage the coordination between global and regional financial institutions with a view to assessing and anticipating the potential economic and social impacts of disasters; e) To enhance cooperation between health authorities and other relevant stakeholders to strengthen country capacity for disaster risk management for health, the implementation of the International Health Regulations (2005) and the building of resilient health systems; f) To strengthen and promote collaboration and capacity-building for the protection of productive assets, including livestock, working animals, tools and seeds; g) To promote and support the development of social safety nets as disaster risk reduction measures linked to and integrated with livelihood enhancement programmes in order to ensure resilience to shocks at the household and community levels; h) To strengthen and broaden international efforts aimed at eradicating hunger and poverty through disaster risk reduction; i) To promote and support collaboration among relevant public and private stakeholders to enhance the resilience of business to disasters.

5	(1) National and local levels a) To prepare or review and periodically update disaster preparedness and contingency policies, plans and programmes with the involvement of the relevant institutions, considering climate change scenarios and their impact on disaster risk, and facilitating, as appropriate, the participation of all sectors and relevant stakeholders; b) To invest in, develop, maintain and strengthen people-centered multi-hazard, multi-sectoral forecasting and early warning systems, disaster risk and emergency communications mechanisms, social technologies and hazard-monitoring telecommunications systems; develop such systems through a participatory process; tailor them to the needs of users, including social and cultural requirements, in particular gender; promote the application of simple and low-cost early warning equipment and facilities; and broaden release channels for natural disaster early warning information; c) To promote the resilience of new and existing critical infrastructure, including water, transportation and telecommunications infrastructure, educational facilities, hospitals and other health facilities, to ensure that they remain safe, effective and operational during and after disasters in order to provide live-saving and essential services; d) To establish community centers for the promotion of public awareness and the stockpiling of necessary materials to implement rescue and relief activities; e) To adopt public policies and actions that support the role of public service workers to establish or strengthen coordination and funding mechanisms and procedures for relief assistance and plan and prepare for post-disaster recovery and reconstruction; f) To train the existing workforce and voluntary workers in disaster response and strengthen technical and logistical capacities to ensure better response in emergencies; g) To ensure the continuity of operations and planning, including social and economic recovery, and the provision of basic services in the post-disaster phase; h) To promote regular disaster preparedness, response and recovery exercises, including evacuation drills, training and the establishment of area-based support systems, with a view to ensuring rapid and effective response to disasters and related displacement, including access to safe shelter, essential food and non-food relief supplies, as appropriate to local needs; i) To promote the cooperation of diverse institutions, multiple authorities and related stakeholders at all levels, including affected communities and business, in view of the complex and costly nature of post-disaster reconstruction, under the coordination of national authorities; j) To promote the incorporation of disaster risk management into post-disaster recovery and rehabilitation processes, facilitate the link between relief, rehabilitation and development, use opportunities during the

	recovery phase to develop capacities that reduce disaster risk in the short, medium and long term, including through the development of measures such as land-use planning, structural standards improvement and the sharing of expertise, knowledge, post-disaster reviews and lessons learned and integrate post-disaster reconstruction into the economic and social sustainable development of affected areas. This should also apply to temporary settlements for persons displaced by disasters; k) To develop guidance for preparedness for disaster reconstruction, such as on land-use planning and structural standards improvement, including by learning from the recovery and reconstruction programmes over the decade since the adoption of the Hyogo Framework for Action, and exchanging experiences, knowledge and lessons learned; l) To consider the relocation of public facilities and infrastructures to areas outside the risk range, wherever possible, in the post-disaster reconstruction process, in consultation with the people concerned, as appropriate; m) To strengthen the capacity of local authorities to evacuate persons living in disaster-prone areas; n) To establish a mechanism of case registry and a database of mortality caused by disaster in order to improve the prevention of morbidity and mortality; o) To enhance recovery schemes to provide psychosocial support and mental health services for all people in need; p) To review and strengthen, as appropriate, national laws and procedures on international cooperation, based on the Guidelines for the Domestic Facilitation and Regulation of International Disaster Relief and Initial Recovery Assistance. (2) Global and regional levels a) To develop and strengthen, as appropriate, coordinated regional approaches and operational mechanisms to prepare for and ensure rapid and effective disaster response in situations that exceed national coping capacities; b) To promote the further development and dissemination of instruments, such as standards, codes, operational guides and other guidance instruments, to support coordinated action in disaster preparedness and response and facilitate information sharing on lessons learned and best practices for policy practice and post-disaster reconstruction programmes; c) To promote the further development of and investment in effective, nationally compatible, regional multi-hazard early warning mechanisms, where relevant, in line with the Global Framework for Climate Services, and facilitate the sharing and exchange of information across all countries; d) To enhance international mechanisms, such as the International

	Recovery Platform, for the sharing of experience and learning among countries and all relevant stakeholders; e) To support, as appropriate, the efforts of relevant United Nations entities to strengthen and implement global mechanisms on hydro-meteorological issues in order to raise awareness and improve understanding of water-related disaster risks and their impact on society, and advance strategies for disaster risk reduction upon the request of States; f) To support regional cooperation to deal with disaster preparedness, including through common exercises and drills; g) To promote regional protocols to facilitate the sharing of response capacities and resources during and after disasters; h) To train the existing workforce and volunteers in disaster response

Annex 7

List of DRRM-related Projects Supported by Japan's ODA in the Philippines
2003-2015

Name of Project	Implementing Agency	Period	Project Site	Cost of Japan's assistance
1. Technical Cooperation Projects (TCP)				
1) The Project for Enhancement of Capabilities in Flood Control and Sabo Engineering of DPWH (Stage II)	FCSEC-DPWH	2003-2005	Metro Manila	450 million Yen (Including Stage I)
2) Strengthening of Flood Forecasting and Warning Administration	PAGASA	2004-2006	Metro Manila	130 million Yen
3) Improvement of Earthquake and Volcano Monitoring System	PHIVOLCS	2004-2006	Metro Manila	19 million Yen
4) Environmental Management Capacity Building	DENR		Metro Manila	Data not available
5) Strengthening of Flood Management Function of DPWH	DPWH	2005-2010	Nationwide	700 million Yen
6) Disaster Risk Reduction and Management Capacity Enhancement Project	OCD-DND	2012-2015	Metro Manila, Region II	443 million Yen
7) Capacity of Comprehensive Data Management of Flood Forecasting and Warning System Through Strategic Formulation of Flood Information	PAGASA	2011-2015		300 million Yen
8) Strengthening of Flood Forecasting and Warning System for Dam Operation	PAGASA	2009-2012	Metro Manila, Dam sites in Luzon	280 million Yen
9) Weather Observation, Forecasting and Warning Capacity Enhancement Project	PAGASA	2014-2017	Metro Manila, Bicol, Eastern Visayas	285 million Yen
2. JICA Partnership Program				
10) Promoting Sustainable Reduce, Reuse and Recycle (3Rs) System Through Education To Produce Environment-minded Society for Development	Ikaw-Ako (Japanese NPO) + Ubay Municipal Government	2015-2019	Ubay, Bohol	42 million Yen

11) Enhancing Resiliency Through Community Participatory Flood Observation System for Laguna Lake Basin	e-TRUST (Japanese SME) + LLDA	2013-2016	Cities of Calamba and Sta. Rosa, Mun. of Angono	56 million Yen
12) Community-Based Adaptation and Resilience Against Disasters (CBARAD)	CityNet (Japanese NPO) + Yokohama city + Iloilo city	2012-2017	Iloilo City	90 million Yen
13) Project for Capacity Building on Disaster Risk Reduction Education in Cebu Province	SEEDS Asia (Japanese NPO) + Hyogo Prefectural Board of Education + DepEd-Cebu	2015-2018	Cebu City, pilot public schools	53 million Yen
14) Project for Enhancement of Capacity for Participatory Disaster Management on Prevention, Preparedness, Response and Recovery	Nagoya Institute of Technology + Tubigon Municipal Government	2015-2018	Tubigon, Bohol	50 million Yen
15) Utilizing the Techniques of Oku-Matsushima on Oyster Culture and Processed Marine products in Typhoon Yolanda-Affected Areas	Ishinomaki NPO Center (Japanese NGO)	2016-2018	Tanauan, Leyte & Basey, Samar	24 million Yen
16) The Verification Survey with the Private Sector for Disseminating Japanese Technologies for Integrated GIS for Advancement of Regional Disaster Risk Reduction and Management	Informatix, Inc. (Japanese SME), CTI (Japanese consulting)	2016-2017	Pangasinan province, Dagupan city, Lingayen and Binmaley towns	Data not available at the time of evaluation
3. Grant Aid				
17) Rehabilitation of Flood Forecasting and Warning System in Pampanga and Agno River Basins	PAGASA	2007-2011	Agno River Basin, Pampanga	1,055 million Yen
18) Flood Disaster Mitigation in Camiguin Island	DPWH	2009	Camiguin province	1,013 million Yen
19) Evacuation Shelter Construction in Disaster Vulnerable Areas in Albay Province	Albay Provincial Government	2011	Albay Province	739 million Yen
20) Improvement of the Meteorological Radar System	PAGASA	2009-2013	Aparri, Virac, Guiuan	3,372 Million Yen
21) Improvement of Equipment for Disaster Risk Management	PHIVOLCS + DPWH	2012	Nationwide	1,000 Million Yen
22) Rehabilitation of Guiuan Radar	PAGASA	2014-2016	Guiuan	Data not available

23) Quick Impact Projects (QIP) under the Urgent Development Study on the Project on Rehabilitation and Recovery from Typhoon Yolanda		2014-2016	Leyte, Samar provinces	Data not available at the time of evaluation
24) Rehabilitation Project for Cagayan de Oro Water District Facilities Damaged by Typhoon Sendong	Cagayan de Oro Water District	2012-2013	Cagayan de Oro City	Data not available at the time of evaluation
25) Project for Flood Mitigation in Ormoc City	DPWH	1996-2001	Ormoc City	3,255 million Yen
26) Rehabilitation/Enhancement of Ormoc City Flood Control Structures	DPWH	2006	Ormoc City	72,001,259 Php
4. ODA Loans				
27) Pasig-Marikina River Channel Improvement Project (II)	DPWH	2007-2013	Pasig, Marikina	8,529,000,000 Y
28) Pasig-Marikina River Channel Improvement Project (III)	DPWH	2012-	Pasig, Marikina	11,836,000,000 Y
29) Pinatubo Hazard Urgent Mitigation Project (I)	DPWH	1996-2001	Sacobia-Bamban river	6.991 billion Yen
30) Pinatubo Hazards Urgent Mitigation Project (II)	DPWH	2007-	Pasig-Potrero River, Pampanga	7.861 billion Yen
31) Post-Ondoy and Pepeng Short-Term Infrastructure Rehabilitation Project	DPWH	2010-2014	Luzon areas	9,912,000,000 Y
32) Flood Risk Management Project for Cagayan, Tagoloan and Imus Rivers	DPWH	2012-	Cagayan, Tagoloan & Imus river systems	7,546,000,000 Y
33) Flood Risk Management Project for Cagayan de Oro River	DPWH	2015-	Cagayan de Oro	11,576,000,000 Y
34) Metro Manila Priority Bridges Seismic Improvement Project	DPWH	2015-	Metro Manila	9,783,000,000 Y
35) Post-Disaster Standby Loan	DOF	2014-		50,000,000,000 Y
36) Forestland Management	DENR	2011-		9.244 billion Yen
37) Japan-Road Upgrading and Preservation Project (J-RUPP)-Equipment Component	DPWH	2011-2023	Nation-wide	40,847,000,000 Y
38) Iloilo Flood Control Project	DPWH	2002-2010	Iloilo City	6.790 billion Yen
39) Metro Manila Flood Control Project (West Mangahan Floodway)	DPWH	2008	Metro Manila	8.959 billion Yen
40) KAMANAVA Area Flood Control and Drainage System Improvement	DPWH	2003-2008	Metro Manila	3.479 billion Php

41) Restoration/Rehabilitation of Waterways in Pinatubo Pilot Areas	DPWH	2006		Data not available
42) Agno River Flood Control Project	DPWH	2009	Pangasinan, Tarlac	6.734 billion Yen
43) Agno & Allied Urgent Rehabilitation Project	DPWH		1995-2005	8.312 billion Yen
44) Laoag River Basin Flood Control and Sabo Project	DPWH	2001-2009	Laoag	6.309 billion Yen
5. Yen Loan-Technical Assistance (YLTA)				
45) Capacity Building for Effective Utilization of Satellite Information for ASEAN Disaster Management	ASEAN-AHA	2013-2016		Data not available at the time of evaluation
6. Data Collection Survey (DCS)/Development Study Program (DSP)				
46) Nation-wide Flood Mitigation Plan (Potential Study)	DPWH		Nation-wide	Data not available
47) Nation-wide Flood Risk and the Flood Mitigation Plan for Selected Areas	DPWH	2006-2008		Data not available
48) Study on Risk Management for Sediment-related Disasters on Selected National Highways	DPWH	2004-2007		Data not available at the time of evaluation
49) Comprehensive Flood Mitigation for Cavite Lowland Areas	DPWH	2007-2009	Cavite province	Data not available
50) Improvement of Bridges Through Disaster Mitigating Measures for Large-scale Earthquakes	DPWH			Data not available at the time of evaluation
51) Data Collection Survey for Natural Disaster Risk Assessment and Business Continuity Plan Formulation for Industry Clusters of the ASEAN Region	ASEAN-AHA	2013-2015		Data not available at the time of evaluation
52) Natural Disaster Risk Assessment and Area Business Continuity Plan Formulation for Industrial Agglomerated Areas in the ASEAN region	OCD + PEZA	2014-2015		Data not available at the time of evaluation
53) Data Collection Survey on the Insurance Mechanism for Incentivizing Disaster Resilient Public Infrastructures in Metro Manila Republic of the Philippines	GSIS	2016		Data not available at the time of evaluation
54) Data Collection Survey on the Incentive Mechanism for Improving Disaster Resiliency of Electric Power Distribution	NEA	2015		Data not available at the time of evaluation

Network				
55) Data Collection Survey on Disaster Resilient Feeder Ports and Logistic Network	Department of Transportation	2015-2016		

56) Urgent Development Study on the Project for Rehabilitation and Recovery from Typhoon Yolanda	DOF + NEDA + DPWH + DILG	2014-2016	Leyte, Samar	1,892 million Yen
7. SATREPS (Science and Technology Research Partnership for Sustainable Development)				
57) Integrated Coastal Ecosystem Conservation and Adaptive Management Under Local and Global Environmental Impacts	UP-MSI	2010-2015	Bolinao, Banate, Boracay, Laguna Lake, Laguindingan, Puerto Galera	383 million Yen
58) Enhancement of Earthquake and Volcano Monitoring and Effective Utilization of Disaster Mitigation Information	PHIVOLCS	2010-2015	Nation-wide	379 million Yen
8. Individual Expert Dispatch Program				
59) Disaster Risk Reduction and Management	OCD			Data not available
60) Flood Management	DPWH			Data not available
9. Grant Assistance for Japanese NGO Projects				
61) Project for Resilient Community Protected by Forest Restoration from Typhoon Haiyan	OISCA (Japanese NPO)	2015-2016	Tanauan, Palo, Tacloban, Tolosa & Ajuy (Iloilo)	51 million