



## Australian Aid Program: PHILIPPINES

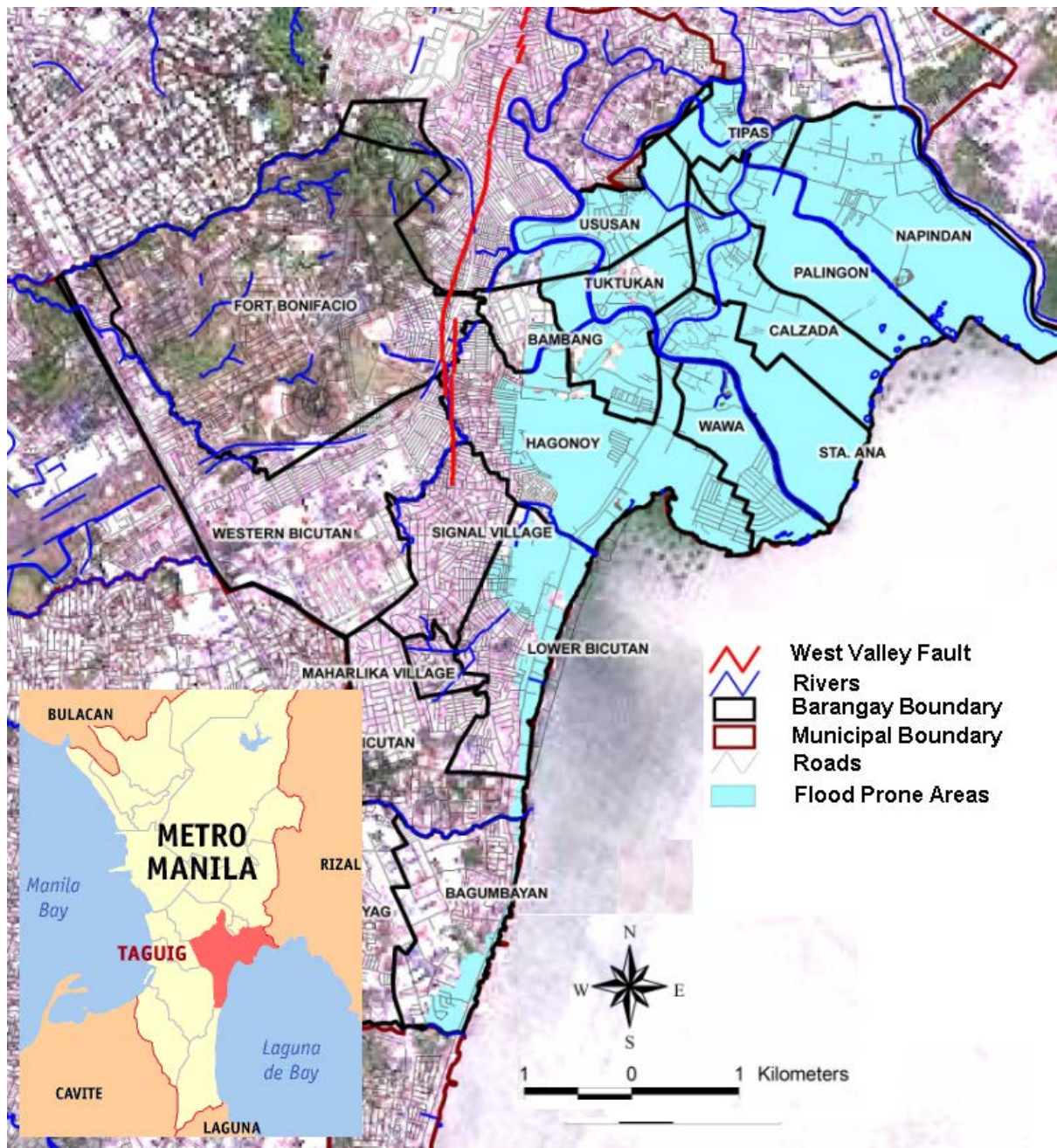


# Building the Resilience and Awareness of Metro Manila Communities to Natural Disasters and Climate Change Impacts (BRACE Program)

Program Design Document

October 2011

## Taguig City Map



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**HAZARD-PRONE 84**

**AREA 84**

**INITIAL SURVEYS DONE 84**

**AREA 84**

**(SQ. M.) 84**

**POPULATION 84**

**(2007 CENSUS OF POPULATION NCR-NSO: AUG. 1, 2007) 84**

**✓ 84**

**✓ 84**

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**31,777 84**

**✓ 84**

**✓ 84**

**1,289,000 84**

**44,088 84**

**1,061,000 84**

**35,798 84**

**✓ 84**

**✓ 84**

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992,800      84

6,433      84

✓      84

✓      84

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8,662      84

✓      84

✓      84

920,000      84

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✓      84

✓      84

310,000      84

8,011      84

✓      84

✓      84

1,450,000      84

25,182      84

220,000      84

14,946      84

✓ 84

1,770,000 84

14,822 84

✓ 84

680,000 84

7,839 84

✓ 84

1,560,000 84

18,031 84

✓ 84

✓ 84

1,117,000 84

10,625 84

✓ 84

✓ 84

2,700,000 84

11,623 84

407,600 84

18,284 84

178,700 84

15,119 84

146,800 84

**10,049            84**

**947,600            84**

**38,279            84**

**492,400            84**

**24,291            84**

**775,400            84**

**31,364            84**

**801,200            84**

**33,697            84**

**622,700            84**

**27,960            84**

**307,700            84**

**14,885            84**

**70,639            84**

**622,700            84**

**32,777            84**

**20,741            84**

**510,000            84**

**16,474            84**

**TOTAL            84**

**45,382,000            84**

**613,343            84**

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## **LIST OF ABBREVIATIONS**

ACIAR	-	Australian Centre for International Agriculture Research
ADB	-	Asian Development Bank
AIP	-	Annual Investment Plan
APPP	-	AusAID Procurement Policies and Procedures
ARC	-	American Red Cross
AusAID	-	Australian Agency for International Development
BDAP	-	Barangay Disaster Action Plan
BDAT	-	Barangay Disaster Action Team
BDC	-	Barangay Development Committee
BDCC	-	Barangay Disaster Coordinating Council
BDRRMC	-	Barangay Disaster Risk Reduction and Management Council
BERT	-	Barangay Emergency Response Team
BHW	-	Barangay Health Worker
BOT	-	Build-Operate-Transfer
BRACE	-	Building the Resilience and Awareness of Communities
BSP	-	Bangko Sentral ng Pilipinas
CARD	-	Center for Agriculture and Rural Development
CAP	-	Community Action Plan
CBD	-	Central Business District
CBDRM	-	Community-Based Disaster Risk Management
CBHM	-	Capacity Building for Housing Microfinance
CBO	-	Community-Based Organization
CCA	-	Climate Change Adaptation
CCC	-	Climate Change Commission
CCT	-	Conditional Cash Transfer
CDA	-	Cooperative Development Authority
CDP	-	Comprehensive Development Plan
CIDA	-	Canadian International Development Authority
CLUP	-	Comprehensive Land Use Plan
CNC	-	Certificate of Non-Coverage
COA	-	Commission on Audit
CPDO	-	City Planning and Development Office
CSCAND	-	Collective Strengthening of Community Awareness on Natural Disasters



CSO	-	Civil Society Organization
DBM	-	Department of Budget and Management
DBP	-	Development Bank of the Philippines
DENR	-	Department of Environment and Natural Resources
DILG	-	Department of Interior and Local Government
DOF	-	Department of Finance
DPUCSP	-	Development of Poor Urban Communities Sector Project
DRM	-	Disaster Risk Management
DRR	-	Disaster Risk Reduction
DRRM	-	Disaster Risk Reduction and Management
DSWD	-	Department of Social Welfare and Development
EA	-	Executing Agency
EAF	-	Environmental Assessment Framework
ECA	-	Environmentally Critical Areas
ECC	-	Environmental Compliance Certificate
ECP	-	Environmentally Critical Projects
EIA	-	Environmental Impact Assessment
EIRR	-	Economic Internal Rate of Return
EMP	-	Environmental Management Plans
EMS	-	Environmental Management System
EMU	-	Estate Management Unit
EOCC	-	Economic Opportunity Cost of Capital
EPBC	-	Environment Protection and Biodiversity Conservation
FGD	-	Focused Group Discussions
FMB	-	First Macro Bank
GA	-	Geosciences Australia
GAAM	-	Government Accounting and Auditing Manual
GFDRR	-	Global Facility for Disaster Reduction and Recovery
GIS	-	Geographic Information System
GK	-	Gawad Kalinga
GMMA	-	Greater Metro Manila Area
GoA	-	Government of Australia
GoP	-	Government of the Philippines
GPOBA	-	Global Partnership on Output-Based Aid
GPPB	-	Government Procurement Policy Board
GSIS	-	Government Service Insurance System
HFA	-	Hyogo Framework for Action
HHs	-	Households
HLURB	-	Housing and Land Use Regulatory Board
HOA	-	Home Owner's Association
HUDCC	-	Housing and Urban Development Coordinating Council
HVCA	-	Hazard, Vulnerability and Capacity Assessment
ICB	-	International Competitive Bidding
ICC	-	Investment and Coordination Committee
ICT	-	Information and Communications Technology
IEC	-	Information and Education Campaign
IEE	-	Initial Environmental Examination
IFRC	-	International Federation of Red Cross
IRA	-	Internal Revenue Allotment
IRR	-	Implementing Rules and Regulations
ISFs	-	Informal Settler Families
KSA	-	Key Shelter Agency
LCB	-	Local Competitive Bidding
LDRRMF	-	Local Disaster Risk Reduction and Management Fund
LDRRMO	-	Local Disaster Risk Reduction and Management Office
LGC	-	Local Government Code
LGUs	-	Local Government Units

LiDAR	-	Light Detection and Ranging
LIS	-	Land Information System
LLDA	-	Laguna Lake Development Authority
LOGOFIND	-	Local Government Finance and Development Project
LSFF	-	Local Shelter Finance Fund
MABS	-	Microenterprise Access to Banking Services
MC	-	Managing Contractor
MDF	-	Municipal Development Fund
MDFO	-	Municipal Development Fund Office
MFI	-	Microfinance Institutions
MGB	-	Mines and Geosciences Bureau
MMDA	-	Metro Manila Development Authority
MMRRP	-	Metro Manila Reconstruction and Rehabilitation Program
MMUSP	-	Metro Manila Urban Services for the Poor
MMUSPP	-	Metro Manila Urban Services for the Poor Investment Program
MOA	-	Memorandum of Agreement
MRB	-	Medium Rise Building
MTPDP	-	Medium-Term Philippine Development Plan
NAMRIA	-	National Mapping and Resource Information Authority
NDCC	-	National Disaster Coordinating Council
NDRRMC	-	National Disaster Risk Reduction and Management Council
NDRRMP	-	National Disaster Risk Reduction Management Plan
NEDA	-	National Economic and Development Authority
NGAS	-	New Government Accounting System
NGOs	-	Non-governmental Organizations
NHA	-	National Housing Authority
NHA-AITECH	-	National Housing Authority Committee on the Accreditation of Innovative Technologies for Housing
NSCB	-	National Statistical Coordination Board
NSP	-	National Shelter Plan
O&M	-	Operation and Maintenance
OCD	-	Office of Civil Defense
ODA	-	Official Development Assistance
PAGASA	-	Philippine Atmospheric Geophysical and Astronomical Services Administration
PC	-	Program Contractor
PDNA	-	Post-Disaster Needs Assessment
PEIS	-	Philippine Environmental Impact Statement
PESO	-	Public Employment Services Office
PFP	-	Physical Framework Plan
PHIVOLCS	-	Philippine Institute of Volcanology and Seismology
PICPA	-	Philippine Institute of Certified Public Accountants
PIO	-	Project Implementation Office
PIU	-	Project Implementation Unit
PLANADES	-	Planning and Development Research Foundation, Inc.
PMO	-	Project Management Office
PNRC	-	Philippine National Red Cross
PPMS	-	Project Performance Monitoring System
PPP	-	Public-Private Partnership
PRC	-	Philippines Red Cross
PSC	-	Project Steering Committee
PWDs	-	Persons with Disabilities
QCBS	-	Quality and Cost-Based System
RA	-	Republic Act
RBAP	-	Rural Banker's Association of the Philippines
REDAS	-	Rapid Earthquake Damage Assessment System
RETA	-	Regional Technical Assistance

RP	-	Resettlement Plan
RF	-	Resettlement Framework
SEA	-	Strategic Environmental Assessment
SEP	-	Socio-Economic Profile
SES	-	Socio-Economic Survey
SNAP	-	Strategic National Action Plan
SOE	-	Statement of Expenditure
SP	-	Sangguniang Panlungsod/Panlalawigan
SSS	-	Social Security System
TA	-	Technical Assistance
TESDA	-	Technical Education and Skills Development Authority
TFRR	-	Task Force on Relocation and Resettlement
TL	-	Team Leader
TSPI	-	Tulay Sa Pag-unlad, Inc.
UDHA	-	Urban Development and Housing Act
UNDP	-	United Nations Development Program
UP PLANADES	-	University of the Philippines Planning and Development Research Foundation, Inc.
WB	-	World Bank
ZO	-	Zoning Ordinance

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## CHAPTER I: EXECUTIVE SUMMARY

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1. The Philippines is one of the most disaster-prone countries in the world. It is also highly vulnerable to climate change impacts, which promise to increase the scale, frequency, and unpredictability of natural disasters. Without changing this risk profile, scarce development funds will continue to be directed towards emergency and response. Damages from natural disasters disproportionately impact on the most vulnerable – the poor. Rapid urbanisation has led to the rise of informal settlements and increased population density. Lack of basic services such as housing, poor land use planning, and weak enforcement of building standards all heighten the economic and mortality risks of informal settlers to natural disasters. This urbanisation of disaster risk affects the urban poor most profoundly. Governments, both national and local, usually relegate disaster risk reduction (DRR) projects in favor of investments showing direct economic returns, such as infrastructure. These investments are often undertaken in an unplanned and sporadic manner without due consideration to good land use and urban planning. Disaster forecasting capacities are also weak undermining preventive efforts to minimise damages from natural disaster and climate change impacts. And emergency preparedness plans are rendered unreliable by the lack of accurate hazard maps and risk information. The Government of the Philippines (GoP) will not be able to meet its Millennium Development Goals if the damages of natural disasters continue to undermine development efforts.

2. From late 2009 the GoP has enacted two major pieces of legislation, and a key Executive Order in responding to these threats: the *Philippine Climate Change Act of 2009 (October 2009)*; the *Disaster Risk Reduction and Management Act (May 2010)*; and the *Strategic National Action Plan (SNAP) 2009-2019 for strengthening disaster risk reduction in the Philippines (June 2010)*. These developments herald a paradigm shift away from emergency response towards preventive action and preparedness. The challenge now is to translate this legal shift into real preventive action on the ground.

3. In late 2009, Typhoons Ketsana (local name "Ondoy") and Parma (local name "Pepeng") brought devastating effects to Metro Manila, Philippines. Nearly 1000 lives were lost. An estimated 220,000 houses were damaged or destroyed, leaving thousands homeless. Around 9.3 million people were severely affected, including in northern Luzon, the agricultural heartland of the country. The GoP declared a national state of calamity on 2 October 2009 and estimated that the cost of damages and losses amounted to US\$4.38 billion.

4. Development partners, like the Australian Agency for International Development (AusAID) and the World Bank, among others, worked closely with the GoP to quickly mobilise a comprehensive post-disaster needs assessment (PDNA). The PDNA noted that substantial investments are required to restore services and infrastructure to their pre-disaster state and to protect Metro Manila from future disaster impacts. The PDNA is the basis for this integrated package of assistance.

5. The human-made problems that exacerbated the Ketsana and Parma devastation require multi-faceted solutions with strong DRR dimensions. Government of Australia's *Building Resilience and Awareness of Metro Manila Communities to Natural Disaster and Climate Change Impacts* or the BRACE Program is an integrated package of assistance. Grant funds from the GoA, through AusAID, can function as incentives for local government units (LGUs) to incorporate an integrated approach to urban resilience within the framework of disaster risk reduction and climate change adaptation (CCA). BRACE responds to the PDNA assessment and recent GoP policy initiatives. It is consistent with GoA strategic objectives in its development assistance for the Philippines.

## **Goal, Objectives and Expected Outcomes**

6. The goal is to contribute to reducing the vulnerability and enhancing the resilience of Metro Manila through a demonstration program in pilot Taguig City, to the impacts of natural disasters and climate change

### **Component 1: Risk Analysis**

7. **Objective:** Enhance the capacities of national government technical agencies to analyse the risks from flood, severe wind and earthquake in the Greater Metro Manila Area (GMMA)<sup>1</sup>.

8. **Summary:** Risk reduction starts with good data. Component 1 addresses the need for accurate hazard and risk information within Metro Manila and its periphery provinces. AusAID will use its existing agreement with the National Disaster Risk Reduction and Management Council (NDRRMC) and its current whole-of-government arrangement with Geoscience Australia (GA) to implement the project. GA shall work closely with NDRMMC to generate basic vulnerability, exposure, and risk datasets on flood, severe wind, and earthquake using a modern aerial LiDAR survey. The data can show how communities will be affected if Metro Manila is hit by the three natural hazards in varying intensities. For example, it can identify the critical infrastructures likely to be affected if a magnitude 6.5 earthquake hits Metro Manila or how many people would be left homeless if a 1 in 100 year flood strikes. AusAID funds will cover trainings and workshops provided by GA, key project local personnel, LiDAR data acquisition including processing and data storage hardware.

### **Component 2: Community-Based Disaster Risk Management (CBDRM)**

9. **Objective:** Build the capacities of communities in up to 28 barangays of Taguig City to practice disaster risk reduction strategies and protect their communities from natural disaster and climate change impacts

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<sup>1</sup> Greater Metro Manila Area refer to cities within the National Capital Region including its surrounding environs.

10. **Summary:** The second step in reducing risks is to build the capacities of communities and government for disaster response and preparedness. AusAID shall enter into a grant agreement with the Philippine Red Cross (PRC) in coordination with the Taguig City Government. PRC will deliver training and mentoring to barangay disaster councils and their volunteer disaster teams to help them prepare, mobilise, and implement emergency preparedness plans using the hazard and risk maps prepared under Risk Analysis Component 1. Grant funds can be used to implement small-scale disaster mitigation projects such as canal drainage and tree planting.

### **Component 3: Risk-sensitive Land Use Planning**

11. **Objective:** Develop the capacity and skills of Taguig City to effectively incorporate DRR and CCA knowledge, strategies, and approaches into the city's development planning and processes.

12. **Summary:** The third component promotes sustainability by building the capacity of Taguig City Government, notably its Planning and Development Office, to improve their outdated Comprehensive Land Use Plan (CLUP) and Annual Investment Plans using the DRR-CC lens. The BRACE Program will guide Taguig City to use the manual earlier developed by the National Economic and Development Authority (NEDA) and the Housing and Land Use Regulatory Board under the AusAID-funded Integrating DRR-CC Project. Taguig City will similarly be provided with scientific data from the Risk Analysis Component 1 in revising their CLUPs. A business review of the city's land-related business processes transactions (e.g. issuance of zoning permits, land use application, land inventory procedures) will be undertaken to ensure that they are reflective of the revised CLUP. AusAID funds will be used to procure a team of urban planning and land administration experts and to fund trainings and workshops.

### **Component 4: Building Safer Settlements**

13. **Objective:** Develop a social housing model that acts as a catalyst for building safer, disaster resilient settlements for other urban communities.

14. **Summary:** New in-city settlement sites will be developed for the construction of disaster-resilient housing units, each with a livable area of about 25m<sup>2</sup>, in medium-rise buildings that can accommodate up to 1800 relocated families. Basic services will be provided such as roads, water and sanitation, adequate drainage and solid waste management. Civil works shall be undertaken under feasible public-private partnership (PPP) agreements either with a commercial developer and/or non-government organisations (NGOs). The LGU shall shoulder all site development costs while AusAID will provide grant funds for the construction of housing units and technical assistance for capacity building. A resettlement plan and process of community engagement shall be developed to assist in social preparation and sustain community involvement. Lands vacated by informal household settlers will be secured and developed for the local government's intended most desirable land use. Depending on affordability and income levels, the LGU shall partner with private financial institutions to solicit

housing financing. Targeted capital subsidy for the basic price of the housing unit will be used instead of interest rate subsidies. A graduated capital subsidy will be applied. Destitute households will get full benefits and other households will receive subsidy based on their affordability limits. NGOs and/or civil society organisations with experience in providing microfinance, entrepreneurial training, and community mobilisation activities shall be engaged to enhance beneficiary access to livelihood opportunities.

## **Estimated Timeframe and Program Budget**

15. The program shall be implemented over a 6-year period divided into two 3-year phases. An independent program implementation review shall be undertaken to assess the feasibility of continuing implementation into a second phase.

16. The project shall improve the capacity of Metro Manila, initially of Taguig City as the pilot area, to reduce the risks posed by future natural hazards and accelerated climate change impacts. The BRACE Program is worth a total of A\$53.0462.91million. Of that total, GoA grant commitment is A\$29.78 million (PhP1.2 billion) while Taguig City Government is expected to provide A\$ 29.10 million (PhP 1222.20 million) in counterpart funding.

**Table 1. Program cost estimates by component and funding source.**

Activity	Taguig City A\$	AusAID A\$	Co-Financiers A\$	NDRRMC A\$	Beneficiaries A\$	Private Sector	Totals A\$
Component 1	-	4.42	-	1.01	-		5.43
Component 2	-	0.76	-	-	-		0.76
Component 3	11.8	0.98	-	-	-		12.78
Component 4	17.3	23.62	0.11	-	0.07	2.84	43.94
Totals	29.1	29.78	0.11	1.01	0.07	2.84	<b>62.91</b>

17. A\$19.39 million of GoA's grant would be directed as an initial capital subsidy to fund actual vertical construction of medium-rise buildings under the Building Safer Settlements Component 4. A cost-recovery scheme under a tiered amortisation structure that matches beneficiary income levels and their capacity and willingness to pay will be adopted. Initial estimates are based on the socio-economic survey done in nine of the target barangays. Over the long-term, up to A\$14 million of GoA's total grant may be recoverable through payments from beneficiaries. The GoA's subsidy, carefully targetted to the poorest of the poor, is estimated approximately A\$5 million.<sup>2</sup>

<sup>2</sup> Amortisation would occur over a significant period of time, up to 25 years in some cases, so this calculation is a convenient accounting shorthand. In net present value terms, the initial AusAID subsidy is greater than A\$5.2 million.



## ***Partnerships and Delivery Modalities***

18. AusAID conducted a rapid assessment of Metro Manila cities immediately after Ketsana to ascertain sufficient commitment and willingness among local mayors to go beyond business-as-usual emergency response to develop urban resilience. The City of Taguig offered the best prospects as AusAID's potential partner to pilot the BRACE program. It suffered as much as other cities during Ketsana but, unlike neighboring cities, has not received direct donor assistance. Taguig City is committed to the principle of building back better within a DRR and broader urban development framework as evidenced by their willingness to underwrite a significant portion of program costs and confirmed availability of in-city relocation sites.

19. The Taguig City Government will mobilise its units in DRR, housing, urban poor affairs, social development, planning, and finance as counterpart staff for all components. GA NDRRMC, and the scientific agencies comprising the Collective Strengthening of Community Awareness on Natural Disasters (CSCAND) will co-implement the risk analysis Component 1. AusAID, Taguig City, and the PRC shall sign an agreement to implement the CBDRM Component 2 across all 28 barangays of Taguig City. The PRC and community associations will be working directly with local government counterparts and beneficiary-communities. Relevant national government agencies, such as the Housing and Urban Development Coordinating Council, National Housing Authority, and NEDA, among others, shall provide policy guidance and technical support to Taguig City.

20. AusAID will contract a Managing Contractor to provide administrative, financial, and technical services and to contribute to activity implementation of Components 3 and 4 and to ensure coordination of inputs across all components. AusAID shall have a close oversight role over the BRACE program to retain its visibility in high-level policy dialogue and to allow early identification of reputational risks requiring active management responses.

## ***Critical Challenges to Success***

21. The risks are high due to Component 4 which deals with relocation of communities from hazard-prone areas to safer ground. In accordance with the lessons from other resettlement projects, the design team conducted socio-economic profiling and capacity-assessments of the LGU and the target communities to develop the detailed program design. The team undertook focus group discussions, post-disaster social impact surveys, and community consultations to ensure that proposed solutions were appropriate and feasible and that they complied with AusAID's enabling themes of disabilities, gender, environment, and anti-corruption. Environment and geo-hazard analyses were undertaken in potential relocation sites to assess DRR and CCA requirements. BRACE also conducted a systems review to look into the competency gaps of Taguig City in land use planning, disaster risk management, and housing policy, among other areas. Finally, a rapid fiduciary assessment was undertaken to assess the feasibility of using partner government systems as a financial mechanism.

22. AusAID is adopting a suite of “no-compromise” principles to guide the implementation of the program, particularly under its Building Safer Settlements component.

- Target communities will be limited to those living in hazard-prone areas *as defined by law*. These areas are deemed unfit and dangerous for human habitation especially those along riverbanks, shorelines, in or over drainage canals, and in flood plains.
- Relocated communities will have good quality housing, basic infrastructure, essential services, community facilities, and access to livelihood and employment opportunities.
- Planning, design and construction of social housing units will incorporate disaster risk reduction, climate change adaptation features and appropriate environmental management techniques.
- Targeting will be done in a fair and transparent manner isolated from any vested interest or political capture. Subsidies will be carefully targeted and in accordance with the income levels of individual households to reflect a household’s ability to repay, minimise any distortions to the land market, and to prevent marginalising local housing finance entities.
- PPPs will be a core approach in construction (e.g. site development and building houses). The program shall pilot different modes of PPP, such as contracting joint-venture arrangements between NGO-Private Sector to deliver social preparation and civil works at the same time.
- All civil works contracts will be let by open, competitive market bidding.
- A resettlement plan shall ensure that in cases of involuntarily resettlement, all beneficiaries will be **NOT** be worse off as a result of resettlement.

23. These principles are consistent with the social safeguards of the Asian Development Bank and the World Bank, and are compliant with AusAID’s Resettlement Policy.

24. The BRACE program intends to show that LGUs in Metro Manila can employ doable, affordable, and practical measures to deal with complex urban issues to protect their communities from natural disasters. Australian support to the BRACE Program can motivate LGUs, starting in Taguig City, to shift their paradigm from business-as-usual implementation to incorporating DRM and climate change adaptation in the delivery of basic services, particularly preparing communities to brace themselves against natural disasters and providing them with disaster-resilient settlements. The Program can be a model for concrete local action as a means to wield influence on national policies. It starts as a pilot but can be scaled up to contribute as a potential solution to reducing the physical, social, and economic vulnerabilities of poor households living in Metro Manila.

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## CHAPTER II: A BACKGROUNDER: COUNTRY ANALYSIS AND STRATEGIC CONTEXT

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### *Introduction*

25. **The Disaster Risk Reduction (DRR) paradigm underpins the program design.** A natural hazard, by itself, does not cause disasters. A hazard turns into a disaster as an outcome of risks. Risks from disasters are composed of different elements

- hazard itself which is the natural phenomenon that can bring about losses to life and property (earthquake, tropical storms, droughts, volcanic eruption)
- level of exposure (people and property that may be lost due to a hazard)
- extent of vulnerability (the susceptibility to suffer loss depending on range of physical, social, political, economic and cultural factors)
- degree of resilience (ability of people or economic systems to absorb loss and recover); and the capacity to reduce the adverse impacts of risk.

26. This can be illustrated through the equation:

$$\text{Risk} = \frac{\text{Vulnerability} \times \text{Hazard}}{\text{Disaster Risk Reduction Capacities}}$$

27. This program design document shows how AusAID will substantially contribute to building the resilience of Philippines cities over the longer-term through four activities:

- (1) enhancing national capacity for risk analysis
- (2) helping communities build disaster preparedness and awareness
- (3) establishing risk-sensitive land use plans and policies
- (4) building safer and disaster-resilient homes and settlements

### ***The Country Context – The Philippines’ Vulnerabilities***

28. **The Philippines is one of the most disaster-prone countries in the world.** The Philippines is prone to recurring natural hazards due to its geographical features<sup>3</sup>. All 7,107 islands of the archipelago are situated in the Pacific Ring of Fire, an area characterised by frequent earthquakes and volcanic eruptions. The country is estimated to experience at least 5 seismic tremors daily. There are 300 volcanoes, of which 22 are considered active and with a history of destruction. The country lies along a major typhoon path, the Western North Pacific Basin, where over 65 per cent of tropical cyclones enter or originate. An average of 20 tropical cyclones, of which 5 to 7 are destructive, hit the country every year.

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<sup>3</sup> Philippines Strategic National Action Plan 2009-2019 for Strengthening Disaster Risk Reduction in the Philippines (June 2010)

29. **The Philippines is ranked as one of the ten most vulnerable countries to natural disasters and climate change impacts in the world.**<sup>4</sup> It is twelfth among 200 countries most-at-risk for natural hazards.<sup>5</sup> Around 73 per cent (55 million) of the country's total population live in areas prone to two or more natural hazards. The country is one of the least prepared to cope in Southeast Asia<sup>6</sup> making it highly vulnerable to the associated mortality risks of natural disasters. For instance, if the same typhoon were to hit both Japan and the Philippines at the same time and assuming same levels, it is estimated that the mortality could be 17 times higher in the Philippines.<sup>7</sup> Weather-related disasters accounted for 98 per cent of lives affected by all disasters and 78 per cent of lives lost for the period 2000 to 2008. An estimated 33,000 Filipinos were killed and 109 million affected by disasters from 1980 to 2009.<sup>8</sup> During this period, the country registered the highest number of number of disaster events in Southeast Asia, accounting for 30 per cent of all disasters in the region.

30. **The Philippines is particularly vulnerable to climate change impacts.** Climate change (CC) is expected to increase the number, severity and unpredictability of these hazards. In the past 10 years, the country has experienced the highest recorded rainfall and the strongest typhoons in its history. According to studies, under a global 'business-as-usual' scenario for carbon dioxide (CO<sub>2</sub>) emissions, temperatures will rise across the Philippines by as much as 3° Celsius by 2050<sup>9</sup>. Increasing temperatures are already causing irregular monsoons and may also be responsible for the higher recurrence of extreme weather events such as 'super typhoons'.

**Box 1: Philippines' Hazard Facts and Figures**

- Earthquakes kill the most per event and cause the highest economic loss.
- Of all hazards, tropical cyclones have caused the greatest loss to lives and property
- Flooding has been the most prevalent form of disaster since 2000.

*Source: Strengthening DRR in the Philippines  
Strategic National Action Plan 2009-2019*

31. **Climate change-induced disasters are projected to have a graver impact on urban areas.** Around 60 per cent of the nation's 1500 municipalities and 120 cities are coastal, including in Metro Manila, parts of which lie below sea level. These areas are at increasing risk from storm surges and rising sea levels. The Philippines Mapping and Resource Information Authority (NAMRIA) predicts that a one metre rise in sea level will result in a loss of 129,114 hectares of productive and/or inhabited coastal land.<sup>10</sup> This will further reduce scarce land

<sup>4</sup> World Bank. 2005. Natural Disaster Hot Spots: A Global Risk Analysis; UN-ISDR Country DRM Fact Sheet, 2010.

<sup>5</sup> UN International Strategy for Disaster Reduction, 2009 Mortality Index.

<sup>6</sup> Jerry Velasquez, Senior Regional Coordinator of the United Nations International Strategy for Disaster Reduction.

<sup>7</sup> United Nations International Strategy for Disaster Reduction, 2009. 2009 Global Assessment Report on Disaster Risk Reduction: Risk and Poverty in a Changing Climate.

<sup>8</sup> UN ESCAP Protecting Development Gains, Reducing Disaster Vulnerability and Building Resilience in Asia and the Pacific.

<sup>9</sup> PAGASA, 2010. Prepared for the Philippines Second National Communication on Climate Change to the UNFCCC.

<sup>10</sup> Government of the Philippines, 2010. National Climate Change Strategy, Office of the President of the Philippines Climate Change Commission.

resources and place competing pressures on urban services as people and settlements become crowded.

32. **The poor are most vulnerable to disasters.** They are more highly exposed to hazards and have less capacity to prevent or recover from hazard events. Frequent disasters hinder the Government of the Philippines' (GoP) efforts to reduce the incidence of poverty while poverty is a determinant of household vulnerability to disasters. Coping mechanisms for poor Filipinos are inadequate especially for which there is no prior experience, such as those that are brought by climate change. The poor tend to own fewer productive assets and rely on their own labor to meet livelihood needs. Lack of access to lending facilities and extremely low rates of saving negatively affect their ability to protect themselves.

33. **The urban poor are particularly vulnerable to disaster risks.** A study by the World Bank on the social impacts on urban poor communities in Metro Manila after typhoon Ketsana<sup>11</sup> noted that households used sub-optimal or even harmful coping options, such as limited food intake resulting in lack of adequate nutrition, especially for women and children. Less time was spent with family as some household heads were forced to take on multiple jobs that lengthened work hours. Small businesses and home-based livelihoods suffered severe losses resulting to increased debt burden, aggravated by the scheme of informal lending sources that are easily accessible but charge higher interest rates.

34. **The risk of Metro Manila's urban poor to the impacts of natural disasters is expected to increase, with the Philippines being considered as the fastest urbanising country in East Asia<sup>12</sup>.** The country's urban population is growing rapidly at an annual rate of almost 5 per cent from 1960 to 1995. An estimated sixty per cent of its 90 million people (54 million) are urban residents.<sup>13</sup> Around 21 per cent (11 million) of all urban residents are in Metro Manila which is the country's premier urban center, the seat of government and power, and the 18th largest metropolitan area in the world. Of the total Metro Manila population, around 4 million people live below the poverty line and almost half of them live in informal settlements on disaster-prone areas. These poor communities are highly vulnerable and are exposed to the devastating consequence of recurring hazards.<sup>14</sup>

35. The increasing scale and frequency of natural disasters is costing the country billions of pesos diverting scarce resources from development and poverty reduction activities. The World Bank and GoP have estimated that the cost of direct damages due to disasters each year is Php20 billion pesos (A\$500 million) over the period 1970 to 2006; averaging 0.5-1.0 per cent of GDP annual loss.<sup>15</sup> The Philippines' annual appropriation for disaster response is overwhelmed by the cost of damage brought by natural hazards. Other public resources are

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<sup>11</sup> World Bank (2009). Social Dimensions of the Impact of Typhoon Ondoy on Urban Poor Communities by Institute of Popular Culture.

<sup>12</sup> Jerry Velasquez, senior regional coordinator of the United Nations International Strategy for Disaster Reduction.

<sup>13</sup> Indonesia is second with an urbanization level of 47.9 percent, while Thailand is third with 32.5 percent of its population living in urban areas.

<sup>14</sup> Asian Development Bank, 2006.

<sup>15</sup> World Bank, 2010. A Strategic Approach to Climate Change (Philippines).

diverted into the replacement of damaged or destroyed infrastructure, impacting on the country's long-term sustainable development.

36. **Natural Disasters, Climate Change and the Millennium Development Goals (MDGs).** Disasters and climate change pose a threat to achieving MDG targets in the Philippines. GoP may not be able to meet its targets by 2015 if natural disasters continue to undermine development efforts.

37. **The Government of the Philippines is responding to the threats.** The GoP signed the United Nations Framework Convention on Climate Change in 1992 and was one of the first countries in the world to produce a national action plan on climate change. In 2005, the GoP adopted the Hyogo Framework for Action (HFA) 2005–2015: *Building the Resilience of Nations and Communities to Disasters*. A key element of the HFA is its perspective on gender as a cross-cutting principle which states that “a gender perspective should be integrated into all disaster risk management policies, plans and decision making processes, including those related to risk assessment, early warning, information management and education and training.”<sup>16</sup> The HFA is the key planning document with five strategic priorities for action:

1. Ensure that disaster risk reduction is a national and local priority with a strong institutional basis for implementation.
2. Identify, assess, and monitor disaster risks—and enhance early warning.
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.

38. The GoP has renewed its interest in DRR and Climate Change Adaption (CCA) following Ketsana and Parma. Two pieces of legislation and an Executive Order were enacted to shift the DRR approach from being reactive to being more preventative. These are the *Philippine Climate Change Act of 2009* (October 2009); the *Disaster Risk Reduction and Management Act or DRRM Act* (May 2010); and the *Strategic National Action Plan (SNAP) 2009-2019 for Strengthening Disaster Risk Reduction in the Philippines* (June 2010), respectively.

39. **Philippine Institutional Arrangements.** The National Disaster Coordinating Council (NDCC) coordinates disaster-related activities dealing with preparedness, prevention, recovery and rehabilitation, and rescue and relief. The Office of Civil Defense (OCD) under the Department of National Defense heads the agency. It was focused largely on rescue and relief when it was established in the 1970s. The DRRM Act renamed the NDCC into the National Disaster Risk Reduction and Management Council (NDRRMC) to reflect its expanding role in risk reduction. The council is composed of almost all national delivery agencies such as in health, education, agriculture, finance, public works, labor and employment, tourism.<sup>17</sup> All regions,

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<sup>16</sup> Also in ‘Investing in a Safer Future: A Disaster Risk Reduction Policy for the Australian Aid Program, June 2009.

<sup>17</sup> At the national and regional levels, the councils are chaired by the Department of National Defense with 4 vice-chairpersons coming from other main national department, as follows: (a) Social Welfare and Development Department (DWSD) for disaster response; (b) Interior and Local Government Department (DILG) for disaster preparedness; (c) Science and Technology Department (DOST) for

provinces, cities, and municipalities are mandated to organise their own disaster risk reduction and management councils.

40. The Philippine Institute of Volcanology and Seismology (PHIVOLCS), Philippine Atmospheric Geophysical and Astronomical Services (PAGASA), Mines and Geosciences Bureau (MGB), and NAMRIA are the technical agencies responsible for generating risk and hazard information. They are clustered as a Technical Working Group on Collective Strengthening of Community Awareness on Natural Disasters (CSCAND) under the NDRRMC.

41. The DRRM Act now places the responsibility on Local Government Units (LGUs) to incorporate DRR in their governance processes and has foreshadowed changes to local working structures:

- Hazard and risk maps must be used by LGUs to inform investment planning
- Creation of Local Disaster Risk Reduction and Management Offices<sup>18</sup> (LDRRMOs) in every province, city and municipality who are responsible for 'setting the direction, development, implementation and coordination of disaster risk management programs' in their areas
- Existing Barangay Development Councils will assume the powers and functions of Barangay Development Coordinating Councils, as Barangay Disaster Risk Reduction and Management Committees or BDRRMCs<sup>19</sup>
- LDRRMOs are responsible for organizing, training, and supervising local emergency response teams and accredited community disaster volunteers. They are responsible for educating the public on disaster awareness
- The Local Calamity Funds, to be renamed Local Disaster Risk Reduction and Management Funds (LDRRMF), which consist of not less than five percent of estimated local revenues from regular sources, will have the funding ratio for preparedness and mitigation increased to 70 percent of the total from a prior amount of 30 percent, a reversal of the previous preparedness/response ratio of 30/70
- Development of National Disaster Risk Reduction and Management Plan (NDRRMP) to strengthen the capacity of national government and LGUs within one year of signing of Act
- Establishment of Disaster Risk Reduction and Management Training Institutes.

42. The Philippine Red Cross (PRC) remains as the active auxiliary entity to the government especially in areas where the Barangay Disaster Risk Reduction and Management Council may

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disaster prevention and mitigation; and (d) the National Economic Development Authority (NEDA) for disaster rehabilitation and recovery.

<sup>18</sup> Similar offices have been previously established by provinces like Albay and Pampanga, both were institutionalized and showing positive outcomes, and considered good practice for replication by other local governments.

<sup>19</sup> Each LGU shall have a comprehensive multi-sectoral development plan to be initiated by its development council and approved by its Sanggunian. For this purpose, the Barangay Development Council assists its Sanggunian Barangay in setting the direction of economic and social development, and coordinating development efforts within its territorial jurisdiction. The BDC exercises the following functions: (a) mobilize people's participation in local development efforts; (b) prepare barangay development plans based on local requirements; and (c) monitor and evaluate the implementation of national or local programs and projects. The BDC is composed of the following: (a) members of the Sangguniang Barangay; (b) representatives of NGOs operating in the barangay which constitute not less than one fourth (¼) of the members of the fully organized council; and (c) a representative of the congressman.

be weak or inactive. Civil Society Organisations (CSOs) participation is encouraged. They are particularly strong in helping communities understand technical hazard data and can assist in preparing emergency plans. AusAID has used credible Non-Government Organisations (NGOs) such as Oxfam and Gawad Kalinga to implement emergency activities.

43. The 2009 Philippines Climate Change Act encourages national and local agencies to “build the adaptive capacity of communities and increase the resilience of natural ecosystems to climate change, and optimize mitigation opportunities towards sustainable development.” DRR is seen as critical to adapting to climate change impacts. The Climate Change Commission, under the Office of the President, was established to formulate, implement, and monitor plans to better prepare the country for and respond to climate change impacts. A National Framework Strategy on Climate Change for 2010-2022 was completed in 2010.

44. Foremost among the national government agencies involved in housing and urban development are the economic managers of the country—the Department of Finance (DOF), National Economic and Development Authority (NEDA), and the Department of Budget Management (DBM). The Department of Interior and Local Government (DILG) oversees LGUs in basic services delivery. The Housing and Urban Development Coordinating Council (HUDCC) coordinates the activities of all government housing agencies involved in implementing the Philippines’ National Shelter Program (NSP). HUDCC and its six key shelter agencies<sup>20</sup> account for about 95 percent of the targeted socialised housing or housing for the poor and low-income families, and for about 65 percent of the total housing assistance targeted by the Government.

45. The Metro Manila Development Authority (MMDA), an agency attached to the Office of the President of the Philippines, is a key player in promoting good urbanisation in Metro Manila. MMDA is involved in the delivery of metro-wide services, particularly those which are not viable for LGUs to implement individually. These basic urban services pertain to metropolitan wide land use planning and zoning, traffic management, public safety, urban development and renewal, management and control of operations affecting welfare and safety, and sanitation and waste management.

46. **The Legal Framework on Urban Planning and Development is in place.** Two landmark laws exert significant impact on the scope of local government units’ powers and responsibilities in DRR and urban planning. The first law is the Local Government Code (LGC) of 1991. It devolved the function of providing basic infrastructure and social

**Box 2: The Urban Development and Housing Act (UDHA)**

The Urban Development and Housing Act (UDHA) of the Philippines mandates local governments to relocate and resettle persons living in hazardous areas to sites provided with adequate basic services and facilities, and access to employment and livelihood opportunities. But particularly in Metro Manila where local governments are under immense pressures to respond with its limited resources and capacity to the increased demand for basic urban services and affordable housing from a rapidly growing urban population, UDHA has been difficult to enforce.

<sup>20</sup> Six shelter agencies are: HUDCC = Housing and Urban Development Coordinating Council; HLURB = Housing and Land Use Regulatory Board; NHA = National Housing Authority; HDMF = Home Development Mutual Fund; NHMFC = National Home Mortgage Finance Corporation; SHFC = Social Housing Finance Corporation



services to LGUs, mandating them to engage in the provision of low-cost housing. The second law is the Urban Development Housing Act (1992) or UDHA, which mandates LGUs, in association with the National Housing Authority (NHA), to ensure that basic facilities for health, education, communication, security, recreation, and welfare at the most cost-efficient rates are provided together with housing for the poor and low-income families. More importantly, the UDHA mandates the LGUs to relocate and resettle persons living in hazardous areas. LGUs have the legal mandate to reduce and mitigate risks by moving families from danger areas to safer settlements. The DILG is currently preparing a National Resettlement Framework to curb the increasing problem of informal settlers in Metro Manila especially those living in danger zones.

## Problem Analysis

47. **Metro Manila is highly vulnerable to multiple disaster impacts.** It is low-lying land cut by active earthquake faults and subject to intense riverine flooding, as well as being exposed to landslides and volcanic eruptions. It is the megacity in the Asia-Pacific region most at risk from earthquakes.

48. **In late September and early October 2009, the Philippines was hit by two severe storms which caused widespread flooding and had a devastating impact on the island of Luzon, particularly in Metro Manila.** A category 1 tropical storm, *Ketsana* (local name "Ondoy") brought unusually heavy rainfall on 26 September 2009. This was followed by a Category III storm, Typhoon *Parma* (local name "Pepeng"), from 3 to 9 October 2009, which crossed over

### Box 3: What happened in Ondoy?

*"Ondoy is a set of catastrophic institutional failures... overlapping, redundant and sometimes conflicting mandates among agencies, deficiencies in urban planning and infrastructure, untrammelled, unplanned urbanization; 'squatting'" (Cardenas 2010).*

Central and Northern Luzon three times, with the cumulative rainfall exceeding 1000 mm in some areas. People were caught by surprise by the magnitude of the rainfall and flood events based on the early weather reports and did not expect the flash flooding and overtopping of the Marikina and Pasig rivers. Nearly 1000 lives were lost, over 730 injured, and an estimated 220,000 houses damaged or destroyed, leaving thousands homeless. Approximately 9.3 million people were severely affected, and the GoP declared a national state of calamity on 2 October 2009. The GoP estimated that the cost of damages and losses amounted to US\$4.38 billion (estimated A\$5.07 billion). The disaster is estimated to increase poverty incidence in most affected regions by as much as 3 percentage points and poverty incidence nation-wide by 0.5 percentage points<sup>21</sup>.

<sup>21</sup> Typhoons Ondoy and Pepeng: Post Disaster Needs Assessment (PDNA), November 26, 2009

49. **Physical Symptoms of the Devastation.** AusAID worked closely with Geosciences Australia (GA) to do a rapid geophysical assessment following the disaster<sup>22</sup>. The design capacity of the Pasig River floodway was up to standards but due to encroachment of informal settlers on either side of the waterway and sedimentation at the floodway entrance, the capacity of the channels was severely compromised which resulted in water levels overtopping the floodway. Inadequate and outdated design of drainage also contributed to the flooding. Some were built almost a century ago. Heavy dumping of garbage has reduced drainage capacity while pumping stations became clogged with debris. Several residential subdivisions built along waterways did not comply with building codes and construction regulations.

50. **Challenges of Urban Development: The Contributing Factors that Led to the Devastation.** The exposure of Metro Manila to disasters is high. It ranks 19th among the world's 20 megacities. Its population has exceeded 10 million as of 2005 with around 18,000 people per square kilometer. Metro Manila contributes almost one third of the national GDP. It is composed of 17 local governments consisting of 16 cities and 1 municipality (Figure 1: Map of Metro Manila). Unlike other regions in the Philippines which are divided into provinces, Metro Manila is divided into four nonfunctioning districts<sup>23</sup> which are grouped according to geographical basis, in reference to the Pasig River.<sup>24</sup>

Fig 1. Map of Metro Manila



- First District: City of Manila;
- Second District: Mandaluyong City, Marikina City, Pasig City, Quezon City, and San Juan City;
- Third District: Caloocan City, Malabon City, Navotas, and Valenzuela City; and
- Fourth District: Las Piñas City, Makati City, Muntinlupa City, Parañaque City, Pasay City, Pateros, and Taguig City.

51. Metro Manila cities are overwhelmed to cope with the rapid pace of urbanisation. Years of sustained high rates of natural population growth and considerable rural-to-urban migration<sup>25</sup> have outstripped their capacity and resources to provide basic services to its growing population.

<sup>22</sup> Geoscience Australia, Lessons Learned Post-ONDoy 2009

<sup>23</sup> The Metro Manila districts, created in 1976 and used mostly for fiscal and statistical purposes, have no local government or congressional representation in contrast to the provinces.

<sup>24</sup> The Pasig River traverses the entire Metro Manila, flowing from the Laguna de Bay in the Southern Luzon region and exiting into the Manila Bay.

<sup>25</sup> UN Habitat (2009) Community-Based Housing Finance Initiatives: The Case of Community Mortgage Programme in Philippines. People migrate to cities in search of better employment and income opportunities. The indiscriminate conversion of prime agricultural land

52. The most complex challenge is addressing the economic and social needs of urban poor households. Unable to afford high costs of housing, informal settlers resort to living in slum conditions in hazard-prone areas. They lack access to infrastructure and basic services such as roads, drainage, water supply and sanitation, and solid waste management. The NHA February 2010 survey showed that about 30 per cent or 210,000 households in Metro Manila live in hazardous or high risk areas.

53. Without better options, urban poor informal settlers who are routinely evacuated during disasters are likely to return to the riverbanks and waterways even if these are deemed unsafe. They do not have the option to rent elsewhere or even share space temporarily with relatives who may be living outside hazard-prone areas but are already in overcrowded shanties.<sup>26</sup> The number of poor families will continue to grow if appropriate forms of intervention are not put in place.<sup>27</sup> They are confronted on a daily basis by insecure tenure, lack of adequate health and educational facilities, and inability to access capital, credits, and social safety nets.

54. Rapid urban growth has put pressure on the demand and prices for land and housing. Cumbersome regulations and taxation requirements aggravate the situation. The current financing framework favours high-income groups and discourages private sector participation in the provision of housing for low-income groups. Weak urban planning skills of LGUs and consequent gaps in land use policies gave opportunity for informal settlers to reside on marginal lands. Acquiring land for socialised housing is stymied by expensive legal processes further lessening the affordability of housing for the poor and informal settlers. Ironically, land in Metro Manila is inefficiently used. While 40 percent of its population lives on about 5 per cent of its land area (mostly in disaster-prone sites), non-performing land assets lie virtually abandoned by banks, former owners, or the government, along with similarly idle government land.

55. Some cities have initiated programs but their impact is largely incremental and not proportional to the unmet housing demand in the Philippines. According to the National Urban Development and Housing Framework (NUDHF) 2009-2016, the housing backlog (plus new households) is estimated to reach about 5.8 million housing units in 2016. Survey from the National Housing Authority (NHA) in 2010 shows that approximately 690,000 Informal Settler Families (ISF) are living in Metro Manila alone.

56. The existing housing strategy of the national government and the limited capacity of the local government for shelter and urban management have not delivered effective solutions to the mounting problem of shelter provision. Metro Manila LGUs and national government financing entities have initiated housing projects for the poor and low-income families but their

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into residential, commercial and industrial uses has been another contributing factor. With smaller lands to till, farmers and agricultural workers have been forced to find alternative employment in urban areas.

<sup>26</sup> Racelis, M. 2009, 5 Nov. In-City Resettlement for Ondoy's Victims. Philippine Daily Inquirer.

<sup>27</sup> Housing and Urban Development Coordinating Council. 2007. Road Map for Metro Manila's Urban Renewal and Basic Services for the Poor.

resources remain inadequate to contribute to the LGUs' socialised housing initiatives in a meaningful way. Projects implemented solely by Metro Manila LGUs have also been constrained by lack of financing and technical capacity. Mostly, they have been designed and implemented within the context of urban renewal—upgrading of blighted areas, construction of new housing units, on-site development, improvements in parks and playgrounds, and the provision of other community facilities.

57. The Government's direct intervention on land use is largely implemented through a land development control system, specifically through zoning that has proven to be static. The provision in the local zoning ordinance on the grant of temporary use permits grants some leeway but assigns much discretion to local government staff in the enforcement of zoning. Majority of the zoning plans in Metro Manila are based on the 1978 Metro Manila Structure Plan and have not been reviewed or updated. The National Building Code prescribes standards but enforcement and compliance monitoring by LGUs are weak.

58. Metro Manila's indiscriminate and fractious land use planning is influenced by the lack of coordination and often discordant relationship between MMDA and the 17 LGUs. After the establishment of MMDA in 1995, it issued as its first spatial planning document the *Physical Framework Plan (PFP) for Metropolitan Manila, 1996-2016* but this has not been reviewed since then. Some LGUs have formulated their own land-use plans without the benefit of a regional structural plan. Conflicts typically surface in the areas of traffic management, water supply and sanitation, garbage disposal and air quality control, disaster response, and zoning regulations. Each LGU is left to implement its own rules and regulations making it harder for MMDA to promote coordination.

59. Increased population density, poor land use planning, weak enforcement of building codes, and lack of basic services reflects the vulnerabilities of urban poor living in informal settlements in Metro Manila and heightens their economic and mortality risk to disasters.

60. **Varying Capacities for Disaster Risk Reduction and Management.** Cities and municipalities were responsible for disaster risk reduction even before the DRRM Act. Unfortunately, LGU DRR capacities vary widely. Most of them do not have a dedicated DRR unit. If they do, personnel often lack the requisite competencies. Mainstreaming disaster risk reduction and climate change in LGU governance processes, like planning, is still a relatively new field and most LGUs adopt a complacent attitude. Without strong support from national level, local governments are more inclined to give priority to revenue raising and economic growth opportunities ahead of programs in disaster preparedness and climate change adaptation. They have limited resources to put to these programs in best-case scenarios, and are not yet wholly responding to the new law enabling expenditure of the local calamity fund on risk reduction or integrating the climate change lens in natural disaster risk reduction. Historically, national policies are not translated into local policies or ordinances for various reasons: national policies are not the priorities of local governments; no clear buy-in; different

political colours between national and local administration; or simply local indifference to such policies.<sup>28</sup>

61. Atmospheric agencies have relatively weak forecasting capacities. They lack credible information to assess. The flood forecasting system was not operational during the 2009 typhoons and had been in disrepair for many years. Despite strong technical skills, the scientific agencies and national disaster agencies are overstretched to provide technical support to over 1500 LGUs. They often fail to include relevant organizations, such as Peoples Organisations (POs)<sup>29</sup> and NGOs, to in their community outreach activities to strengthen disaster preparation.

62. **The Post-Disaster Needs Assessment (PDNA).** In the aftermath of the Ketsana and Parma disasters, the World Bank and the GoP, together with development partners, academe, and civil society quickly undertook a comprehensive post-disaster needs assessment. The final output was a document called *Typhoons Ondoy and Pepeng: Post-Disaster Needs Assessment (PDNA)* which has shaped the program design.

63. The PDNA concluded that the poor and vulnerable were severely affected and that their housing and livelihood needs should be urgently met. The housing sector was heavily affected, with 220,000 homes completely destroyed or partially damaged. The biggest share of the damage, valued at Php25.5 billion (A\$637.5 million) was in the informal sector with the vast majority of houses destroyed in unsafe locations. The needs in housing include about 94,000 new housing units related to damage caused by the disasters. About 83,000 households are currently residing on land considered as 'water hazards' and are at high risk for flooding. Relocation of poor households to higher ground, in close proximity to livelihoods, and in more resilient structures are necessary and provides the best way for their sustainable recovery. The PDNA has even proposed that more than one-third of the total reconstruction program should be in the housing sector, reflecting the urgent requirement to address this long-standing, recurring but largely ignored issue. As a related issue, resettlement can be an opportunity to develop new ways to undertake slum upgrading or urban renewal.

64. The PDNA emphasised reducing future risks through coherent, mainstreamed, and effective disaster risk management practices. Disaster Risk Management (DRM) should be integrated into local planning system such as land use plans, economic investment plans and programs, budgets, and local ordinances. Improved quality and increased access to scientific data (hazard maps, risk modeling and analysis) for predicting and forecasting disasters should

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<sup>28</sup> Road to Resilience, AusAID's draft delivery strategy for climate change adaptation and disaster risk management, 2010.

<sup>29</sup> People's organisations or POs are usually defined as membership-based organisations formed largely on a voluntary basis (occasionally having full-time staff) function as community-sector, or issue-based primary groups at the grassroots (e.g., environmental advocacy groups, peasant groups, etc.), are bona fide associations of citizens with demonstrated capacity to promote the public interest and with identifiable leadership, membership and structure. These organisations undertake various activities, from provision of basic services, such as health, education and nutrition, to environmental services, including protection and conservation activities, to participation in local government affairs.

underpin planning so that it is commensurate to the scale and extent of local hazards. Community-based DRM is a necessary complementation to improve the capacity of communities drawing on their local knowledge but noting that this should be coordinated with national efforts for higher impact. **The executive summary of the PDNA is available in Annex 1.**

65. **What will success look like with this proposed activity?** The BRACE Program is a package of assistance that will improve the capacity of Metro Manila, initially in the pilot City of Taguig, to mitigate and cope with the risks posed by future natural hazards and adverse impacts of climate change.

66. BRACE responds to the needs identified in the PDNA and recent GoP policy initiatives by implementing an integrated multi-sectoral package of assistance to a pilot city building its resilience through the following interventions:

- (improved quality and access to scientific data) Component 1 - Enhance the capacity of GoP technical agencies to analyse and map the risks from natural hazards in Metro Manila and its surrounding environs
- (community-based DRM) Component 2 - Strengthen community-based disaster risk management including early warning systems, disaster preparedness, contingency planning and hazard mitigation
- (DMR integration into local planning systems) Component 3 - Support city authorities to incorporate DRR/CCA principles and actions into urban planning processes
- (meeting housing and livelihood needs of the poor and vulnerable) Component 4 - Provide safer settlement and livelihoods support for up to 1,800 poor and vulnerable families living in hazard-prone areas.

## *Summary of Lessons Learned*

67. Since 2006, Australia has worked with the GoP on DRR and humanitarian relief. This section identifies lessons and best practice approaches used by Australia's ongoing and future programs.

### **Lessons from Previous Australian-Philippine Engagement**

- Ownership of GoP agencies over project outcomes, especially in preparing multi-hazard and risk maps, is important and crucial to the project's success, replicability and sustainability. Stakeholders must be engaged in the process of hazard research and mapping to help decision-makers make the optimal choices, including linking the scientists with the political leadership to raise awareness and increase commitment to DRR and CCA, especially where the environment is highly politicised.

- The role of the local government is critical since a coordinated approach among local stakeholders will be key to building resilient communities. Strong support by local executives enables the impact to be transformative.<sup>30</sup>
- The high turnover of personnel in government offices is a constant challenge. Awareness-raising activities, training plans and budgets needs to plan for this.
- Projects should maximize the use of local initiative, resources, and capacities, taking into account the need for affordable solutions.
- DRR/CCA needs to be linked and synchronized with other local development projects to attract sufficient resources and commitment to their implementation; this is especially the case with livelihoods support, which is a key area for building resilience and a high priority of the poor and vulnerable.
- Although disasters increase the vulnerability of all, groups who are already disadvantaged may need special assistance and protection. Particular priority will be given to the poor, marginalized female-headed households, children (including orphans), elderly, and people with disabilities.
- Mechanisms to share and disseminate technical information to a wider audience, particularly LGUs and communities, should be explored.
- Provide agencies sufficient advance notice of proposed activities so that they are sufficiently prepared to absorb and use the technical assistance. Technical agencies in the Philippines often have limited absorptive capacity due to restrictions on staff numbers and other projects with donors and/or multi-laterals.

69. **Lessons from Other International Development Agencies**

- A systematic approach to increasing both government and community understanding of the nature of the vulnerability and risks they face, especially for infrequent and extreme hazard events not yet experienced, is important.
- Develop an environment of shared ownership and responsibility between government, scientists and communities.
- Urban DRM is different from rural. Urban perceptions and attitudes often differ from those in rural areas.

70. **Lessons on Building Safer Settlements and Relocation.** Australia has limited experience working in urban areas in the Philippines. Lessons from other donors and in other countries were considered in preparing component design details and in developing the risk matrix. Lessons from the Asian Development Bank on their previous urban services project and Metro Manila slum upgrading project were extensively reviewed to ensure that these were transformed into design considerations.

- Capacity development and clearly delineating the role and responsibilities of the local government are pivotal to the sustainable delivery of safer settlements for highly vulnerable, disaster affected households

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<sup>30</sup> In one Philippines province, Albay that is highly-prone to natural disasters, for example, the active support of the provincial governor has led to an exemplary situation in which there are processes and plans in place to take action on natural disasters and climate change.

- To the extent possible relocation should be avoided unless it is the only viable option for reasons of public health and safety or sustainable development management. If relocation is the only option, the following principles should be integrated in any program of assistance:
  - Relocation is feasible if the area cannot be improved in-situ or are in danger zones.
  - Community participation is paramount. Successful resettlement activities rely on the treatment of the affected persons as key stakeholders in the decision-making process especially on working out the entitlement package, time investment during preparatory phase for building goodwill and trust among the affected populace, the engagement with NGO for social marketing, and establishment of a grievance redress mechanism and Community Information Center to address complaints and queries about the project.<sup>31</sup>
  - For development projects requiring significant relocation of households, some level of resistance can be expected from the affected households. Relocation sites should be as close as possible to the original location and should offer improved living conditions.
  - Relocation of communities requires risk mitigation through well-planned and adequately financed programs that include such elements as land-for-land exchange, employment generation, ensured food security, improved access to health services, transportation to jobs, restoration of common properties, and support for community and economic development.
  - The resettlement sites should be properly planned to ensure that the site is linked into the citywide network of roads and transport services and should include all necessary site development works, basic services, community facilities and incorporate disaster risk reduction and climate change adaptation features and facilities.
  - Beneficiary selection criteria and processes should be clear, transparent and fair.
  - Innovative and sustainable financing and cost recovery schemes, including PPPs and housing microfinance, are essential to scaling-up the efforts.
  - Community-based, participatory approaches that engage local communities in decision-making, implementation, and monitoring of activities need to be adopted to increase the quality and speed of reconstruction, align projects with real needs, and lower the risk of misuse of funds.
  - Ensure that relocation does not strain existing key services; settlement planning processes need to assess the implications of population change in an area
  - It is important to initiate mechanisms to minimize conflict between host and neighbouring communities in a resettlement context.
  - Gender equality and social inclusiveness are important considerations in any DRR/CCA programming.

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<sup>31</sup> An experience from Colombo, Sri Lanka on a flood control and drainage improvement project showcased that, investing on participatory resettlement results in less resistance and builds a strong cordial working relationship between the local authorities, donors, partner NGOs, and the affected families. UN- HABITAT and JICA, 2009. Innovative Approaches for Involuntary Resettlement, Lunawa Environmental Improvement and Community Development Project, Ministry of Urban Development and Sacred Area Development, Democratic Socialist Republic of Sri Lanka.



## ***Consistency with AusAID and Government of the Philippines Priorities and Harmonisation with Other Donor Initiatives***

71. **The BRACE Program shall build the resilience of urban areas in the Philippines addressing the reconstruction requirements endorsed by the Philippines Government.** The emerging Medium Term Philippines Development Plan under President Benigno Aquino III's 2010-2016-term includes mainstreaming of disaster risk reduction and climate change in social development programs as one of the key platforms.

72. **The BRACE Program is consistent with the new DRRM Act and Climate Change Act.** Priority actions under the *Strategic National Action Plan (SNAP)* which enshrines DRR principles and provides a masterplan for disaster mitigation activities are complementary to the BRACE Program.<sup>32</sup>

73. **The BRACE program will contribute to achieving the poverty reduction, human security and disaster risk management objectives of the Australia-Philippines Development Assistance Strategy (DAS) 2007-2011.** Natural disasters are major risks to the effectiveness of Australia's development programs in the Philippines. From 2006, Australia has provided A\$10.6 million (Php424 million) worth of emergency assistance. These were given through international and local NGO and United Nations agencies. AusAID has committed an additional A\$9.16 million (Php366 million) to support the implementation of new DRR and climate change policies. **A list of AusAID programs supporting DRR and CCA in the Philippines is in Annex 2.**

74. **Australia's interest and commitment in Climate Change Mitigation and Adaptation are rapidly expanding.** Australia provided prompt assistance to the Philippines when they requested support to integrate the DRRM Act and Climate Change Act into local action:

- Supported the NEDA in Integrating Disaster Risk Management and Climate Change in Local Governance Processes.
- Supported the Climate Change Commission in formulating the National Action Plan on Climate Change through the NEDA mainstreaming project.

75. All these initiatives are complementary to the BRACE program as they provide:

- guidelines on the preparation of comprehensive land use plans incorporating DRR-CCA principles

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<sup>32</sup> Incorporating DRR in planning and managing of human settlements, Capacity building for disaster coordinating councils down to the local levels, Increasing capacity and reduce vulnerability for public safety, Pursuing ways and means to offset socio-economic losses from disasters and prepare the nation for disaster recovery, Using available and practicable tools and technologies from social and natural sciences to support decisions by stakeholders in DRMA's discussed in Chapter 2, the Philippine Government has issued policies and laws that have emphasised disaster risk reduction and climate change adaptation.

- strong partnerships with the national government agencies supporting the integration of DRR and CCA in national policy and local LGU-level action

76. **AusAID coordinated with Philippines lead agencies and other donors working in DRR and climate change to ensure that the BRACE Program can harmonise or build-on ongoing or pipeline programs.** AusAID supported projects outside of the BRACE design considered as important enablers for its success, working through partners that have more comparative advantage. A grant of A\$2.5 million was approved in November 2010 for a three-year READY<sup>33</sup> for Greater Metro Manila Project (READY GMMA) Project. Funds will be executed by the United Nations Development Programme (UNDP) in partnership with the NDRRMC and builds on the successful READY project undertaken for the country's eastern provinces but sufficiently evolved to take into account climate change projections and urban challenges. The GMMA READY Project responds to the directive of Philippines President Benigno S. Aquino III to immediately (within 12 months) prepare hazard maps and complete revised comprehensive land use and disaster action plans. This political clamour was due to the President's displeasure over further damage on Metro Manila wrought by typhoon Conson (local name "Basyang") after Ketsana and Parma. UNDP shall support NDMRRC to prepare maps using currently available hazard information, vulnerability and assessment on-the-ground survey, and projected climate scenarios prepared with assistance from the Government of Spain.<sup>34</sup> This data will be used for updating of comprehensive land use and contingency plans. AusAID and UNDP in coordination with NDRRMC has agreed on a system of complementation to ensure that resources are maximized, reducing the transaction costs and coordination burden of the partner government. The operational linkages are discussed further through each component description.

77. **AusAID brokered other donor support for its pilot Taguig City.** Most of the current Official Development Assistance (ODA) programs on the sector dealt with either policy support or provision of technical equipment. During design consultations, NEDA, the GoP's aid coordinating agency, noted that the BRACE program is possibly the only one attempting to use grant funds for a holistic and integrated investment package combining structural and non-structural interventions, policy assistance, creation of national and local synergies, with emphasis on generating scientific knowledge corroborated by local knowledge. **A list of Official Development Assistance Projects in DRR, DRM, Disaster Prevention and Preparedness, Housing, Urban Services, Livelihood and Microfinance Sectors in the Philippines is provided in Annex 3.**

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<sup>33</sup> Refers to the Strengthening Multi-Hazard Mapping and Community-Based Disaster Risk Management or popularly known as Project READY. The initial phase It was implemented with OCD with the United Nations Development Program , with the rest of NDCC-CSCAND agencies as partners. It supported the mapping and vulnerability assessment of 27 rural provinces in the eastern seaboard vulnerable to natural hazards. Community based early warning systems and disaster response teams were established. It engendered better coordination between national and local disaster teams; enabled community awareness and preparedness through local early warning systems and encouraged the scientific and meteorological agencies to work together on developing multi-hazard data systems. Project READY has been well-regarded locally and internationally with Indonesia looking to replicate the model.

<sup>34</sup> Spanish Government - UN Millennium Development Goals Fund supported project on Strengthening Institutional Capacity on Mainstreaming Climate Change Adaptation in Development Planning.

78. Australia is supporting the World Bank in preparing a Master Plan on Flood Control Mitigation for Metro Manila through the Global Facility for Disaster Reduction and Recovery (GFDRR) which includes an analysis of the early warning system for Metro Manila. The masterplan is intended to be a roadmap for identifying possible infrastructure or capacity-building investments in flood control within Metro Manila, which can include Taguig City.

79. Upon AusAID's request, the Canadian International Development Agency (CIDA)-UNDP project on "Building Community Resilience and Strengthening Local Government Capacities for Recovery and Disaster Risk Management" shall explore the possibility of including the BRACE pilot city in their project designed to increase DRR skills among Metro Manila local government units. UNDP, which is the executing agency for the GMMMA READY Project, has agreed to include, whenever feasible, all Metro Manila LGUs during the conduct of DRM trainings.

80. The potential to link BRACE and the Conditional Cash Transfer (CCT) program of the Department of Social Welfare and Development (DSWD) was explored during the design process. CCT is the flagship poverty reduction program of the GoP that provides conditional cash grants to extremely poor households to improve their education, health and nutritional condition. AusAID currently supports this program. At the moment, the target barangays of the CCT do not include those that are to be supported by the BRACE Program. However, linkages between these programs shall continue to be explored during implementation particularly if the CCT receives additional funding to expand to other barangays.

### ***Rationale for AusAID Involvement***

81. **BRACE supports Australia DAS 2007-2011 objectives.** It is consistent with the emerging priority focus on climate change adaptation and disaster risk management under the new DAS (still being developed). And work is already underway on a Climate Change and Disaster Risk Management Delivery Strategy for the Philippines, which is guiding AusAID's pipeline development. This focus on DRR and CCA reinforces the commitments of the Philippines and Australian governments to the Hyogo Framework for Action and the UN Framework Convention on Climate Change. These commitments are reflected in the Australian Government's 2009 DRR policy *Investing in a Safer Future, its Development Assistance Strategy to the Philippines*.

82. **BRACE contributes to poverty reduction objectives by providing Filipinos with basic services delivery within a DRR and climate change framework.** Devastation from natural disasters and climate change impacts illustrate the vulnerability of the country's entire coastline. Existing socio-economic stresses, such as poverty, unequal access to and control over resources, food insecurity, trends in economic globalization, internal conflicts, and incidence of disease, will be exacerbated by climate change. Land, water and coastal areas are sensitive to climate change, affecting the livelihoods of millions of Filipinos. Ketsana and Parma are sharp reminders of the disproportionately grave impacts of disasters on the poor. Investing in reducing the vulnerability of Metro Manila's poor is also investing in reducing poverty and increasing human security. Supporting the GoP to help Metro Manila increase its

safety represents an important investment in protecting the people and the economy of the Philippines.

83. **Australia has a comparative advantage to assist the Philippines in DRR.** We are well-placed to provide effective aid, building on our earlier DRR investments. The GoA provides leadership in the Asia-Pacific Region on natural hazard risk analysis, cyclone forecasting, vulnerability assessment and climate change scenario, among others. It has demonstrated its capacity in post-disaster recovery and rehabilitation programs after 2004 Asian tsunami, the 2005 Kashmir earthquake, the 2010 Haiti earthquake and 2010 Pakistan flooding. In the Philippines, humanitarian and emergency support go as far back as during the 1990 Luzon earthquake which killed more than 1,500 people and during the 1991 Mount Pinatubo eruption where 2.1 million people were affected. Since 2006, Australia has been working closely with the GoP on DRR, bringing to bear available and internationally acknowledged Australian expertise in climate change and DRR strategies. GoP has even referred to Australia's risk management standards as best practice in their national action plan document. Some Australian agencies have existing relationships with the Philippines through the aid program. These include the Australian Centre for International Agriculture Research (ACIAR), Oxfam Australia, GA, the Bureau of Meteorology and North Australian state government disaster management agencies. Partner agencies value these relationships, particularly where they are responsive to genuine needs and recognise the skills, capacities and pace of change in the Philippines.

84. A scoping study conducted by AusAID, in collaboration with Geoscience Australia, concluded that it was feasible to provide assistance to the Philippines to generate more credible risk information and to support efforts to translate that data into plans. Areas of potential support identified were: flood forecasting and monitoring; multi-hazard mapping; risk analysis; bridging the gap between natural hazard mapping and risk assessment via the national exposure information system; early warning systems development; integrating DRR into the Metro Manila Physical Framework Plan and Comprehensive Land Use Plans (CLUPs) of LGUs, and in contingency planning at community or barangay levels. This study informed the preparation of the PDNA document which is the core reference for the BRACE program.

85. **Selecting the Building Back Better Pilot Site: Rationale for Taguig City.** AusAID conducted a rapid assessment of Metro Manila cities immediately after Ketsana to ascertain sufficient commitment and willingness among local mayors to go beyond business-as-usual emergency response to a paradigm of developing urban resilience. The Taguig City Government offered the best prospects as GoA's potential partner to pilot the BRACE program.

86. Taguig City suffered as much as other cities from severe flooding and damage to buildings, property and infrastructure. The areas along the Pasig River, Laguna de Bay and the Marikina-Cainta floodway, in the eastern part of Metro Manila, were hardest hit by Typhoon Ketsana. In Taguig City, more than 20,000 people<sup>35</sup>, mostly poor, lost assets, income and

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<sup>35</sup> NDCC, October 2009

livelihoods. Families that lived in low lying areas—along esteros, waterways and riverbanks—were severely affected. Taguig is situated in the Laguna de Bay basin and lies about 16 meters below sea level, making it highly vulnerable to flooding. It is prone to seismic movements as it is located near the West Valley Fault line. Taguig ranked fifth in population size in Metro Manila, registering a 3.82 per cent annual population growth rate, the fastest in Metro Manila in 2009 and almost double the overall annual rate.

87. Taguig City is a city of contrasts—its physical landscape vividly reflects the gap between rich and poor. The western side of the city was formerly government-owned until it was privatized in the 1980s. It now benefits from privately-led development that subscribes to strict planning and design standards. This commercial district known as The Fort or Bonifacio Global City is planned and positioned as a prime residential and commercial area that gives the city an affluent face and is a main source of its high revenues. However, the city's wealth does not hide the fact that the development of the eastern part of the City, along the Laguna Lakeshore where the majority of poor people reside, is largely unplanned. In 2003, the city's poverty rate was 5.2 per cent, slightly lower than the overall rate for the National Capital Region. Given the recent global economic and financial crisis that has adversely affected the World economy, including the Philippines, and the deterioration in the rate of urban poverty in the Metro Manila, it seems reasonable to assume that the incidence of poverty in Taguig has increased to about 8 per cent. Based on this, it is estimated that in 2010, there are about 55,000 people living in urban poverty in Taguig.

**Fig 2. A Tale of Two Cities**



*The Fort*



*Hazard-prone Mauling Creek*

88. Taguig City's economic boom or high revenues have not necessarily translated to substantial poverty reduction. A high rate of inward migration has placed considerable pressure on the city's capacity to provide urban infrastructure and services, including housing, to satisfy growing demand. This unmet demand has contributed significantly to the growing number of informal settlers residing in danger areas around the city. The challenge of moving poor

families to safer grounds seems an increasingly daunting task for Taguig. An estimated 3 per cent of the estimated 690,000 slum dwellers<sup>36</sup> in Metro Manila are in Taguig.

89. Of the 28 barangays in Taguig, twelve (12) have been identified as highly exposed to natural disasters.<sup>37</sup> The list was validated by the flood and earthquake maps prepared by AusAID's technical consultants. A socioeconomic profile (SEP) survey was undertaken in May 2010 by an academic group UP PLANADES in nine (9) of the high risk barangays. The study showed that most informal settler communities in the danger areas in Taguig are ill-prepared to cope with disasters. These families received little or no training in disaster preparedness.

**Annex 4 provides a summary of the SEP.**

90. The Taguig City Government has committed to the principle of building back better within a DRR and broader urban development framework. The Design Team has conducted numerous consultations with the City Government (with the previous City administration from until mid-2010 and with the new leadership from June 2010). Both administrations have consistently reinforced their commitment to build the city's resilience to disasters, which will entail massive investments in installing structural and non-structural interventions.

91. Building safer settlements by providing urban poor households access to socialised housing is not an entirely new endeavor. The city undertook several pioneering approaches in socialised housing in partnership with NGOs and the private sector actors, which were recognized by prestigious award giving bodies on excellent local governance like the Galing Pook Award in 2008. It has tapped into the resources and capacities of private sector developers, donors and NGOs to develop and implement socialised housing projects.

92. The pioneering way that Taguig City enforces laws is yet another factor that predisposes it to become the BRACE pilot city. For instance, only Taguig City used its policy and regulatory power to pass an ordinance in 2003 to implement the localized 20 per cent balanced socialised housing law<sup>38</sup> by compelling the legal requirement for private developers to build housing units for the poor within Taguig City.<sup>39</sup> Under the UDHA, private developers are given the option to adopt any of the various modes of compliance and which includes developing settlements within the island, ie. Luzon, Visayas, Mindanao.<sup>40</sup>

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<sup>36</sup> Slums have been defined to include blighted areas that lack basic infrastructure and services, squatter areas (illegal settlements) and areas where the settlers' legal representation has not been documented formally (i.e. extra legality of land tenure). Ballesteros M, "Linking Poverty and the Environment: Evidence from Slums in Philippine Cities," Philippine Institute for Development Studies, 2010

<sup>37</sup> Communities located in low lying areas near creeks, shoreline and riverbanks that are prone to flooding and liquefaction.

<sup>38</sup> The 20% balanced housing provision of the Urban Development and Housing Act into a meaningful development program—one that engages private developers to contribute funds from their corporate social responsibility (CSR) initiatives to a socialised housing development fund (SHDF) for the city.

<sup>39</sup> Taguig City Council, Ordinance No. 112, Series of 2003

<sup>40</sup> Developers can comply with the provisions of UDHA in the following manner: (i) Development of new settlements (ii) Slum upgrading or renewal of areas for priority development either through zonal improvement programs and slum improvement and resettlement programs; (iii) Joint venture projects with either the local government units or any of the housing agencies (iv) Participation in the Community Mortgage Program (CMP); and other modes based on latest HLURB issuances.

93. Taguig City appears committed to utilise pockets of idle lands in the city for in-city relocation and has developed an inventory of lands to be acquired for its various projects, particularly for establishing safer settlements. BRACE is the first opportunity for Taguig to embark on a housing program that is integrating DRR-CCA approaches and specifically targets those living in hazard-prone areas.

94. The Taguig City Government confirmed its willingness to finance its counterpart share of A\$11.3 million or 32 per cent of the total estimated finance requirements for the next 4–6 years. It approved an initial budget of more than Php50 million (A\$1.25 million) from its internal revenues in 2010 and has confirmed to supplement this allocation and to tap other sources including from private partners should additional funds be required. The Taguig City Government has likewise expressed cooperation to consider and institute policy and organizational reforms that may be introduced during the partnership engagement.

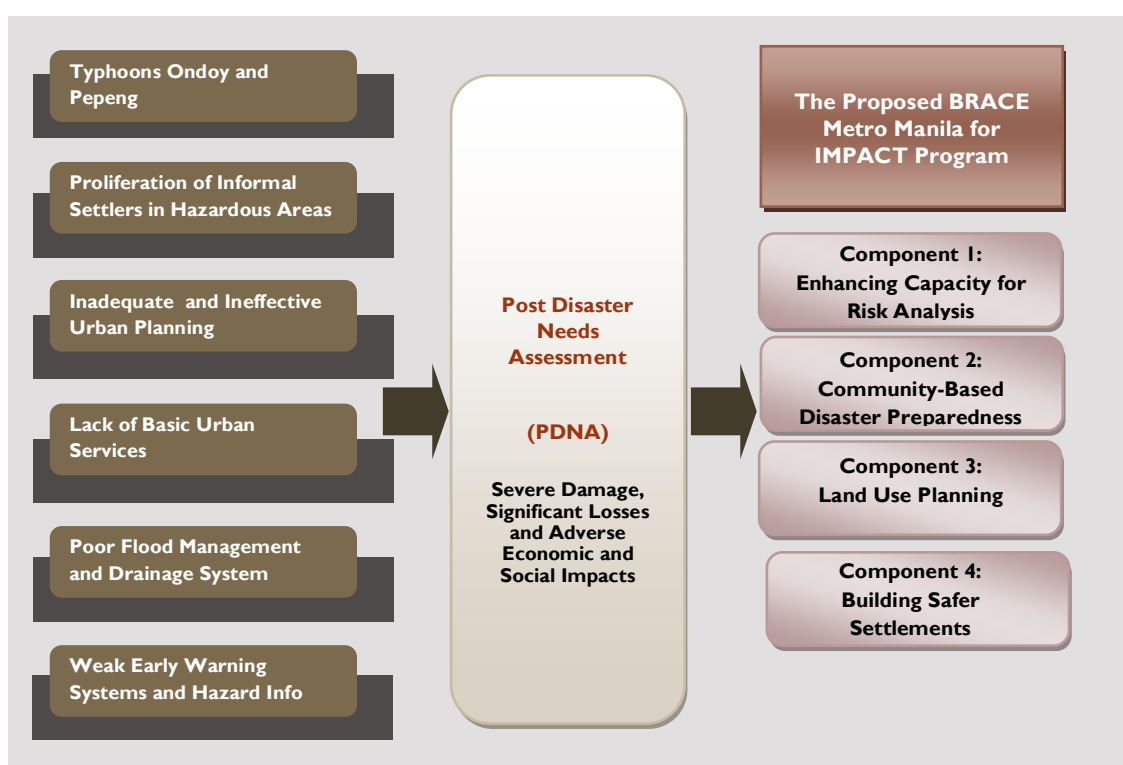
95. Unlike Marikina, Pasig and the municipality of Cainta, Taguig has not received *direct* donor assistance to improve its DRR capacities apart from those provided by AusAID. The CIDA, with UNDP and the Korean International Agency, assisted the adjoining cities to improve their DRR capacities. The AusAID initiative will complement donor assistance extended in the nearby areas of the city. **A brief political, geophysical and socio-economic profile of Taguig City is in Annex 5.**

## CHAPTER III: PROGRAM DESCRIPTION

96. In November 2009, Australia conceptualised its support based on the PDNA. Figure 4 provides an overview of AusAID's proposed program called Building the Resilience and Awareness of Metro Manila Communities to Natural Disasters and Climate Change Impacts or BRACE Program for short.

97. The BRACE program goal is to: Reduce the Vulnerability and Enhance the Resilience of Metro Manila, initially in the pilot Taguig City, to Natural Disasters and Climate Change Impacts.

Fig 3. PDNA and BRACE Linkages



98. **Design Considerations.** A good DRR activity has a combination of mutually-reinforcing structural and non-structural measures. The BRACE Program recognises that building resilience includes reducing physical and socio-economic vulnerabilities. It appreciates that this process is composed of interlinked elements of good governance, risk assessment, education and knowledge, reducing vulnerabilities, and disaster preparedness while giving due consideration to the complex challenges of previously unrecognised vulnerabilities of urban areas to disasters.

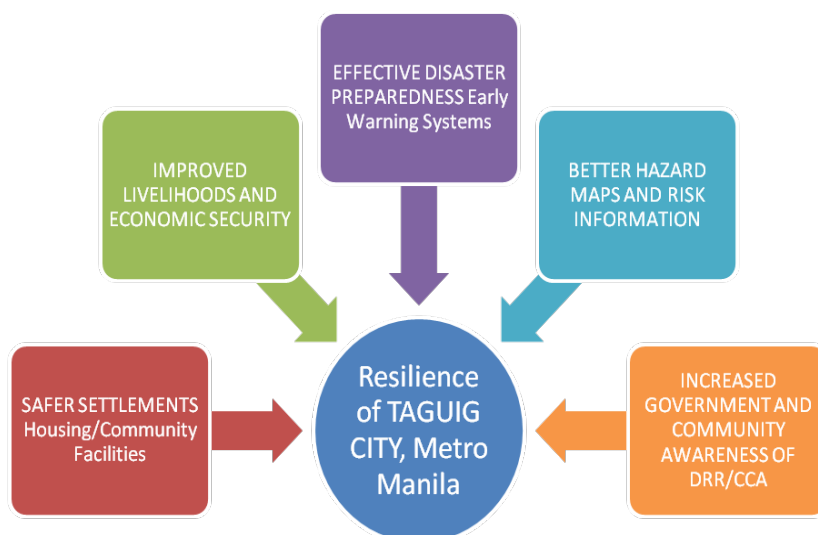
99. A city may have good, safe building by-laws, but lack of enforcement will inevitably compromise safety. The city government may encourage its most vulnerable residents—often poorer members of the community—to move to less hazard-prone locations, but if the accommodation is unaffordable or if there are no viable livelihoods opportunities, people are likely to leave and return to their unsafe residences. If city planners are unaware of the



impacts of risks, they will not be committed to reducing them. Investments in ‘hazard-proofing’ or ‘climate-proofing’ critical infrastructure services may be overlooked against competing priorities. Damaged facilities, such as schools and health centres, may be reconstructed after disasters using same unsafe methods, thereby re-creating and perpetuating risks.

100. The identification of hazards, risk and vulnerability (including future climate change scenarios); implementation of appropriate disaster preparedness responses to these hazards (e.g. drainage channels or other works, retro-fitting buildings, etc); development of appropriate legal, administrative and budgetary mechanisms (e.g. land use planning, building codes, control of human settlement in high-risk areas, poverty reduction and social protection programs, etc); and institutional capacity to implement these measures in a cost-effective manner are all key elements of an integrated approach to building community resilience.

Fig 4. Components of Building Resiliency



101. **Component 1 (Risk Analysis) Objective:** Increase the capacity of key national and municipal agencies to analyse and more accurately predict flood and earthquake risks in the Metro Manila area.

102. **Component 2 (Community-based Disaster Risk Management or CBDRM) Objective:** Increase the resilience of up to 28 vulnerable barangays in Taguig City to the impacts of natural disasters and climate change.

103. **Component 3 (Risk-Sensitive Land Use Planning) Objective:** Develop the capacity and skills of Taguig City Government to effectively incorporate DRR and CCA knowledge, strategies, and approaches into the city’s development planning and processes.

104. **Component 4 (Safer Settlements) Objective:** Develop a social housing model that acts as a catalyst for building safer, disaster resilient settlements for other urban communities

105. The program will be implemented, initially in one of the Metro Manila cities, Taguig City under a pilot basis, over a six year period. Lessons from this program can inform similar efforts of government and other donors. It is designed as a model that will show, in concrete terms, how problems that exacerbated the effects of the disaster can be effectively and sustainably addressed.

106. The package of support is intended to be integrated and coherent. Each component has a purpose that mutually reinforces efforts in achieving resilience:

- a. Construction of safer homes on safer areas will reduce the physical vulnerability of urban poor households. Provision of livelihood and employment opportunities and access to basic services such as power, water and sanitation, and roads will ensure sustainable and economically resilient settlements.
- b. Developing the community's disaster awareness and preparedness not only in the relocation sites but throughout Taguig City will increase beneficiary participation and ownership for political, economic, and social planning in collaboration with local government officials, civil society, and private sector partnerships.
- c. The generation of scientific data on mapping and risk analysis from Component 1 will be coordinated with the vulnerability and capacity analyses to be carried out by the Philippines Red Cross with the targeted barangays in Component 2 (CBDRM). The likely impacts of the hazard would be validated by community perceptions and experience. In turn, the community can use this data to inform community-based disaster risk action plans (including evacuation and contingency).
- d. Hazard and Risk information generated by the Risk Analysis component allows decision makers to prioritise DRR activities. By understanding likely areas for severe earthquake impact for example, then retrofitting projects are more easily prioritised and DRR activities can be better targeted. For example, if earthquake damage is more likely in a given location than flood damage, then appropriate retrofitting can be instigated. This information could also be used to inform how to build back better and it could also be used to update building codes. Risk information would better inform comprehensive land use planning and contingency planning, and community awareness and educational initiatives so that local government and communities understand the risks they may be exposed to towards better designing their development activities, safeguarding their livelihoods, and protecting them from the impacts of disaster and climate risks.
- e. For Metro Manila, the hazard and risk information can inform the formulation of the Metro Manila Physical Framework Plan or the master urban plan for the metropolis that may be developed outside this initiative. More importantly, this hazard and risk information will inform the review of the Comprehensive Land Use and Investment Plans of Taguig City. Geoscience Australia has been asked to comment on, and make recommendations for, site testing and evaluation, and structural plans of the housing units.

107. Addressing urban issues, especially with the view of making cities disaster-resilient, is a complex undertaking in the Philippine context. Metro Manila LGUs have a formidable challenge to clear the National Capital Region's waterways and riverbanks to reduce the vulnerability of their constituents to natural disasters. Some cities may be tempted to ignore the problem or revert to their usual ways thereby perpetuating the risk and further increasing the backlog in services delivery such as in housing. Politicians may regard any transformative intervention as committing 'political suicide' since informal settlements are viewed as source of electoral votes.

108. The BRACE program intends to show that LGUs in Metro Manila can employ doable, affordable, and practical measures to deal with complex urban issues to protect their communities from natural disasters. Australian support to the BRACE Program can motivate LGUs, starting in Taguig City, to shift their paradigm from business-as-usual implementation to incorporating DRR and climate change adaptation in the delivery of basic services. The Program is designed as a model for concrete local action that can become the basis to lobby and advocate for policy reforms at the national level. The working assumption is that there is an opportunity for Australia to use grant funds to innovate, shape, and influence the planning and subsequent programs of the Philippines to demonstrate approaches to 'building back better'.

109. Admittedly, Australian assistance in the Philippines has been traditionally focused on humanitarian aid, community-based disaster preparedness, and the generation of scientific knowledge. It has fractional experience in promoting urban resilience and is just starting to frame a response to climate change as a global driver of risk. However, the Philippines' rapid urbanisation within the context of climate change impacts is an increasingly important and inevitable constraint to achieving poverty reduction that will have to be addressed preferably now than later, in one way or the other.<sup>41</sup> Even NEDA, the Philippines' coordinating agency for official development assistance, has expressed hopes and interest in the success of the program that will model a concrete local action to DRR as a means to wield policy influence. It is a highly challenging program but the benefits and impacts to poverty reduction -- with its potential direct and tangible benefits for the poor -- are higher, when risks are carefully managed.

110. **Program Cost Estimates.** The BRACE Program is worth a total of A\$62.91 million. Of the total, GoA will commit a grant funding of A\$29.78 million (Php1.2 billion) while Taguig City Government is expected to provide A\$ 29.10 million (Php1222.20 million) in counterpart costs.

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<sup>41</sup> AusAID. Country Situational Analysis of the Philippines Program. 2010

**Table 2. Program Cost Estimates**

Activity	Taguig City	AusAID	Co- Financiers	NDRRMC	Beneficiaries	Private Sector	Totals
Component 1	-	4.42	-	1.01	-		5.43
Component 2	-	0.76	-	-	-		0.76
Component 3	11.8	0.98	-	-	-		12.78
Component 4	17.3	23.62	0.11	-	0.07	2.84	43.94
Totals	29.10	29.78	0.11	1.01	0.07	2.84	<b>62.91</b>

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## CHAPTER IV: DESIGN COMPONENTS

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### **Component 1: Risk Analysis**

111. (Explanatory Note: The Risk Analysis component has progressed ahead of the other BRACE components due to the urgency of having an updated risk information data based on GoP request. Reference to this component aims to illustrate the integrative nature of the BRACE Program. A full component design document was developed by Geoscience Australia and the NDRRMC-CSCAND. The tripartite agreement was signed in November 2010 and the LiDAR acquisition has started.)

112. **Objective:** Enhance the capacities of national government technical agencies to analyse the risks from flood, severe wind and earthquake in the Greater Metro Manila Area.

113. **Expected Outcomes**

- The Greater Metro Manila Area is better informed about its risk from earthquakes, flood and typhoon severe wind
- Base datasets fundamental to natural hazard risk analysis, such as high-resolution digital elevation models, are available in the Greater Metro Manila Area and are used in determining natural hazard risk and climate change impacts
- Technical partnerships between Government of Philippines technical agencies and Geoscience Australia are developed

114. **Expected Outputs**

**Output 1.1:** With high-resolution digital elevation data and imagery through light detection and ranging (LiDAR), Metro Manila technical specialists have an improved understanding and capability to produce exposure databases

**Output 1.2:** A seamless digital elevation dataset is available for the GMMA

**Output 1.3:** Increased knowledge and skills within National Mapping and Resource Information Authority (NAMRIA) to acquire, process and store high resolution digital elevation data and combine with bathymetry to create a seamless elevation dataset

**Output 1.4:** Exposure database is available for the GMMA

**Output 1.5:** Increased knowledge and skills within the Philippines technical agencies to contribute to the development of exposure data and use for natural hazard risk assessments.

**Output 1.6:** Flood hazard and risk information is available for the Pasig-Marikina watershed and the City of Taguig.

**Output 1.7:** Increased knowledge and skills within the Philippine Atmospheric, Geophysical and Astronomical Services Administration (PAGASA) and the Mines and Geosciences Bureau (MGB) to assess flood hazard and risk,

and information developed for the Pasig-Marikina basin and the City of Taguig.

**Output 1.8:** Severe wind risk information is available for the GMMA.

**Output 1.9:** Increased knowledge and skills within PAGASA to assess tropical cyclone severe wind hazard and risk, and information developed for the GMMA.

**Output 1.10:** Earthquake frequency and magnitude information is better understood and earthquake risk information is available for the GMMA

**Output 1.11:** Increased knowledge and skills within the Philippine Institute of Volcanology and Seismology (PHIVOLCS) to determine the frequency and impact of earthquakes

**Output 1.12:** Stakeholders in the GMMA receive, and are educated about, flood, severe wind and earthquake risk information that can be used to inform DRR activities, particularly land use planning, contingency planning, and early warning system.

### *Design Considerations*

115. Component 1 addresses the need to invest in scientific capacities to generate good hazard and risk information that will be used by LGUs to influence local planning and action. The analysis will be on three immediate threats to Metro Manila: floods, earthquakes and typhoon severe wind.<sup>42</sup> The second priority of the Hyogo Framework, *Know the Risks and Take Action* reiterates that risk reduction starts with good data. Government technical agencies, especially geological and meteorological services, are responsible for identifying, understanding, and reducing the risk of natural hazards.

116. Risk analysis means understanding the potential impacts of natural hazards to communities particularly to its population and infrastructure. The activity shall generate basic vulnerability, exposure, and risk datasets on flood, severe wind, and earthquake using a modern aerial Light Detection and Ranging (LiDAR) survey. These datasets will be used to project the likely impacts of risks to communities, for example, it will identify infrastructure that will likely be most affected by earthquakes (i.e. communities that have poorly constructed buildings will be more affected than those that are build according to building codes) or how many people would be left homeless by a 1 in 100 year flood or a magnitude 6.5 earthquake.

117. Under its whole-of-government arrangement, AusAID has requested Geoscience Australia to work with NDRMMC-CSCAND to implement the project. Activity is founded on existing partnerships to support the development of new natural hazard risk information. GA's role is not to produce the risk analysis as an output but to partner with Philippine Government technical agencies to exchange expertise, methodologies and appropriate tools, such that this capability is enhanced within the Philippines. The joint work is conceptually similar to a Twinning Program. NDRRMC-CSCAND will co-lead the implementation of this activity.

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<sup>42</sup> Other natural hazards, such as landslide, storm surge and tsunami among others, also pose a threat to GMMA. However, it is a significant undertaking to develop the foundation datasets (e.g. exposure information, high-resolution digital elevation model) so the impact from other hazards and climate change will be assessed in a subsequent activity once all the foundation datasets are available.

118. Component 1 shall work closely with the AusAID-funded READY for GMMMA to ensure that acquisition of data through the light detection and ranging (LiDAR) survey under this component will be validated by the ground truthing survey undertaken by the READY project. The hazard and risk information generated will be used to inform the preparation of Taguig City emergency plans in each barangay and for the city as a whole and influence the technical specifications of any structural measures introduced under the BRACE program.

119. The complete risk analysis data will be available during the first quarter of Year 2 so that other components can use and build on the information. All Metro Manila cities and periphery provinces will have access to the hazard maps and risk analysis information generated under this component.

120. **Component Cost Estimates.** Component 1 is valued at A\$5.43 million inclusive of \$1 million counterpart financing from NDRRMC-Office of Civil Defense. The costs include the acquisition of LiDAR data including data processing, hardware storage, trainings and workshops facilitated by GA, and overall project management costs.

## **Component 2: Community-Based Disaster Risk Management**

121. **Objective:** Build the capacities of communities in up to 28 barangays of Taguig City to practice disaster risk reduction strategies and protect their communities from natural disaster and climate change impacts

122. **Expected Outputs:**

**Output 2.1:** Adequate Community-based disaster risk management institutional policies, structures and procedures are in place and functioning with sufficient political and budgetary support at the barangay and city government levels in Taguig City

**Output 2.2:** Communities in up to 28 barangays of Taguig City have increased awareness of, and capacity to protect themselves from, disaster and climate change risks and impacts

**Output 2.3:** Mitigation measures that meet acceptable quality standards and have locally affordable recurrent costs are in place and maintained by the participating communities and/or barangay and city governments

### ***Design Considerations***

123. Reducing risks is also about building the capacities of communities to brace themselves against potential disaster impacts. Component 2 incorporates a multi-sectoral and multi-hazard approach to CBDRM. Communities will draw on its own local understanding and scientific data to identify disaster preparedness, mitigation and CCA measures. They will have improved knowledge and capacity to identify, plan, resource and implement DRR and CCA actions. Component activities shall follow gender equality policies and principles, as well as social inclusiveness of the most vulnerable and marginalized groups at the barangay level, as outlined in the GoP legislation and framework.<sup>43</sup>

124. ***Comparative advantage of the Philippine Red Cross:*** The Philippine Red Cross (PRC)<sup>44</sup> will be engaged to oversee implementation, given its long and successful history as a key actor in disaster risk management in the Philippines. GoP policy and PRC's continued representation within NDRMMC acknowledges this role. The CBDRM component will replicate programming approaches proven effective under earlier AusAID-supported projects such as Project 143 and Project READY. These approaches include good financial management mechanisms and effective multi-hazard maps and IEC materials.

125. The approach is to promote the ownership of Taguig City government and the target barangays over the CBDRM component so that they continue any organisational structure

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<sup>43</sup> Including the *Climate Change Act* of 2009 and Disaster Risk Reduction and Management Act of 2010.

<sup>44</sup> Formerly known as the Philippine National Red Cross.



changes or procedures that may be introduced by the BRACE Program. This was one of the recommendations of the International Federation of Red Cross and Red Crescent Societies (IFRC) in its assessment PRC CBDRM activities in September 2009.

126. IFRC shall augment the monitoring and evaluation capacity of PRC through technical assistance provided under Project 143. The Australian Red Cross (ARC) shall provide support to PRC in the implementation of the CBDRM component. AusAID and ARC signed a Partnership Agreement in November 2010 wherein M&E and gender reporting were identified as key areas where ARC could support national societies. ARC recently appointed a Delegate to the Philippines to assist in this regard.

127. **Institutional sustainability.** The CBDRM component will strengthen institutional structures and processes of Barangay Development Committees (BDCs) so that they can take on DRR and DRM responsibilities. This includes the creation and formal integration of volunteer Barangay Disaster Action Teams (BDATs)<sup>45</sup> into BDCs to support their work – a strategy successfully used by the PRC in other municipalities. GoP-endorsed CBDRM guidelines and tools such as the Office of Civil Defense guidelines on disaster action and contingency planning will be used. AusAID and the PRC will closely monitor the implementation of the DRRM Act and will ensure that the program will be sufficiently flexible to account for any developments that require adjustments to this component, while at the same time opening up new potential opportunities to maximize its impact.

128. **Beneficiaries and Geographic Coverage.** CBDRM activities will start in the twelve (12) barangays targeted for support under the Building Safer Settlement component of the BRACE Program. The remaining sixteen (16) barangays of Taguig City will be subsequently covered. The beneficiaries will include residents of participating barangays, their barangay governance structures, and the Taguig City Government. PRC will benefit through potential technical assistance from ARC on monitoring and evaluation including gender reporting. The capacity building needs of the implementing partners (i.e., PRC, Taguig City Government including task force for the project) will be identified and referred to the Component Executive Board to be considered for support through AusAID's scholarship scheme or selected collaborating partners.

129. Indirect beneficiaries will include NDRRMC-OCD, particularly in demonstrating the auxiliary role of PRC at local and community levels, and enhancing the guidelines on disaster and contingency planning.

### ***Key Activities and Outputs***

130. Activities can be categorized into three general focus areas:

- (1) strengthening of institutions responsible for CBDRM at the local level

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<sup>45</sup> Some barangays in Taguig City have a Barangay Emergency Response Team (BERT). If BERT exists, it would be capacitated to support BDCs. Otherwise, a BDAT will be established. The use of BDAT over BERT is preferred for purposes of CBDRM component to encompass both natural and man-made disasters.

- (2) building capacities of communities to protect themselves from disaster impacts, and
- (3) establishing and maintenance of disaster mitigation mechanisms.

131. **Focus Area 1: Strengthening local CBDRM institutions**

- Barangay Development Committee<sup>46</sup> of target barangays take on DRR responsibilities, supported by their volunteer disaster action or emergency response teams (BDAT or BERT)
- A resource inventory of Barangay Development Committee & Barangay Emergency Response Teams (where existing) are undertaken
- Local CBDRM resolutions and ordinances in place and being implemented
- Local resolutions incorporating DRR strategies/activities into barangay development planning and budgeting processes
- Memorandum of Agreement (MOA) between PRC and Taguig City and BDCs on project implementation and institutionalization of key outcomes

132. A MOA will be signed between the PRC, AusAID, and the Taguig City Government after roles and responsibilities have been agreed (**A sample MOA is in Annex 6**). The Taguig City Government will confirm land donation for the new PRC chapter or alternate arrangements will be made through the Rizal Chapter. An implementation and resourcing plan will be developed by the PRC for the Taguig or Rizal chapters. PRC will complete these activities before the BRACE Program starts.

133. The Taguig City Government committed to establish a task force to manage project implementation. It will initiate a stock-take of all DRM-related personnel and resources available to each committee, team, and council within its 28 barangays wherein a database of its members and resources will be maintained by the PRC Taguig Chapter and the Taguig City Government. The PRC, in cooperation with the NDRRMC-OCD, will assess barangay-level capacities to inform training and skills upgrading plans. Barangay Disaster Action Teams will be formed where emergency response teams do not exist or need supplementary support. The NDRRMC-OCD will undertake the necessary steps to activate all 28 Barangay Development Committees.

134. PRC will assist barangays to identify and draft enabling resolutions and ordinances through the participatory hazard, vulnerability and capacity assessment (HVCA) and planning processes subsequently undertaken under the second focus area. Examples of local laws are: integration of volunteer disaster action teams as a recognized support team for the BDCs with appropriate incentives and allowances provided; designation of a percentage of local development funds to be utilized for DRM and CCA activities, and others. Policy advocacy activities will be undertaken by BDCs, Taguig City and PRC. PRC and AusAID will advocate policies that could be replicated to other LGUs through the Policy Advisory Board established for sharing information with other stakeholders.

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<sup>46</sup> Quick Guide to Acronyms: BDC = Barangay Development Committee, BDAT = Barangay Disaster Action Team, BERT = Barangay Emergency Response Team

135. **Focus Area 2: Building Community Capacity**

- Hazard, risk vulnerability and capacities are assessed and documented in each barangay
- Each BDC is fully equipped (including early warning system) and functional
- A pool of multi-sectoral and multidisciplinary, organised, trained, and equipped volunteers are formed and capacitated as necessary to support BDCs
- A database of training graduates/volunteers developed
- Barangay disaster action plans and contingency/emergency plans are prepared/updated for each target barangay or cluster of barangays, if applicable
- Barangay development plans and budgets incorporates recommendations on disaster risk reduction and management

136. Activities will start with consultations and rapport-building activities with communities within the participating barangays of Building Safer Settlements Component 4. This will take place simultaneously with, and complementary to, the broader capacity assessment of BDCs under the strengthening local CBDRM institutions focus area.

137. **Training and action planning:** The PRC will select up to 35 community representatives from each of the 12 Component 4 target barangays to participate using their community checklist. Barangay captains, whose support is essential to the success of the CBDRM activities, will be requested to assist. The participants must:

- include representatives from cross-section of men, women, youth, elderly, disabled and other vulnerable and socially marginalised groups;
- commit to attend all training sessions; and
- have the capacity to act as local trainers to replicate the capacity building sessions within their own communities/barangays. This capacity will be enhanced by an extended training management session in the basic course as a training for trainers course to be facilitated by PRC.

138. BDC representatives are key participants. Similarly, Taguig City Government will be involved to facilitate their role as an implementing partner; to increase their awareness of community-level situation, and to give opportunity for the community to lobby the inclusion of small-scale disaster mitigation activities into local development planning processes and budgets. The PRC will also target barangay health workers (BHWs) and tanods (volunteer auxiliary police) to participate in the training activities. Health workers play a big part in the formal health care system. *Tanods* play a key role in barangay search and rescue, early warning and evacuation systems. Given their institutional mandate, and the fact that both groups are provided with regular allowances creates higher probability that these individuals will continue applying skills learned. Initial advocacy activities may not lead to the permanent integration of other CBDRM volunteers into local government service delivery systems<sup>47</sup>.

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<sup>47</sup> A finding of the IFRC impact evaluation of past PRC BDAT/BHW training programs.

139. The PRC will train each group of 35 within their own barangay. This will consist of a 17-day *Basic Course on Disaster Management and Community Health* developed and refined by PRC over the years. Participatory and interactive methods will be used to facilitate learning and to draw out local skills and knowledge in DRR/CCA. The training course will teach participants to apply their newly acquired skills to analyze the actual conditions of their respective barangays. This analysis will inform the development of follow-up action plans. Participants shall seek the views and endorsement of their communities on the plans. Relevant training offered by OCD (i.e., disaster and contingency planning) and MMDA (i.e., earthquake response) will be tapped, as appropriate.

140. Information sharing and respect for scientific and local community knowledge will be observed. Hazard and risk mapping undertaken by national agencies under Component 1 and the community-based approach of HVCA are mutually reinforcing. Training courses will use existing partnerships between PRC and NDRRMC especially in terms of sharing multi-hazard maps and IEC materials. NDRRMC-CSCAND will be engaged in the conduct of the training courses to further encourage collaboration.

141. The community will conduct their own hazard, vulnerability and capacity assessment using available multi-hazard maps of Taguig City (usually generated by national agencies), providing opportunity for these maps to be validated and refined by local knowledge. Local hazard maps produced by the communities will be shared with relevant GOP planners and implementers involved in other BRACE components. As soon as the risk information maps from Risk Analysis Component 1 become available, the PRC will distribute them to participating barangays. PRC will conduct a review session to merge local and existing knowledge with most recent scientific data.

142. The participants are expected to 're-echo' (replicate) their learning to their immediate families and surrounding households to increase broader barangay awareness and encourage community involvement in DRR/CCA activities. The course includes a module to develop the skills of the participants as trainers. Agreements from participants will be drawn and plans developed for this 'outreach' program.

143. **Expansion to Other Barangays:** The training will subsequently be provided to the remaining 16 barangays. The same participant selection process as in the first 12 barangays will be used. The project shall adopt a 'cluster' approach wherein up to eight participants will be identified from each barangay, along with a representative from the Taguig City Government. Each cluster will have combined groups of up to four barangays. A maximum of five training courses will be conducted.

144. The culmination of the course is the disaster management and contingency planning module. Participants will apply their acquired skills in the preparation of their barangay disaster action plans (BDAPs). The action planning process includes identifying small-scale disaster mitigation activities for possible implementation. The BDAP will be developed in

consultation with barangay constituency. The trainees will present their draft plans, including the emergency/contingency plan to the Sangguniang Barangay<sup>48</sup> for approval.

145. **Implementation of Barangay Disaster Action Plans (BDAPs):** Training participants will prepare BDAPs, including contingency/emergency plans, through learning-by-doing-on-the-job facilitated by PRC. Other collaborating partners and CSOs will be tapped to provide further support or training in areas outside or complementary to the mandate of PRC. This may include trainings on integrating DRR/CCA in budgeting, earthquake and landslide search and rescue operations,<sup>49</sup> participatory monitoring and evaluation techniques, among others.

146. Once approved, the BDC will incorporate their disaster action plans into the Barangay Development and Annual Investment Plans. Where the proposed actions exceed the limited capacity of barangay budgets, the Sangguniang Barangay will pass a resolution endorsing these actions to Taguig City Government for consideration and funding support. Communities can use BDAPs as basis to advocate the inclusion of CBDRM processes in the city development planning and budgeting processes. The BDAPs will be shared with the Executive Steering Committee as inputs into the implementation of other BRACE (especially in Land Use Component 3 and Safer Settlements Component 4. These actions plans, including emergency and contingency ones, will be updated annually or as needed.

147. BDCs shall lead the implementation of their disaster action plans. PRC will provide the right level of training and support to BDCs according to the needs and priorities of the communities identified during the participatory assessment/evaluation and planning processes. Using a community-centered and driven approach will help build ownership of the CBDRM activities enabling the gradual transfer of these responsibilities to the communities. This aspect of follow-up has important links to the longer-term sustainability of the training and action plans, especially if the trainees are formed into volunteer disaster action teams. PRC will develop a simple and concise training and support plan for the participating BDCs upon completion of the basic training course. The plan could contain the following support to trainees and communities:

- support to training graduates when they first practise their new skills in the community, i.e. to be accompanied, assisted and given feedback for the first few times they do the re-echo and on an ongoing basis to deal with the inevitable challenges that arise in following up on the action plan;
- broader ownership/genuine and full barangay endorsement of the action plan., including human resourcing needs to provide this level of support (often underestimated for a small, stretched staff who are is also busy trying to get funds/inputs

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<sup>48</sup> The Sangguniang Barangay is the legislative body of barangay governments in the Philippines. It passes ordinances and resolutions for the effective administration of the barangay. Its powers and functions are defined by the Local Government Code of 1991. The Sanggunian Barangay is headed by the barangay captain (which is also the barangay's chief executive) and is composed of kagawads or members.

<sup>49</sup> The course covers a potential gap in knowledge due to infrequency of exposure to earthquakes and lack of warning. The area lies in proximity to 2 major fault lines.

from counterparts assigned to undertake mitigation works and deal with the logistical challenges).

148. Appropriate early warning and emergency response equipment (e.g., volunteer gears, megaphones, VHF radios, life boats, as appropriate) will be provided to BDCs who have completed basic and other emergency-preparedness and response training. PRC shall provide coaching on operating and maintaining the equipment. A database of the graduates added to the previous database of BDCs and BERTs will be integrated with the relevant MMDA database of their training graduates and volunteers.

149. **Focus Area 3: Disaster Mitigation Activities**

- Taguig City Government assists in assessment and support of mitigation measures (e.g. cost-benefit; environmental impact; coherence with City Development Plans)
- BDCs take responsibility in implementing disaster mitigation activities identified and prioritised under focus area 2
- Mitigation activities are sustained by BDCs.

150. The community participants shall identify priority and doable small-scale disaster mitigation activities when they prepare their BDAPs. These options will be integrated into the barangay development planning and budgeting process to the extent possible. What cannot be incorporated into the Barangay Development and Annual Investment Plans will be forwarded to the Taguig City Government.

151. Taguig City Government shall undertake a cost-benefit and environmental impact assessment to ensure that the proposed measures are appropriate in the city-wide local context and are consistent with the city's land use and socio-economic development plans. If necessary, the Taguig City Government can call a stakeholders forum to discuss the options and assess the urgency and priority level of measures proposed. The participation of Taguig City Government representatives in the barangay basic training courses would have facilitated their understanding of the context and rationale by which the communities identified and prioritised their mitigation actions.

152. These mitigation measures are likely beyond the budget capacity of the barangay, and even City Government, to implement unassisted. The Taguig City Government will carry out a feasibility assessment of these proposed activities, including the operation and maintenance costs, prior to forwarding these to the BRACE Executive Steering Committee for consideration. The total pool of funds available will be identified by AusAID in consultation with PRC prior to program inception. Any agreements will be reflected in the MOA between Taguig City, PRC, and AusAID. Upon inception of BRACE, the selection criteria, proposal preparation and approval process, and funding ceiling for individual activities will be identified. These decisions will be taken by the CBDRM Implementation Group and disseminated to communities through the implementing partners.

153. The type of mitigation measures that will be eligible will be those that fit within the UN-ISDR definition, i.e., “encompass engineering techniques and hazard-resistant construction, as well as improved environmental policies and public awareness.” These could potentially include, but will not be limited to, measures such as improvement of canals, drainage and dikes, planting of trees for soil stabilisation, and retrofitting of classrooms, among others. As communities are also likely to prioritise activities to address socio-economic vulnerabilities, based on past experience, this information will be shared with the Component 4 implementing group; the latter can assess whether the implementation of such measures are within the remit of the livelihood activities to be undertaken.

154. BDCs shall manage, implement, and maintain disaster mitigation activities. PRC (assisted by their Australian Red Cross counterpart) will provide mentoring on analysing cost-benefit and in measuring the impacts of these activities. Training of BDCs on project management (including cost-benefit analysis and measuring impacts) will be included in the courses to be provided under this component. The Taguig City Government Disaster Risk Reduction and Management Council shall support the BDCs as needed. For example, the City Government Engineering Office could provide engineering and technical advice in the design and construction of small-scale drainage canals. Local contractors could be engaged in implementing the disaster mitigation measures. PRC will be responsible for procurement of such contractors with AusAID’s Managing Contractor providing support as needed.

155. The implementation of disaster mitigation measures could also support livelihood in the community. If skills exist, community members could be hired by the contractors through the BDCs. Further assistance from the implementing and or collaborating partners may be needed by the BDCs and/or the Taguig City DRRMC to achieve this.

## **Sustainability Issues**

156. Sustainability has been a major consideration in the design of this component, with the following features built into it to maximize the probability of lasting outcomes:

157. **PRC as Key Implementing Partner.** This component draws on the successful experience of PRC in delivering CBDRM in rural communities but evolving the approach enough to suit the Metro Manila urban context. It builds on the established and proven partnership of AusAID with the PRC. Implementation plans will consider the current systems, resources and local knowledge based on the successful Project 143 model.

158. Taguig City is under the jurisdiction of PRC Rizal Chapter. The geographical coverage of Rizal Chapter was too broad so PRC was keen on establishing a new permanent chapter in Taguig City. This move was positively received by the Taguig City Government but arrangements for land donation for the new chapter’s office will be confirmed. The PRC has assessed that it possesses the capacity to fund and manage another chapter office or

undertake other activities beyond the BRACE project. Longer-term support is expected to be drawn from the usual PRC sources such as the Taguig City DRRMC or other development funds. Through the new chapter, PRC will expand its currently modest relationships within the barangays of Taguig City. If Taguig City is unable to provide land for the chapter office, the PRC may expand its services in Taguig City through increased resourcing of the Rizal Chapter should its contingent funds allow.

159. The experience of Project 143 in creating a pool of well-trained community volunteers as disaster action teams is considered the grassroots level success and expertise of the PRC. Taguig City has no existing BDATs but there are Barangay Emergency Response Teams (BERTs). The capacities of these units will be assessed and enhanced by the PRC following on the model of the Project 143 system. The PRC will continue to provide support and motivation through ongoing activities, including regular refresher training and other volunteer incentives, likely within the framework of Project 143 which is a regular program of PRC. While it is in the best interest of PRC to sustain CBDRM or Project 143 system even beyond the project life, further mainstreaming Project 143 work into the PRC's regular roles and functions is required and will likely remain a sustainability risk to the component, albeit one of which the PRC is aware and working on longer-term solutions outside of BRACE.

160. **Taguig City and Barangay Leaders as Key Implementing Partners.** There is substantial evidence of the critical role that cities, municipalities and barangay leaders play in ensuring sustainable CBDRM. The responsibility of sustaining the CBDRM program lies with the local government. Taguig City has a major role in sustaining the project through local legislation and integration of CBDRM measures into local development plans and budgets, building code, land use plan and zoning ordinance. The inclusion of city officials and barangay leaders in participatory decision-making approaches and capacity building activities and, most importantly, bringing LGU and community officials together in an interactive environment to carry out activities, has built shared ownership of and commitment to DRR/CCA principles, programming and budgets in several locations in the Philippines. This successful approach is replicated in this design.

161. The inclusion of advocacy activities to formally legislate CBDRM roles and responsibilities at the local level is aimed at reducing the risk of changes of elected officials at both levels leading to a decreased commitment to CBDRM. There is no way to fully protect CBDRM (or any other programming) from a loss of political will or momentum, but legislative and planning/budgetary measures aimed at reinforcing existing institutional structures can help to reduce the likelihood of this occurring. The long-term presence of the PRC will also be an important aspect of supporting continued or renewed advocacy for CBDRM planning and budgeting for barangays following changes of government, as the IFRC evaluation showed. The latter will depend on sufficient staff resources for the relevant PRC chapter being maintained over time, a risk related to the development of successful fund-raising strategies beyond BRACE.



162. The responsibility for maintaining any physical mitigation works ultimately will rest with Taguig City and BDCs, with BDCs usually dependent on the city government for at least some contribution of financial and technical support (as barangays usually have much more limited funding allocations available). In addition to the actions identified above, the strong focus in the project on: a) local stakeholders identifying and choosing their own priorities and 2) assessment of the operation and maintenance (O&M) costs of any activity proposed, along with O&M training at the LGU and community level, is expected to increase the lifespan/sustainability of the disaster mitigation measures implemented.

163. **Community Ownership and Partnership.** The approach taken to the component is that of encouraging community leadership and ownership through the involvement of identified community representatives in the planning, implementation and monitoring and evaluation of the CBDRM activities supported. The PRC's main role is the provision of technical inputs and resources beyond the community's ability to provide, but with gradual transfer of these roles to local government, CSOs and the communities themselves as capacity is built. This shift in ownership normally occurs through the gradual transfer of responsibilities to the BDATs/BDCs/BERTs. The BDCs will also be given the lead role in implementing disaster mitigation measures and will be responsible for their maintenance and sustainability.

164. At the same time, there is no guarantee of sustaining broader volunteer or community interest and motivation over time. The most direct participants and beneficiaries at this level will be the community representatives trained and the volunteers formed into BDATs. The follow up support provided to these individuals to build their capacity for ongoing community facilitation and motivation will be important for the sustainability of CBDRM, especially disaster preparedness and contingency planning updates and drills. If the advocacy work to incorporate these volunteers into local government structures and incentive systems (e.g., payment of allowances) is successful, this will be a major step forward for sustainable CBDRM. If not, the inclusion of BHWs and tanods in component activities and BDATs will provide at least some longer-term sustainability of skills developed, as these groups are already integrated into government systems.

165. Providing the venue for PRC, Taguig City and BDCs to work together increases the potential for CBDRM work to be sustained beyond donor support. Linking these stakeholders will also hopefully manage the impact of change in administration after the 2013 elections.

166. **Cost Estimates.** AusAID shall provide A\$763,000 under a grant arrangement with the PRC. Disbursement and budget for discrete small-scale disaster mitigation activities will be jointly approved by AusAID, Taguig City Government, and the PRC during project implementation. **A detailed cost estimate table for the whole component is provided in Annex 7.** AusAID funds will be used to support CBDRM work for 28 barangays of Taguig City. Throughout the duration of the project, and especially with passage of local legislation

funding responsibilities,<sup>50</sup> AusAID funding will decrease by the third phase. By the end of the project, CBDRM should be sustained 100 percent by the Taguig City and barangays. **(Refer to Annex 8 for stakeholder mapping and roles.)**

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<sup>50</sup> Incorporating CBDRM measures within the local development planning and budgeting processes on an annual basis, together with creating the enabling policy environment also assists to sustain initiatives once the program has ended.

### **Component 3: Risk-Sensitive Land Use Planning**

167. **Objective:** Develop the capacity and skills of Taguig City to effectively incorporate Disaster Risk Reduction (DRR) and Climate Change Adaptation (CCA) knowledge, strategies, and approaches into the city's development planning and processes.

168. **Expected Outcomes**

- Governance and institutional structures are in place for effective planning, monitoring and enforcement of the CLUP
- Improved city government capacity for incorporating DRR and CCA strategies in its land use business processes, including enhanced capacity on automated information systems
- CLUP and social development projects including housing projects incorporates DRR and CCA considerations

169. **Expected Outputs**

**Output 3.1:** Capacity-building on integration of DRM and CCA into the development plans and the business process of the City Government are undertaken.

**Output 3.2:** Structure plan outlining the vision/mission of Taguig's preferred future development is prepared and endorsed by June 2012

**Output 3.3:** An updated and risk sensitive land use plan of Taguig City is prepared and adopted

#### ***Design Considerations***

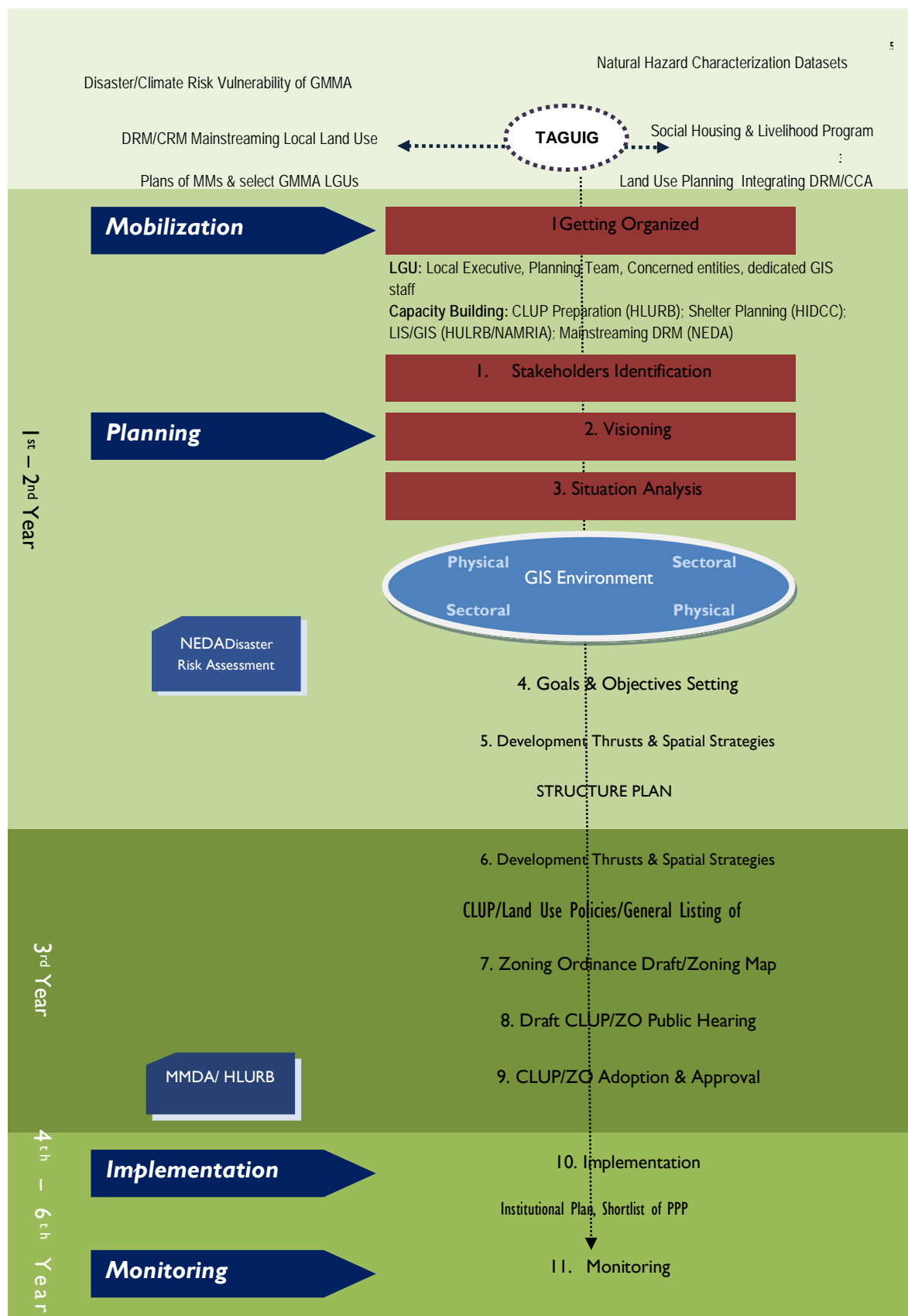
170. The process for integrating DRR and CCA strategies into Taguig's land use planning will use the CLUP guidelines issued by the national-level HLURB<sup>51</sup>. It will also comply with the reference manual on integrating DRR-CCA in CLUP recently developed by the national government agencies (NEDA and HLURB)<sup>52</sup>. The entire process is envisioned to be conducted in six years covering three phases as shown in Figure 5.

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<sup>51</sup> The HLURB is mandated to promulgate land use planning and zoning standards and guidelines for the guidance of local governments and to review, evaluate and approve the CLUPs and ZOs of local governments. (CLUP Guidebook Vol1, 2006). The 12 step planning process is contained in Volume 1: A guide to CLUP preparation which is part of 5 volume set of planning guidebooks. This set of guidebooks streamlined from originally an 11-set volume, presents an "improved" methodology highlighting a strategic, participatory approach, cross-sectoral integration and proactive in managing rapidly changing economic, social and environmental conditions. Volume 3: A Guide to Comprehensive Land Use Management focuses on GIS data base management and hazard/risk data mapping and processing. Volumes 4 and 5 are Planning Strategically and Model Zoning Ordinance respectively. (CLUP Guidebook Vol 1, 2006)

<sup>52</sup> Through the 3-year Project "Integrating DRR-CCA into local development planning and decision-making processes" (Integrating DRR-CCA Project) being implemented by NEDA and UNDP, with funding support from AusAID, in collaboration with HLURB, DILG and Climate Change Commission.

Fig 5: CLUP/ZO Formulation Process Integrating DRR/CCA



171. A strong capacity building framework underpins the implementation of this component. With a big demand for experienced planners and a parsimonious government pay system, Taguig City has not yet fully staffed its City Planning and Development Office (CPDO). The CPDO has 31 staff, i.e. 5 technical and 26 administrative. Only 10 hold permanent tenure, the rest are contractual employees. Most contractual employees have very little experience on planning or civil service related type of work. The technical staff are relatively competent but lack exposure to the processes of CLUP and preparation of zoning ordinances (ZO) — their experience mostly confined to the issuance of development permits based on the ZO. This inexperience can be traced to previous practice where the City outsourced the preparation of the CLUP to external consultants. In practice, these consultants worked mostly on their own and did not involve relevant planning and development staff in the preparation of reports and other deliverables.<sup>53</sup> Capacity building is required for the planning staff to update their competencies in preparing land use plans, data analysis and interpretation, participatory planning, legal enforcement, environmental regulations, and the conduct of assessments to ensure that the current plans meet changing demands.

172. Competent staff, visionary local leaders and updated plans may not be all that it takes to make the city work, however. The people have an important role in development. The communities need to be engaged in consultations in the preparation of any strategic plan.

173. The CLUP of Taguig was developed in 2003. Much of Taguig's physical, economic, social and political landscape has changed since then, requiring that the CLUP needs to be revisited and revised. The CPDO has, for a number of years, evaluated application of development permits and zoning permits based on a plan that may have been overtaken by events.

174. From a sustainability perspective, it will be important for Taguig City to undergo the process of CLUP formulation so that they build the skills and competencies not only in preparing the plan but also in monitoring its compliance. The program shall improve the competencies of relevant personnel within Taguig City through technical advice, trainings and on-the-job mentoring. A comprehensive needs analysis and organisational review will be undertaken to identify appropriate capacity-building interventions. The ownership and involvement in all activities by the Taguig City Planning and Development Office (Taguig CPDO), its other key units,<sup>54</sup> and the GIS team to be established, will be strongly encouraged. A preliminary conditionality for the BRACE Program is the appointment of a proactive and qualified technical person from the Taguig City Government, preferably with permanent tenure, to lead in managing key outputs and activities.<sup>55</sup>

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<sup>53</sup> A focused group discussion (FGD) was conducted with some of the staff members of the CPDO to get a general assessment of their readiness for undertaking land use planning and mainstreaming CCA-DRR. This section presents the key conclusions from the FGD.

<sup>54</sup> May include but not limited to Taguig City DRRM Council/Office, and Engineering Office.

<sup>55</sup> An initial conditionality in the AusAID-Taguig City Agreement

175. BRACE will assist Taguig City in brokering cooperation with national development planning agencies that can provide support and technical guidance on key themes such as shelter planning, GIS and land information system<sup>56</sup>.

176. To reduce duplication, the BRACE land use component will piggy-back on the outputs of two ongoing AusAID-funded projects. The first project is with UNDP and NDRRMC called the GMMA READY Project which will help Metro Manila cities, including Taguig City, prepare the initial iteration of their CLUPs that will now be based on disaster risk vulnerability data and climate change scenarios. Taguig City will benefit from coordinating with other Metro Manila LGUs to prepare a coherent Metro Manila Physical Framework Plan. The second project is the Mainstreaming DRR-CCA Project with NEDA and HLURB where Taguig City will be able to use the reference manual developed by NEDA and HLURB to take concrete actions to incorporate DRM and CCA principles in their business processes.

177. The BRACE Program will play a supporting role while these two projects are implemented over the period 2011 to 2014. Assistance to Taguig City will be responsive and supplementary, given when and where needed.

178. A Work Program will be developed at the outset of the planning process which will define the various roles, activities, deliverables, milestones, resources and timetable toward achieving the goals and objectives. This will be revisited regularly to check on progress and incorporate modifications as needed by the key players and stakeholders.

179. The following principles will guide the implementation of activities under this component:

- *Train*: Upgrade the development planning capacities of personnel through technology transfer and mentoring.
- *Invigorate the process*: Re-energize the land use planning process through more integrative and strategic planning studies.
- *Generate, systematize and manage spatial data*: Improve collection and use of spatial data and foster synergy among departments for data consolidation and sharing
- *Equip people*: Provide the necessary tools and the environment for undertaking risk-sensitive land use planning using the reference manual on integrating DRR-CCA into CLUP from NEDA and HLURB.
- *Adopt scientific data and knowledge*: Use the information generated from the hazard and risk mapping studies of AusAID, NDRRMC-CSCAND and GA and the tools developed through the Innovation Support Fund.
- *Validate the data*: Ensure the accuracy and reliability of the data generated.

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<sup>56</sup> National Economic and Development Authority, Metro Manila Development Authority, Department of Interior and Local Government

Fig 6. HLURB CLUP Process



180. **The Three Phases**

- Phase 1: Preparing the Structure Plan (Steps 1-6)
- Phase 2: Second Iteration of the Comprehensive Land Use Plan (Steps 7-10)
- Phase 3: Review and Enforcement (Steps 11-12)

181. **Phase 1: Years 1 to 3.** In the first three years, Taguig City will be assisted to undertake Steps 1 to 6 of the CLUP process culminating in the formulation of a Structure Plan which is a document embodying the city's aspirations and vision for its spatial needs.

182. As an initial activity, the implementation group will be organised. This will comprise the technical working group (TWG) composed of heads of local government departments, representatives of community organisations, sectoral committee representatives, and the disaster risk reduction-climate adaptation' champion in the person of the Mayor.<sup>57</sup> A multi-disciplinary team of consultants will be engaged specifically to provide technical advice to the group. The Taguig City Development Council will be kept informed and consulted throughout project implementation.

183. BRACE will assist Taguig City to undertake a business process review of their land/property-related transactions. The City will be able to identify any gaps between the current CLUP and its actual enforcement by reviewing the appropriateness of permits issued such as zoning ordinances, environmental clearances, building permits, land use reclassification and land use conversion approvals, among others. This gaps analysis will enable Taguig CPDO to determine doable strategic actions. For instance, in the short-term, the program could assist Taguig City prepare and enact local policies that would legally enforce the inclusion of DRR and CCA principles in usual business processes. These can be in the form of special

<sup>57</sup> Local champions are necessary to instil DRR and CCA and ensure ownership particularly in raising public awareness and instilling knowledge and capacity specific to the needs of their constituents. (Benson, 2006)

regulations, barangay ordinances, or council resolutions. These local legislations have the added benefit of identifying and allocating required resources.

184. All these activities can be reasonably implemented in parallel with the GMMA READY Project. In fact, it will be an essential complement since Taguig City is still expected to conduct regular businesses (including reviewing construction applications and zoning permits) which would entail enforcing land use plans that are not DRM or CCA-sensitive and are almost irrelevant since they have not been revised in almost 15 years.

185. A dedicated team for LIS/GIS functions will be formed as part of the Implementation Group. The composition of the GIS team (preferably a combination of Taguig CPDO career technical staff and new hires) will be confirmed following a detailed needs assessment. To date, equipment and software in Taguig City are insufficient and outdated especially for the GIS component. The quality of available data, especially spatial data, is also an issue and requires urgent attention. Systems are not in place to preserve the integrity of the data from its collection through periodic updating. Possible hardware and training support for LIS/GIS will be identified. The planning team will tap the tools developed in AusAID's earlier project—Land Administration and Management Project Phase 2: Innovation Support Fund<sup>58</sup>. Cities like Olongapo (North of Metro Manila) were assisted to develop multi-purpose land cadastre wherein different data sets like hazard risks, tax maps, health profiles are integrated in one information system.

186. A key output under the first phase is the preparation of a visioning plan, called the Structure Plan. As defined in the HLURB manual, this will be a map depicting the envisioned concept or the visual outline of the overall physical and development framework of Taguig City. The program shall ensure that DRR and CCA principles will be adopted.

187. The basic Structure Map will contain the following:

- General location of development areas for tourism and industry; conservation/protection, critical watersheds, protected areas, historical/cultural sites, etc; and proposed major infrastructure projects
- Direction of urban expansion
- Proposed circulation system that reflects the linkage
- Growth areas/nodes for production purposes or with special development role

188. This document will be also be used as a vehicle for consensus building. Support will be provided to Taguig City to conduct extensive stakeholder consultations as an integral step in the CLUP updating process. Potential partnerships, cooperation arrangements, and leverage points that can be developed during the course of the planning process will be identified. The platform of CBDRM activities will be utilised as a venue for coordination and communication

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<sup>58</sup> LAMP 2 is an AusAID-funded program that aimed to reform the land administration system of the Philippines. It was envisioned to increase land tenure security through institutional reforms, accelerated land titling, and establishment of a sound land valuation system. It established an Innovation Support Fund (ISF) for LGUs who were committed to improving land information systems through GIS.



between communities and the local government. It is expected that the level of awareness of community residents will increase as a result of their active participation in this planning and local legislative processes, especially those related to disaster risk management.

189. **Phase 2: Years 3 to 4.** On the third year of BRACE implementation, AusAID's engagement with Taguig City is expected to become more substantive. AusAID will be assisting Taguig to review its revised CLUP on the assumption that Taguig City, through the GMMA READY Project, would have completed its first iteration of the CLUP using climate change projects and updated hazard maps. It is likewise assumed that risk analysis information from Geoscience Australia and the NDRRMC is available as an additional consideration for CLUP review. The risk information will allow Taguig City to predict the potential impacts of floods, severe wind, and earthquakes on its population and structure so that land use and investment plans are prepared accordingly.

190. Steps 7 to 10 of the HLURB CLUP will be covered using the Structure Plan as the starting point. The key activities in this phase are the review of:

- Review of CLUP vis-à-vis risk information
- General listing of consolidated programs and projects; including options for retrofitting options for public infrastructure
- Drafting of the zoning ordinance; and
- Approval of the CLUP/Zoning Ordinance

191. **Phase 3: Year 4 to 6 Implementation and Review.** The last phase focuses on ensuring enforcement and compliance of Taguig City with regards to its adopted CLUP. Activities identified herein are largely conceptual and will be confirmed on the 3<sup>rd</sup> year of the project. The program would retain sufficient flexibility to adjust outputs as deemed necessary by Taguig City.

192. The last phase will cover Steps 11 and 12 of the HLURB guidelines and will use the CLUP/ZO drafted as starting point. The key activities in this phase are:

- assessment of institutional structure
- mechanisms for implementing the zoning ordinance;
- shortlisting of programs and projects and master planning of centerpiece projects; information and education campaign plan; and
- adaptation of a monitoring performance plan.

193. To further strengthen the local government planning capacity and to institutionalize DRM-CCA principles, Phase 3 will translate the DRM-CCA element into the Comprehensive Development Plan<sup>59</sup> (CDP) and the Annual Investment Plan (AIP).<sup>60</sup> Consultants will train the planning team to develop these tools which are essential in implementing the risk-sensitive

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<sup>59</sup> The CDP is an implementing instrument of the CLUP and is presented as an action plan. It covers the five development sectors: social, economic, physical/land use, environmental and institutional. (Serote, 2005)

<sup>60</sup> The principal instrument for implementing the CDP is the local development investment program (LDIP) more popularly known as Annual Investment Program (AIP).

CLUP. To facilitate the training, templates for the CDP and the AIP incorporating the DRM-CCA elements will be formulated.

194. **Institutional Planning.** In this activity, the organisational structure of the city will be assessed to improve development performance in light of the vision, goals and objectives of its CLUP and the DRR/CCA elements of the project. The institutional structure may be strengthened by way of additional staff and/or capacity building programs and if deemed necessary new offices/units deemed may have to be established. There may be scope to request technical assistance from AusAID's facility on Human Resources and Organisational Development Facility.

195. The implementation plan typically will include the following components: Strategy that describes actions and a timeline for formalizing the DRR/CC adaptation options, initiating activities, designing investments, and coordinating activities with other projects and programs of AusAID, other donors and the government; and capacity building needs assessment and training plan.

196. **Zoning Ordinance Implementation Mechanisms.** The planning team will revisit its system for reviewing the zoning ordinance to ensure that it is responsive to the innovations particularly the DRR/CCA elements. The assessment of applications for land use development permits and management schemes shall utilise assessment guidelines.

197. There is a need to review local zoning ordinances vis-à-vis the CLUP/ZO to check for consistency and gaps. Identify other development regulations in addition to the zoning ordinance needed to fully implement the ZO. Amendments in existing statutory ordinances found to be inconsistent with the CLUP/ZO shall also be made. Other land development regulations for incorporating CLUP/ZO such as special levy tax providing for incentives/disincentives, idle land tax; detailed area development regulations/standards particularly for such areas as cultural heritage sites/zones, high risk/danger zones, etc., Industrial/ subdivision development regulations shall be added as needed to fully implement the Zoning Ordinance.

198. **Component 3 Cost Estimates.** Total cost for Component 3 is up to A\$12.78 million. GoA shall provide \$980,000 comprising of consultancy and technical support services while Taguig City Government will provide A\$11.8 million in counterpart in-kind costs. **The detailed cost estimates for GoA grant are in Annex 9.**

## Component 4: Building Safer Settlements

199. **Objective:** Develop a social housing model that acts as a catalyst for building safer, disaster resilient settlements for other urban communities

200. **Expected Outcomes:**

- Mechanisms, procedures and systems for moving low income, disaster-affected ISF out of danger zones to safer, well-planned, disaster resilient communities that are on in-city sites have been developed and implemented on a pilot basis in Taguig City. These have been found to be sustainable and suitable for replication throughout Metro Manila and other urban centres of the Philippines. Up to 1,800 ISF have moved into new, purpose built, disaster resilient homes in safer locations.
- The beneficiaries have better access to jobs and livelihood opportunities. Options for skills development trainings, job placement assistance and connections to local microfinance institutions for micro and small-scale enterprise start-ups are made available to target beneficiaries.
- The beneficiaries have ownership over the planning and design of the safer settlements and are active in the operation, management and maintenance of their communities.
- Danger zone areas vacated by the ISF have been secured and safeguarded by the Taguig City Government and returned to their primary original use as drainage channels and flood storage areas. Measures, techniques and processes to ensure that the vacated danger zones will not be reoccupied for residential use are in place. The urban drainage characteristics in the vicinity of the vacated zones have improved.
- The capability and capacity of Taguig City Government to develop and implement a Social Housing Policy have been sufficiently enhanced.

201. **Expected Outputs:**

**Output 4.1:** Up to 1800 fully serviced social housing units are constructed in Taguig City at safe disaster-resilient locations.

**Output 4.2:** Up to 1800 ISF, approximately 9000 men, women, and children, are relocated, their disaster preparedness capability and capacity is strengthened and their access to employment and livelihood opportunities are improved.

**Output 4.3:** Danger Zone lands vacated by informal settlers are secured and developed.

**Output 4.4:** The ability of the Taguig City Government to develop, manage, implement, and sustain its comprehensive Social Housing Policy are strengthened.

## **Design Considerations**

202. **The Vulnerability of Urban Areas and Informal Settlers to Extreme Weather Events.** The severity of flooding and damage caused by Ketsana and Parma demonstrated the high degree of vulnerability and exposure of urban areas like Metro Manila to the impacts of extreme weather events. Particularly exposed to the personal dangers of death and injury, and the risks of severe damage and loss of houses were the large numbers of informal settlers living within the Metro Manila area, including those located in Taguig City.

203. Considering that typhoons occur frequently in Metro Manila, the risk factors for vulnerable communities are high. The conceptual approach to Building Safer Settlements is to seek ways to make these communities safer, more resilient and better able to withstand the ravages of extreme weather.

204. A vital asset for any community or family is access to safe, secure and disaster resistant housing, combined with necessary disaster preparedness capability and capacity. The characteristics of a safe, secure and disaster resistant house includes security of tenure for the occupiers and a safe location in an area that is not excessively exposed to, and has some protection from, the deprivations of extreme weather. To minimise the risks of loss and damage, the design, building materials and construction standards of urban housing should be structurally sound, durable, and robust. They must be of sufficient quality to withstand the destructive effects of severe weather and offer a safe haven and protection to occupants.

205. **The Proposed Approach to Building Safer Settlements.** ISF do not have security of tenure and are illegally occupying public or private lands. Most of them occupy flimsy shanty-type houses built from light, salvaged materials that prove to be inadequate and offer the occupants little protection or safety during adverse weather. These structures and the occupants are highly vulnerable to the risk of damage and injury from extreme weather like strong wind, heavy rain and rising flood water.

206. Many of the shanties are located in places that have been identified as danger zones unfit for human habitation. The danger zones are along riverbanks, shorelines, in or over drainage canals and in floodplains. During typhoons people and houses in these dangerous locations are exposed to extreme hazard from strong winds, and fast-flowing and rapidly-rising floodwaters. The safety, disaster resilience, public health standards and living conditions of the residents located in danger zones cannot be adequately improved through slum upgrading measures. The only viable option is to relocate the people to safe areas.

207. The Building Safer Settlements component does NOT promote the relocation of ISF, it promotes the building of safer settlements. The number of people to be relocated is kept to the barest minimum necessary to get people out of the danger zones and into safer areas as a first priority for creating safer, disaster resilient communities.

208. If the basic location of the house is safe and the issues of security of tenure can be resolved, the living conditions and safety of the residents may be improved by implementing in-situ slum upgrading. Slum upgrading includes measures like providing basic municipal services and facilities, improved drainage and flood protection systems, better quality building materials, and stronger structural standards for the houses. However, in most highly urbanised informal settlements of Metro Manila, including Taguig, an effective program of in-situ upgrading will require a degree of de-densification of housing structures in order to create sufficient space for access ways, circulation, utility rights of way, fire breaks and community facilities. The in-situ upgrading approach will also involve a certain amount of relocation.

209. Therefore, the design concept for the Building Safer Settlements component is to provide, on a pilot and demonstration basis, purpose built, fully serviced social housing in safe locations within Taguig City complete with community facilities and basic services. The target beneficiaries are the ISF currently living in the danger zones who will be relocated to safer grounds.

210. The purpose built communities will be designed and constructed in accordance with Philippines laws, codes and standards. Intensive social preparation will be undertaken among the intended beneficiaries and they will be consulted on and encouraged to participate in the detailed planning and design of the social housing projects. The detailed plans and designs will be developed from the conceptual designs and feasibility study already undertaken.

211. The results of the SEP<sup>61</sup> commissioned by AusAID indicate that 85 per cent of the ISF living in the danger zones are likely to accept the option of obtaining social housing and more than half are willing to undergo relocation. It is probable that a few families will be reluctant to move from their current location. Families that decide not to accept the social housing in Taguig will be offered alternatives, which could include compensation and assistance to relocate elsewhere. The alternatives will be agreed through negotiation between the affected ISF and Taguig City Government. The UDHA provides local government units with the legal framework to move and resettle persons living in danger areas to safer sites that are provided with adequate basic services and facilities and access to employment and livelihood opportunities.

212. It is expected that some families may resist being relocated from the danger zones and these would be regarded as candidates for involuntary resettlement. Allowing people to stay in danger zones while relocating other families is tantamount to making a conscious decision to leave them in harm's way.

213. A well developed and inclusive resettlement framework has been prepared for BRACE. This framework will guide the development of the detailed and specific resettlement plan in consultation with and participation of the affected families. For those who will resist the

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<sup>61</sup> The SEP generated empirical data and baseline information on the socio-economic conditions of low income families living in high-risk areas within Taguig City

relocation, an involuntary resettlement plan will be developed. The plan will set out rights, principles and procedures for determining and negotiating fair compensation, the scope and scale of compensation and methods and procedures for resolving disputes and grievances. The underlying principle of the involuntary resettlement plan will be that no involuntarily resettled family will be worse off as a result of resettlement.

214. The consequence of moving people out of the danger zones is that they are taken out of harms way and the land they formerly occupied becomes available and presents an opportunity to improve the urban management in the general area particularly with respect to drainage. Therefore, simultaneously with the relocations, the vacated danger zone land will be secured and safeguarded by the Taguig City Government to prevent former residents from returning and new incomers from occupying the area for residential purposes. The vacated land will be returned to its original, primary use as drainage channels and flood storage areas. The land may also be used for secondary activities such as recreational use, horticulture or parking so that, during bad weather the land can be allowed to flood without causing serious damage. Returning the danger zones to their original function will enable the drainage capacity and flood storage capabilities of the rivers, drainage canals and floodplains to be restored. This will bring considerable benefits to adjacent urban areas and nearby communities by reducing the risk of catastrophic flooding..

215. The program shall provide technical support and capacity building activities for Taguig City Government on developing and incorporating slum upgrading and urban renewal techniques as part of their comprehensive Social Housing Policy. In-situ slum upgrading that may be appropriate for informal settlers living outside the danger zones will not be covered by this program.

216. **Taguig City as the Pilot for Building Safer Settlements.** Taguig City is experiencing the fastest population growth rate of any LGU in the region mainly through the arrival of new migrants from the provinces, many of whom are poor and low income and become ISF. In 2008, the National Housing Authority estimated that Taguig had about 20,000 ISF of whom almost 5000 were living in the designated danger zones. Not all ISF are classified as urban poor, but it seems highly likely that a substantial majority of the urban poor are ISF.

217. The south eastern area of Taguig located adjacent to the shoreline of Laguna de Bay contains the original town of Taguig and is known as the "city proper". The area is poorly drained and prone to severe flooding. This is the area that was badly affected by Ketsana. The area experiences damaging and widespread floods each year during the normal monsoon season. The high risk sites and the danger zones occupied by ISF are located within this area.

218. The land in city proper, although extensively developed with urban facilities and amenities is generally flat and low-lying with shallow gradients. Waterways include the Taguig River and a network of small creeks and rivers that drain the urbanised area into Laguna de Bay. The river gradients are flat, water flow is sluggish during dry weather, flood storage

capacity is low and adjacent areas are susceptible to flooding when the rivers overflow during heavy rains.

219. The riverbanks, lake shoreline, drainage canals and floodplains are occupied by ISF living in makeshift shanties that are exposed to the high risk of severe damage and destruction from fast-flowing and rapidly-rising flood waters during typhoons, tropical storms and monsoon rains. The shanties block the drainage channels and impede the water flow, reduce the flood storage capacity, and exacerbate drainage problems in the general area. The drainage problems are further compounded by the river channels' reduced capacity due to siltation and clogging with water hyacinths, debris and waste.

220. AusAID commissioned a preliminary geotechnical investigation of some of the potential housing sites in Taguig. This revealed that the sub-soil in the general area of the city proper is composed of layers of soft clay interspersed with layers of sandy silt. There are also some outcrops of Diliman Tuff, commonly known as adobe stone. The city proper area is in an active seismic zone and close to fault lines. New building construction for socialised housing should be limited to low and medium rise buildings from single storey up to a maximum of 5 storeys. Adobe stone was found in Novelty, a possible social housing site, this material is suitable for bearing the foundations of low and medium rise residential buildings. In places where the local geotechnical conditions are soft clay and sandy silt, such as in Dumlao, the second possible social housing site, new buildings like low and medium rise social housing structures need to be designed to earthquake resistant standards to mitigate the risk of structural damage induced by liquefaction of the sub-soil during earthquakes. This program recognises that designing and constructing residential buildings to earthquake resistant standards can have a significant impact on building costs.

## **Key Activities**

221. **Output 4.1: Up to 1800 fully serviced social housing units are constructed in Taguig City at safe disaster-resilient locations.** The Taguig City Government will provide suitable land at in-city sites and build up to 1800 housing units for poor and low income families. Target beneficiaries will be ISF currently living in danger zones. The new housing sites will be within an approximately 3-kilometre (km) radius of the original location of the ISF beneficiaries. They will be fully connected and integrated with the city's road and transport systems, infrastructure networks, social, economic and commercial systems and facilities, and the other urban services available in Taguig.

222. The new housing sites will be developed as safe, disaster resilient communities that offer affordable housing. Each housing unit will have a floor area of about 25 square metres of livable space and be located in a MRB with a maximum height of 5 storeys. The beneficiaries will enjoy security of tenure and have access to a comprehensive range of infrastructure, community facilities and social services within the community. Infrastructure will include road access and circulation, water supply, sanitation, drainage, electricity and solid waste

management. Community facilities will cover day care centres, health centres, open space and multi-purpose areas.

223. The proposed AusAID grant will fund the cost of the MRBs, consultants' services and technical assistance. The Taguig City Government will be responsible for providing the land and the site development including construction of site access roads and internal circulation as well as ensuring access to water distribution, site drainage system, sewer connections and access to wastewater treatment facilities. Procurement for site development works and MRB construction will be through open competitive tender using GoP procurement regulations and procedures that are acceptable to GoA.

224. Water and sewerage services will be through an arrangement between Taguig City Government and Manila Water Company, the water concessionaire responsible for water and sanitation services in Taguig. Taguig City Government shall establish similar arrangements with MERALCO, the electricity service provider for Metro Manila, to provide electricity distribution system within the housing sites. The beneficiaries will be responsible for the cost of individual service connections to the water and electricity systems. The program could obtain funding from the Global Partnership on Output-Based Aid (GPOBA)<sup>62</sup> to provide subsidies, if warranted, for water service connections to selected household beneficiaries.

225. The detailed planning, design and construction of the settlements, including the actual dwelling units will incorporate DRR and CCA features. The aim is to minimise the carbon footprint of the communities by including cost-effective environmental management techniques and appropriate green technology. Building materials and construction standards will be of sufficient quality to provide, at an affordable cost, structurally sound and durable infrastructure. Occupants will be provided with secure accommodation that will ensure their safety during severe weather events.

226. Consideration has been given to adopting a mixed land use strategy for site development that would allow commercial development through Public-Private Partnership (PPP) arrangements to be integrated with social housing to generate revenue and subsidise housing cost. However, considering the significant risks associated with an LGU becoming involved in commercial development activities, and the highly responsive nature of the private sector to meeting the demands for commercial development in Metro Manila, this approach is not considered suitable for the first two housing sites selected by Taguig City Government, namely Novelty and Dumlao. It is considered more beneficial to maximise the number of social housing units available on each site to meet the high demand for housing rather than promote commercial development that would compete with other, wholly private sector commercial developments and produce an uncertain revenue stream. However, the mixed land use strategy

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<sup>62</sup> **GPOBA** is a multi-donor (global) trust fund administered by the World Bank which funds output-based aid approaches for access to reliable infrastructure and social services for the poor in developing countries. GPOBA has on-going partnership with Manila Water Company to provide less privileged and low-income communities' basic water and sanitation facilities. Taguig City is one of the target areas of the program.



and PPP arrangements may be considered, on a case-to-case basis, for the remaining housing sites still to be identified by the Taguig City Government.

227. Taguig City Government identified a number of potential housing sites to establish safer settlements. These have been evaluated using the **Site Analysis and Prioritisation Framework described in Annex 10**. From this evaluation, the Novelty and Dumlao Property sites were found to be suitable for the development of social housing communities. **Preliminary and conceptual site development plans have been prepared for Novelty and Dumlao properties and are presented in Annex 11.**

228. The first eligible site, Novelty, is a 1.3-hectare property in Barangay Bagumbayan that was formerly a garment making factory adjacent to a residential area. The factory has been demolished and some demolition debris remains on the site. The site is owned by the Taguig City Government and is currently unoccupied either by ISF or by commercial users. The site terrain is sloping and the sub-soil is adobe stone, highly suitable for bearing the foundations of residential MRBs. The Novelty site has good potential for residential development. Figure 7 shows the conceptual development perspective. The development plan features a loop road encircling the residential buildings to provide site access and circulation for service vehicles, act as a buffer zone on the site perimeter, serve as the easement for the location of utilities and to provide space for parking. The MRBs have been conceptualised with atriums to maximise internal circulation, ventilation and availability of natural light within the buildings.

229. The proposed MRBs, which will generate approximately 440 dwelling units, have been planned in 'terraces,' to take advantage of the sloping site terrain, gain floor space for multi-purpose uses like, clubhouse area, day care centre, health centre, and small-scale income generating activities like sari-sari stores. The use of the terrain will also give the development a unique character and appearance. The perspective of a typical housing unit is shown in **Figure 8**, the floor area is 19 square metres and the ceiling height provides sufficient headroom for a loft to be added that would increase the livable floor space to 25 square metres. The conceptual design shows a mixed use commercial building at the front of the property, however it is proposed to convert this into a residential MRB at the detailed design stage and this could increase the number of residential units available at the site by about 50.

**Fig 7. Proposed Site Perspective of the Novelty Site**



Fig 8. Novelty Site Housing Unit Design\*



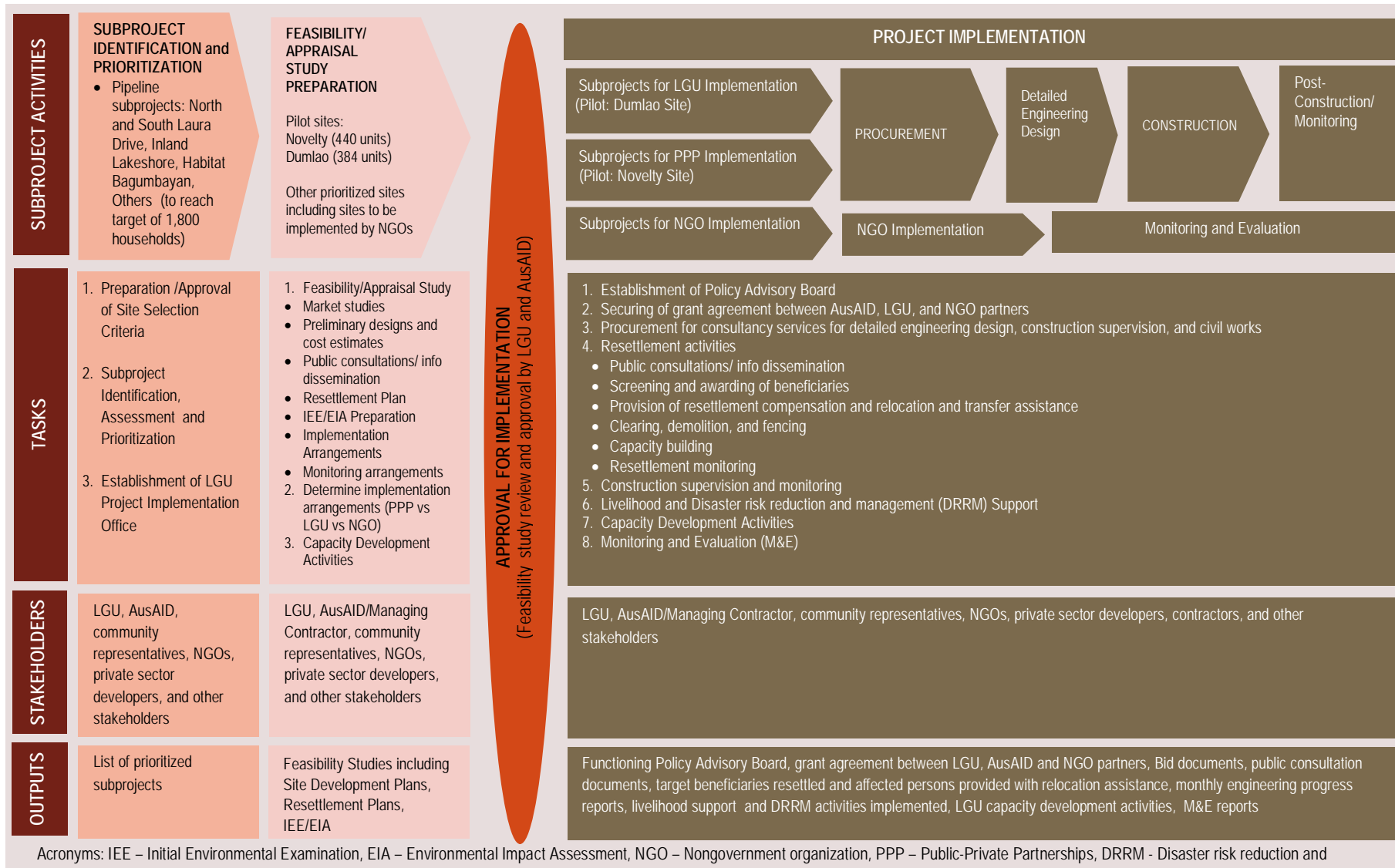
*\*Typical 19 square-meter Unit (added loft will increase area to 25 square meters)*

230. The conceptual site development plan for the second site, the 1.16 hectare Dumlao Property, is shown in **Figure 9**. The Dumlao Property is a green field site owned by the Taguig City Government and is also currently unoccupied. The MRB will provide about 384 housing units clustered around an open park which is the focal point of the community. Spaces for community facilities such as day-care centres, clinic, community association office and multi-purpose areas will be provided at the ground level.

Fig 9. Proposed Site Perspective of the Dumlao Site



Fig 10. Building Safer Settlements Process and Approval Flow



231. The Novelty site and Dumlao Property will together yield approximately 824 housing units.<sup>63</sup> To reach the target of 1800 units, the Taguig City Government will identify, evaluate and make available additional land within the city. It is estimated that about 3 hectares of additional land will be needed if similar planning standards and design concepts are adopted. The process and approval flow to be followed is summarized in Figure 10.

232. **Output 4.2: Up to 1800 ISF, approximately 9000 men, women, and children, are relocated, their disaster preparedness capability and capacity is strengthened and their access to employment and livelihood opportunities are improved.** CBDRM Component 2 will ensure that disaster preparedness and emergency planning training activities will build the skills of beneficiaries when they move in their new settlements. In addition, beneficiary-households will have access to livelihood and other income-earning opportunities currently provided by the Taguig City Government. The BRACE Program will enhance the capabilities of existing livelihood, cooperative, and poverty reduction offices of the City Government to improve their provision of livelihood support to program beneficiaries and more broadly to the general poor population of the city. Livelihood support to re-establish, replace or enhance previous livelihood activities that were disrupted by the transfer from danger zones to new sites will be provided. The program will ensure that families will not be worse off as a result of being transferred through targeted employment and economic support.

233. The AusAID-commissioned SEP survey conducted among barangays in Taguig City indicated that among the families living in high risk areas, the livelihood activities of most people fall into two groups: (i) the "formal sector" where workers have regular employment in a company or enterprise; and (ii) the "informal sector" where workers earn a living through independent livelihood activities. The survey showed that regular employment is the predominant source of income among the households. More than half of the population (52%), who are 15 years of age and above, are working and most of them are male. For the formally employed, the main consideration is the proximity and ease of access of the social housing site to their place of work. The identified settlement sites are within an approximately 3-km radius of the original danger zone locations. The new sites will be connected to and integrated with the city's public transport systems. The development of relatively large-scale housing projects will create opportunities for new public transport routes and operators to start up. This will help to keep transport costs manageable and be a potential source of job creation, livelihood and micro-enterprise formation. During the construction phase of the Building Safer Settlements component a large number of skilled and unskilled jobs will be created at the various construction sites and the contracts will require that beneficiaries are given consideration for employment by the contractors.

234. The survey also showed that the residents have various skills commonly found in the informal economy and which can be transformed into livelihood opportunities. These skills include, but are not limited to, beadwork, rug making, sari-sari stores, water lily charcoal making, catering services, cosmetology, bakery projects, sewing, tailoring, siopao-making,

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<sup>63</sup> The number could increase to 874 if space allocated for mix-use commercial development will be converted to MRBs.

tricycle driving, and others. Among the mostly badly affected livelihood activities during the typhoon were fishing, transport services, retail stores (sari-sari stores), vegetable farming, vending, fishing (including fish pen operations), and scavenging.

235. A number of the households surveyed expressed their desire to pursue livelihood projects, but indicated that they did not have enough capital. In addition, the lack of capital hinders many urban poor families from expanding their existing small businesses. There are a number of NGOs and rural banks in the city which can provide the necessary microfinance services to these families. Microfinance institutions (MFI) like the Center for Agriculture and Rural Development (CARD), Tulay sa Pag-unlad Inc. (*Bridge Towards Progress*), and First Macro Bank are operating in Taguig and provide both financial and non-financial services to micro-entrepreneurs who need business development funds. Alongside non-financial services such as business training, values formation, and credit and savings discipline, MFI assist low-income and poor people who do not usually qualify for regular banking services because they have no form of collateral or formal identification.

236. The BRACE Program will provide a suite of livelihood support that will include: (i) sponsoring beneficiaries on livelihood and skills development programs such as those conducted by the national government Technical Education and Skills Development Authority (TESDA), (ii) providing technical assistance for livelihood training and micro enterprise establishment, operation and management; (iii) technical assistance to strengthen the Taguig City Cooperative Development Office (CDO) and the formation of new, community based cooperatives; (iv) referrals through the Public Employment and Service Office (PESO) of Taguig that serves as an employment agency putting jobseekers in touch with prospective employers, and (v) linking interested beneficiaries to potential microfinance institutions currently operating in Taguig that can provide financial and technical assistance for the establishment of micro- and small-scale enterprise start-ups.

237. The livelihood support will be delivered and implemented using existing social development units in Taguig and will make available the following options for support:

238. **Option 1: Skills Training and Job Placement** will provide assistance to the beneficiary household members to develop skills and find employment among the establishments in Taguig City and nearby areas.

239. Labor skills are an important dimension of the city's employment generation strategy and current initiatives of the Taguig City Government show that local human capital and skill-pool are being developed to boost the formal sector through training and placement programs. The PESO of the City has partnerships with TESDA for its skills training program. A special provision for livelihood assistance and establishment of livelihood training center for Persons with Disabilities (PWD) is being developed. The City also has collaboration with the Fort Bonifacio Development Corporation (FBDC) which has committed to create 4,500 jobs from various construction sites in Fort Bonifacio.

240. In order to support and strengthen the LGU's job generation program, Option 1 shall provide capability building for participants in terms of employment readiness and life skills training to adequately prepare for entrance in the labor market. It will also enhance the capacity of the LGU to do technical and vocational education and training, apprenticeships, and job placement in partnership with other institutions.

241. **Option 2: Enterprise-based Livelihood and Microfinance Assistance** will provide capacity building activities to improve the skills of households with entrepreneurial knowledge, experience or interest. This will be designed and implemented based on consultations with the community and the LGU. Support to micro-enterprise development including facilitating access to microfinance will also be arranged.

242. A series of training will be conducted to equip people with skills and tools to start and run small businesses. Assistance in gaining access to financial services by linking them with existing MFI will be provided to project beneficiaries. Training in credit norms and procedures can be introduced to help prepare the community members be part of an MFI. To facilitate beneficiaries' access additional social safety nets, partnership with MFI that offer personal insurance will be given priority.

243. **Option 3: Cooperative Development** will be in the form of technical assistance to the LGU's CDO to speed up the establishment of community-based livelihood activities which can function as cooperatives in the new settlements. This option will also strengthen the capacity of CDO to monitor and ensure viability of cooperatives through training in governance, cooperatives' performance standards, cooperative Management, and related workshops.

244. Taguig City Government will be responsible for the development and implementation of the livelihood program. Community involvement and participation will be central to developing the livelihood program. The resettlement plan that will be prepared for each target site will include a complementary livelihood program suited to the capability and needs of the target household beneficiaries. The BRACE program will provide technical, facilitating and financial support, as needed.

245. Cooperation with additional service providers such as NGOs, other humanitarian organizations and government agencies in delivering the livelihood support will form part of the program delivery strategy. Contractors will be encouraged to give priority to members of the affected households for employment in the development of relocation site and construction of housing projects. This will be specified in the contract agreement with the winning builders/contractors.

246. **Figure 11** provides an overview of the livelihood support under the Building Safer Settlements component and how proposed activities link to the existing initiatives of Taguig City. Participation of women and assistance to PWDs in reaching their full potential as productive contributors to society will be considered throughout the design of the livelihood program. **The livelihood support subcomponent is discussed further in Annex 12.**

**Fig 11. Increasing Access to Livelihood Support**

247. **Output 4.3: Danger Zone lands vacated by informal settlers are secured and developed.** The danger zone land vacated by the informal settlers will be secured, safeguarded and managed by Taguig City Government. The City Government will prevent returnees or new incomers from occupying the land for residential purposes. All existing shanties and other obstructions will be cleared and the debris removed from the site. The regained land will be returned to its primary use as drainage channels and flood storage areas. Taguig City Government will clean and rehabilitate the drainage channels contributing to the betterment of the overall drainage characteristics of Taguig City.

248. The Taguig City Government may allow the land to be used for secondary activities like parks and gardens for recreation and livelihood purposes. However, such secondary uses are at the sole discretion and under the management and supervision of the Taguig City Government. Because the primary purpose of the land is for drainage systems it is expected that the regained land will be frequently inundated with floodwater of varying degrees of severity; this will not be a valid reason for claims for compensation for loss or damage sustained during

CCO=Cooperative Development Office, COUNIPA=Cooperative Union of Taguig and Pateros, DOLE=Department of Labor and Employment, BDC=5th Beneficial Development Corporation, MFI=Microfinance Institute, NATCCO=National Confederation of Cooperatives, NGO=non-government organization, PESO=Public Employment Service Office, TESDA=Technical Education and Skill Development Authority

249. The Mauling Creek is an important drainage channel discharging storm water run-off from the highly urbanised area of the city proper into Laguna de Bay. Mauling Creek has become clogged, its drainage capacity severely reduced by the housing structures of ISF. The ISF located along and over the creek are living in severely depressed and unsanitary conditions. They are in danger from fast-flowing and rapidly-rising flood waters during heavy rains. This is one of the primary danger zone target areas in Taguig for moving ISF to safe locations. When the ISF have been relocated to safety, the Taguig City Government will assume responsibility for safeguarding the vacated land and returning it to its original use. **A conceptual development plan for regained land at Mauling Creek is presented in Annex 11.**

250. The Inland Lakeshore area is an important piece of land between the earth flood control dyke located along the shoreline of Laguna de Bay and the urbanised area of Taguig. Its main purpose is as a floodwater storage area, and it houses the pumping stations that pump storm water out from the city into the lake. The Inland Lakeshore area is being encroached by ISF and other forms of residential and commercial development and its flood storage capacity is being degraded. To safeguard the city, Taguig City Government needs to take back control of the planning and development of the area. **Annex 11 presents a conceptual development plan for safeguarding the land at Inland Lakeshore.**

251. **Key Activities for Output 4.4: The ability of the Taguig City Government to develop, manage, implement, and sustain its comprehensive Social Housing Policy is strengthened.** A comprehensive Social Housing Policy will provide Taguig City Government with a framework to address the growing problem of informal settlements. It will include mechanisms, procedures and systems for undertaking slum upgrading and in-situ improvements for informal settlers who are not located in danger zones and need not be relocated or resettled for safety reasons but are living in deprived and unsanitary conditions. The slum upgrading policy could include solutions like regularising the status of land tenure for ISF, undertaking onsite provision and physical upgrading of basic services and infrastructure, and re-blocking and improving house structures.

252. The Social Housing Policy is expected to be a well-developed document that has been approved and adopted by the Taguig City Council (local name: *Sangguniang Panglungsod*) and is subsequently being implemented. It will provide the guidelines and framework for: (a) subsidised social housing for urban poor ISF who must be relocated from the designated danger zones; (b) social housing that is not subsidised, available for low income families who qualify for housing finance schemes and have the capacity and willingness-to-pay and (c) in-situ slum upgrading including regularisation of tenure for ISF living in deprived conditions but not located in danger zones. The Social Housing Policy will also contain strategies for preventing urban poor families from becoming ISF.

253. The program shall provide technical assistance to Taguig City Government in preparing the policy document and in reviewing their current shelter policy and other socialised housing initiatives. Partnerships with CSOs and the private sector may be institutionalised under this housing policy. The capacity building and training will be undertaken to ensure that Taguig City Government, can, with the full participation and cooperation of the affected communities, prepare and implement resettlement plans. Study tours or field exposures on voluntary relocation experiences in the Philippines may be provided as part of the capacity building program.

254. **Use of Public-Private Partnership (PPP) Mechanisms in Socialised Housing.** The GoP encourages PPP arrangements in the social housing sector and, under some circumstances, may offer tax and other non-fiscal incentives to the private sector to participate in public social housing schemes. There is also a mandatory requirement for private entities undertaking housing subdivisions on a commercial basis to provide for balanced social housing amounting to 20% of the value of the housing subdivision development. The legal basis for private sector participation in public socialised housing programs and projects is contained in the UDHA (Republic Act 7279). The UDHA declares that the State, in cooperation with the private sector, is responsible for initiating urban development and housing programs aimed to uplift the living conditions of the homeless and underprivileged.

255. The available mechanisms for PPP in social housing in the Philippines are:



- The **divestment or disposition** of local government-owned real properties under the Commission on Audit circulars in relation to pertinent sections of the Local Government Code;
- The development of build-operate-and-transfer or other PPP variants defined in the Philippine Build-Operate-Transfer (**BOT**) Law (RA 6957, as amended by RA 7718); or
- **Procurement** of publicly-funded infrastructure projects under regular government procurement laws (RA 9184) through open competitive tendering procedures.

256. Under the Building Safer Settlements component, the target beneficiaries are a specific, narrowly defined group located in the designated danger zones. In these circumstances a potential drawback to the effective use of PPP through the divestment of government-owned real estate or the BOT Law is the fact that many of the target beneficiaries will be among the poorest-of-the-poor and will not qualify for any of the existing housing finance schemes, such as Pag-IBIG (Home Development Mutual Fund), that are available to other low income families. In fact, these families can only be assisted into social housing if targeted capital subsidies are available. This means that a potential private sector partner or NGO could be severely constrained in the market that can be tapped for the social housing product. Private firms may not find a land divestment or BOT type of PPP arrangement in such a constrained market to be attractive. For this reason, the development of the Novelty and Dumlao Properties will not involve any PPP arrangements. Taguig City will identify approximately 3 hectares of additional sites for social housing and these may, on a case-to-case basis, be considered for PPP.

257. The participation of the private sector is most likely to be achieved in the first instance through the procurement of construction contracts by open competitive tendering. It is expected that competitive tendering will be highly attractive to private sector entities with the capability, capacity and experience in the housing sector and should result in the local government obtaining high quality residential developments that represent good value for money in the prevailing market conditions.

258. It is proposed therefore, that in the development of the Novelty and Dumlao Properties, the private sector will be involved primarily through open competitive tenders for various contract packages covering aspects like the detailed design, community preparation, site development and MRB construction. Private construction companies will be encouraged to partner with NGOs in order to offer a comprehensive and complete service to beneficiaries including the physical works and the mobilisation, social preparation and actual relocation of the beneficiaries.

259. The Taguig City Government has yet to identify the remaining sites that will be used to complete the Building Safer Settlements component, where it may be possible to consider and explore innovative PPP arrangements. Also, when the fully developed Taguig City Social Housing Policy is being implemented and the provision of social housing extends to ISF not occupying danger zones, includes a mix of new house construction and in-situ upgrading, then

the potential for PPP arrangements, either through divestment of local government-owned land or BOT, can be considered.

260. **The Scope for NGO Participation in Building Safer Settlements.** The Local Government Code, particularly Sections 35 and 36, provides the legal basis for LGU to form community development partnerships with NGOs. These arrangements may cover the delivery of basic services as well as capacity-building and livelihood projects intended to uplift the economic and social well-being of the poor.

261. **Housing NGOs.** Many LGUs in the Philippines have engaged housing NGOs as partners in their shelter and poverty reduction programs. Taguig City has an established and on-going relationship with several NGOs involved in the social housing sector including Habitat for Humanity<sup>64</sup>, Coalition for the Homeless, Rotary Club of Manila and Gawad Kalinga. With Gawad Kalinga, Taguig City identified and assigned lots for the NGO housing projects. The city also pre-qualified beneficiaries and contributed to site development and house construction. Gawad Kalinga undertook the preparation of designs and technical plans, social preparation, community organisation and value formation activities. It mobilised volunteers, provided estate management and training to the community organisation. The Habitat for Humanity signed a Memorandum of Agreement (MOA) with Taguig City allowing LGU-owned land, under a usufruct arrangement, to be used for social housing development. Habitat for Humanity was responsible for the construction of housing units through the hiring of skilled workers and the mobilization of volunteers. The Rotary Club of Manila contributed resources for the project in the form of cash, construction materials, and volunteer services.

262. The LGU, through its local chief executive and with the concurrence of its city council, can thus provide financial assistance and other means of support to NGOs for socialised housing under joint ventures or cooperative agreements. It is envisaged that the Taguig City Government will consider similar arrangements with NGOs for the development of some of the additional sites needed under the Building Sustainable Cities component to reach the target of 1,800 families.

263. The BRACE Program will similarly utilise the expertise of NGOs to support Taguig City Government promote community participation and empowerment among the beneficiaries. NGOs, particularly those who have had experience in working in Taguig City, can assist in social preparation activities including facilitating community consultations, helping the community develop the resettlement plan, and providing microfinance and livelihood support.

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<sup>64</sup> Habitat for Humanity is a non-profit Christian ministry working to help build responsible and self-reliant communities by enabling Filipino families in need to acquire affordable, decent, and durable homes. It has 2 housing projects in Taguig City.

## Cost Estimates and Financing Plan

264. **Cost Estimates.** Total estimated cost for Component 4 is A\$43.94 million. This covers land acquisition, site development, housing construction, resettlement support, technical assistance, and component management costs. The cost per housing unit was derived from preliminary estimates prepared for two priority housing (Novelty and Dumlao) and scaled up to estimate the cost of building 1,800 housing units. The value of the land (A\$ 2.62 million) was assessed based on the fair market value for Dumlao and Novelty properties<sup>65</sup>. The financing estimates include the value of additional 3 hectares of land required to achieve the target 1,800 units.

**Table 3: Financing Plan, by Expenditure Accounts (A\$ Million)**

	(\$ Million)													
	The Government		Taguig LGU		AusAID		Private Sector		Co-Financiers		Beneficiaries		Total	
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%
1. Land Acquisition	-	-	2.62	100.0	-	-	-	-	-	-	-	-	2.62	4.2
2. Information and Communication Materials	-	-	-	-	0.11	100.0	-	-	-	-	-	-	0.11	0.2
3. Site Development	0.00	-	9.10	100.0	-	-	-	-	-	-	-	-	9.10	14.4
4. Housing	0.00	-	-	-	19.39	100.0	-	-	-	-	-	-	19.39	30.7
5. Commercial Building	0.00	-	-	-	-	-	2.84	100.0	-	-	-	-	2.84	4.5
6. Community Facilities	0.00	-	1.51	100.0	-	-	-	-	-	-	-	-	1.51	2.4
7. Equipment	0.00	-	-	-	0.28	100.0	-	-	-	-	-	-	0.28	0.4
8. Training and Workshops	-	-	8.78	74.6	2.98	25.4	-	-	-	-	-	-	11.76	18.7
10. Furnitures and Fixtures	-	-	-	-	0.01	100.0	-	-	-	-	-	-	0.01	0.0
12. Resettlement Survey	-	-	0.13	100.0	-	-	-	-	-	-	-	-	0.13	0.2
14. Resettlement Support	-	-	1.93	100.0	-	-	-	-	-	-	-	-	1.93	3.1
15. Consulting Services	-	-	-	-	1.83	100.0	-	-	-	-	-	-	1.83	2.9
16. Water Service Connections	-	-	-	-	-	-	-	-	0.11	75.0	0.04	25.0	0.15	0.2
17. Electricity Connections	-	-	-	-	-	-	-	-	-	-	0.03	100.0	0.03	0.0
18. Incremental Administration	-	-	5.04	100.0	-	-	-	-	-	-	-	-	5.04	8.0
19. LIDAR	-	-	-	-	4.42	100.0	-	-	-	-	-	-	4.42	7.0
20. CBDRM	1.01	60.0	-	-	0.76	40.0	-	-	-	-	-	-	1.77	3.00
<b>Total PROJECT COSTS</b>	<b>1.01</b>	<b>1.61</b>	<b>29.10</b>	<b>46.26</b>	<b>29.78</b>	<b>47.34</b>	<b>2.84</b>	<b>4.51</b>	<b>0.11</b>	<b>0.17</b>	<b>0.07</b>	<b>0.10</b>	<b>62.91</b>	<b>100.0</b>

265. **Financing Plan.** A summary of the proposed financing plan under Component 4 is shown in **Table 3**. The proposed AusAID grant will finance about \$29.78 million (47.34%) of the estimated total cost. It will be used for vertical construction of housing units (\$19.39 million), livelihood support (\$0.39 million) and management costs including technical assistance (\$4.82 million).

266. The Taguig City Government will finance \$29.1 million (46.3%) of the estimated cost. Counterpart funds will be used for horizontal construction costs such as land acquisition (\$2.62 million) and site development (\$9.1 million) as well as resettlement support activities (\$2.06) and personnel and other resources (\$5.04 million), community facilities at \$1.51 million, and

<sup>65</sup> Dumlao property was acquired by Taguig City Government at Php2480 (\$59) per m<sup>2</sup> while Novelty was obtained through property foreclosure when the previous owners did not pay real property taxes amounting to Php1.08 million. The Novelty property is considered a prime development site with market value of Php14,000 (\$333) per m<sup>2</sup>.

training/workshops at \$8.78 million. The beneficiaries and co-financiers will finance A\$0.18 (0.3%) to cover water and electricity service connections.

267. **Beneficiaries' Affordability, Cost Recovery and Targeted Subsidy.** The preliminary analysis of the beneficiaries' affordability, cost recovery and subsidy is given in Table 4: Beneficiaries' Affordability, Cost Recovery and Subsidy-Illustrative Example. The analysis is an illustrative example to show that the target beneficiaries of the Building Safer Settlements component are all from the low-income group and the full subsidy is targeted at the poorest among them. The estimate of cost recovery shown in Table 4 is based on the assumption that the socio-economic profile of the target beneficiaries will be the same as in the SEP. If the actual SEP of the beneficiaries is different then the proportion of the AusAID grant that will be recovered through beneficiary payments will change.

268. The illustrative analysis shows that the subsidy is targeted at the poorest 50 per cent of the intended beneficiaries and that the poorest-of-the-poor and the low, low income groups will receive the subsidy. The analysis also shows that the middle and upper 50 per cent of the low income earners among the beneficiaries have adequate financial capacity to pay for their social housing unit provided that sufficiently long payment periods are allowed. The AusAID grant funds will finance the initial capital cost of the housing units and cover the necessary subsidy for the poorest 50 per cent of beneficiaries.

269. It should be noted that the figures in Table 4 refer only to the capital cost of the housing units. No consideration has been given to other cost factors like interest charges, transaction costs and administration and management fees because, at this stage, these are unknowns and the AusAID funds are grant. If interest and other charges are added, the amount of beneficiaries' monthly payment will increase.

270. Based on the SEP commissioned by AusAID the monthly income ranges and affordability levels of the target beneficiaries falls into five broad categories:

**There is a new table on Ben Aff, Cost Rec and Sub but since this is an illustrative example i suggest we retain the old one?**

**Table 4: Beneficiaries' Affordability, Cost Recovery and Subsidy-Illustrative Example**

Beneficiaries' Income Categories	HH Income Range Php/month	Frequency %	No. of HH	Mean Income P/month	Repayment Period Years	No. of Payments	Amount P/month	% of Income	Capital Php	Unit Cost Php	Subsidy per Unit Php	Total Subsidy/unit Php	Beneficiary Ownership Share %
A. Poorest-of-the-Poor	0-2,999	7.0	126	1,500	0	0	-	0.0	-	250,000	250,000	31,500,000	0.0
	3,000-4,999	12.0	216	4,000	0	0	-	0.0	-	250,000	250,000	54,000,000	0.0
B. Low, Low Income	5,000-6,999	14.0	252	6,000	25	300	600	10.0	180,000	450,000	270,000	68,040,000	40.0
	7,000-8,999	17.0	306	8,000	25	300	800	10.0	240,000	450,000	210,000	64,260,000	53.3

C. Middle, Low Income	9,000-10,999	16.0	288	10,000	25	300	1,500	15.0	450,000	450,000	0	0	100.0
	11,000-13,999	12.0	216	12,500	20	240	1,875	15.0	450,000	450,000	0	0	100.0
D. Upper Middle, Low Income	14,000-16,999	8.0	144	15,500	15	180	2,500	16.1	450,000	450,000	0	0	100.0
	17,000-19,999	4.0	72	18,500	15	180	2,500	13.5	450,000	450,000	0	0	100.0
E. Upper, Low Income	20,000-24,999	4.0	72	22,500	10	120	3,750	16.7	450,000	450,000	0	0	100.0
	25,000-Above	6.0	108	25,000	10	120	3,750	15.0	450,000	450,000	0	0	100.0
		100.000	1800								Peso	217,800,000	
										A\$1=P42	A\$	5,185,714	

271. **Income Category A: Poorest-of-the-Poor.** The bottom 20 per cent of beneficiary families are among the poorest-of-the-poor with a household income of less than Php5,000 per month. It is not expected that this group has any financial capacity to pay for housing. This group, which could number about 340 families, will be endorsed to the various social housing NGOs operating in Taguig City.

272. Partnerships among the housing NGOs, Taguig City Government and AusAID will be formed to provide social housing for the Income Category A beneficiaries. Typically, such a partnership arrangement will require Taguig City Government to provide the land for housing, undertake the site development and provide the horizontal infrastructure.

273. The housing NGO partner will be responsible for community preparation, beneficiary organisation, values formation, project resource mobilisation, project management and post construction organisation and management.

274. The AusAID grant will finance the construction of housing units, technical assistance and capacity building. The house construction element of the grant will be channeled through the housing NGO partner. The house construction portion of the AusAID grant will be a housing subsidy to the Income Category A beneficiaries and it is not expected that there will be any cost recovery from this group.

275. The beneficiaries will contribute their "sweat equity" to the project in accordance with the standard operating procedures of the housing NGO partner. Potential housing NGO partners could include, but are not necessarily limited to, Habitat for Humanity, Gawad Kalinga and others.

276. **Income Category B: Low, Low Income.** The next 30 per cent of beneficiary families are the low, low income families with monthly household incomes in the range of Php5,000 to Php9,000 per month. This group, which could number about 560 families, has very limited financial capacity to pay for housing. It is expected that their affordability level would be in the range of Php600 to Php800 per month, representing about 10 per cent of their monthly household income.

277. With this level of monthly payment and a payment period of 25 years, the cumulative monthly payments will cover about 40 per cent to 50 per cent of the initial capital cost of the

social housing unit. Consequently the Income Category B group will need a capital subsidy to cover the balance and enable them to participate in the social housing program.

278. In order to minimise the beneficiaries' monthly payments the Taguig City Government, as the proponent of the social housing model, may consider offering alternative arrangements like rent only, rent-to-own and shared ownership. Such alternatives will enable the Income Category B beneficiaries to participate in the social housing program at an affordable price level and enjoy the benefits of safe, fully serviced homes with security of tenure located on in-city sites. Families' whose household income is at the lower end of the Income Category B scale who are unable to afford monthly payments may also be endorsed to the housing NGOs for participation in the Income Category A scheme outlined above.

279. Taguig City Government will provide the land for housing, undertake the site development and provide the horizontal infrastructure. The AusAID grant will finance the construction of housing units. This portion of the AusAID grant will be a housing subsidy to the Income Category B beneficiaries and it is expected that there will be partial cost recovery of about 40 per cent of the initial capital cost of housing units over a period of 25 years.

280. **Income Category C: Middle, Low Income.** About 28 per cent of beneficiary families are classified as the middle, low income group with household incomes in the range Php9,000 to Php14,000 per month. It is anticipated that this group, which could number about 500 families, has sufficient financial capacity to make monthly payments in the range of Php1,500 to Php1,875 per month, equivalent to about 15 per cent of their monthly household income.

281. The cumulative value of this level of monthly payment over a period of 20 to 25 years is sufficient to cover the full initial capital cost of the social housing units.

282. The Taguig City Government, as the proponent of the social housing model, may offer the Income Category C beneficiaries long term purchase agreements for the housing unit or alternative schemes similar to those offered to the Income Category B group like rent only, rent-to-buy and shared ownership.

283. Taguig City Government may also facilitate the contact of eligible beneficiaries with potential housing finance institutions (HFI) like Social Housing Finance Corporation (SHFC), Pag IBIG, Social Security Systems (SSS), Government Social Insurance Systems (GSIS) and others who are able to offer housing loans to qualified applicants. However, the long repayment periods needed by the Income Category B beneficiaries may not be acceptable to the HFIs.

284. Taguig City Government will provide the land for housing, undertake the site development and provide the horizontal infrastructure. The AusAID grant will finance the initial construction of the housing units. It is expected that the Income Category C beneficiaries' monthly payments will generate full cost recovery of the initial capital cost of the housing units over a period of 20 to 25 years.

285. **Income Category D: Upper Middle, Low Income.** Around 12 per cent of families are classified as upper middle, low income families with household incomes in the range Php14,000 to Php20,000 per month. The Income Category D group, which could number up to 220 families, is expected to have sufficient financial capacity to make payments of about Php2,500 per month, representing about 16 per cent of their monthly household income.

286. The cumulative value of this level of monthly payment over a period of 15 years is sufficient to cover the full capital value of the social housing units.

287. The Taguig City Government, as the proponent of the social housing model, may offer the Income Category D beneficiaries long term purchase agreements for the housing unit or alternative schemes similar to those offered to the Income Category B group like rent only, rent-to-buy and shared ownership. Taguig City Government may also facilitate the contact of eligible beneficiaries with potential housing finance institutions like Social Housing Finance Corporation (SHFC), Pag IBIG, SSS, GSIS and others who are able to offer housing loans to qualified applicants.

288. Taguig City Government will provide the land for housing, undertake the site development and provide the horizontal infrastructure. The AusAID grant will finance the initial construction of the housing units. It is expected that the Income Category D beneficiaries' monthly payments will generate full cost recovery of the initial capital cost of the housing units over a period of 15 years.

289. **Income Category E: Upper, Low Income.** The top 10 per cent of earners are classified as upper, low income families with household incomes in excess of Php20,000 per month. The Income Category E beneficiaries, which could number 180 families, have sufficient financial capacity to make monthly payments of about Php3,750 per month, representing about 17 per cent of their monthly household income.

290. The cumulative value of this level of monthly payment is sufficient to cover the full capital value of the social housing unit over a period of 10 years.

291. The Taguig City Government, as the proponent of the social housing model, may offer the Income Category E beneficiaries purchase agreements for the housing unit or other options like rent only, rent-to-buy and shared ownership similar to those offered to beneficiaries in the other, lower income categories. Taguig City Government may also facilitate the contact of eligible beneficiaries with potential housing finance institutions like Social Housing Finance Corporation (SHFC), Pag IBIG, SSS, GSIS and others who are able to offer housing loans to qualified applicants.

292. Alternatively, the Taguig City Government may wish to consider entering into a PPP arrangement that would result in the Income Category E group of beneficiaries buying their homes from the private sector. Under this arrangement Taguig City Government will, through a

competitive tendering process, enter into an arrangement with a qualified and capable private sector partner to build homes.

293. The Taguig City Government will provide the land and the private sector entity will undertake all site development, infrastructure and house building. The housing project may also include an element of commercial development expected to make a profit that could be used as an internal cross subsidy for the remainder of the social housing program. The private sector entity will also be responsible for the social preparation and resettlement of the beneficiaries and ongoing estate management of the completed housing project. To meet these obligations the private entity will form a partnership with a qualified NGO to assist with the activity.

294. The private sector entity will market its homes to the identified target beneficiaries to be relocated from the danger zones who are willing to participate and have the financial capacity to service the mortgage. The main target beneficiaries will be from the Income Category E group although it is likely that some families with household incomes at the upper end of the Income Category D group would also qualify. It is expected that the initial PPP housing project for Taguig City will be undertaken on a pilot scale for about 150 to 200 housing units.

295. The AusAID grant will finance the technical assistance and capacity building for the LGU, NGOs and beneficiary groups. The summary of social housing delivery arrangements is shown in Table 5.

**Table 5: Summary of Social Housing Delivery Arrangements**

Income Category of Housing Beneficiaries	Approximate No. of Families	Principal Provider of Social Housing	Partnership Arrangements
A. Poorest-of-the-Poor	340	Housing NGO	NGO/TCG/AusAID
B. Low, Low Income	560	Taguig City Government (TCG)	TCG/AusAID
C. Middle, Low Income	500	TCG	TCG/AusAID/Housing Finance Inst. (HFI)
D. Upper Middle, Low Income	220	TCG	TCG/AusAID/HFI
E. Upper, Low Income	180	Private Sector	PPP
<b>Total</b>	<b>1, 800</b>		

296. **Replicability.** If the Building Safer Settlements approach is to be replicated throughout Metro Manila and other highly urbanised cities, the poorest 50 per cent of ISF will need some form of housing subsidy to help them change their status from ISF to formal householders with rights of occupation and security of tenure.

297. A capital subsidy on the basic price of the housing unit is considered preferable to other forms of subsidy, such as an interest rate subsidy. This is because the capital subsidy may be carefully targeted at specific individual families who qualify whereas interest rate subsidies tend to distort the housing finance market and are prone to capture by higher income groups who would not necessarily qualify for the capital subsidy. Also capital subsidy enables the



poorest-of-the-poor and the low, low income groups to benefit from subsidised housing without having to get into unaffordable house purchase schemes. In contrast, interest rate subsidy can only be effectively applied to a house purchase loan or mortgage.

298. The AusAID grant is the source of the social housing subsidy. For replication on a wider scale other sources of subsidy for social housing may be considered including but not necessarily limited to:

- National Government grants
- Local government grants
- Compliance to the 20 per cent balanced housing ordinance
- Obligation of the 0.05 per cent share to the socialised housing trust fund from collection of real property taxes
- NGO grants
- Private Sector grants through corporate social responsibility schemes
- Other multilateral and bilateral donors
- Internal cross subsidy from profits generated by commercial elements of PPP social housing schemes

299. Once the full Social Housing Policy has been developed and is being implemented it is likely that the demand for targeted subsidy for social housing will be reduced due to greater participation of housing NGOs, the declining number of people who must be removed from the danger zones for safety reasons, the availability of other housing options such as regularisation of tenure and in-situ upgrading and the potential for internal cross-subsidies from PPP schemes that include an element of commercial development that generates a profit.

300. **Local Government Institutional Capacity.** To implement and manage the social housing model outlined above will clearly require a well developed level of capability and capacity and institutional sophistication on the part of the local government. This level of institutional development is not yet available in Taguig,

301. For the institutional capacity to be sustainable beyond the lifetime of the BRACE initiative it is necessary to build an organisational unit that is dedicated to all aspects of social housing including beneficiary selection, land management, housing finance, planning, site development, procurement, slum upgrading, estate management and legal aspects. Support to build this kind of capability in Taguig will be provided under BRACE.

302. The organisational unit could be structured along the lines of the United Kingdom's successful Housing Association model appropriately adapted to suit conditions in the Philippines. Housing Associations (HA) in the United Kingdom are independent not-for-profit bodies that provide low cost social housing for people in housing need. Any surplus is used to maintain existing homes and to help finance new ones. Housing Associations are now the United Kingdom's major providers of new homes for rent or shared ownership schemes to help people who cannot afford to buy their own homes outright.

303. Quezon City adopted a similar approach to the UK-HA approach with the establishment of its Housing and Urban Renewal Authority (HURA). The HURA was created to enable Quezon City to develop sustainable approaches to providing low-cost housing units for the City's homeless population, including settlers and low income government employees. A similar approach is proposed for Taguig City with participation from different stakeholders, including, but not limited to the relevant units of the Taguig city government, NGOs, civil society, private sector and others. The establishment of this unit will form part of the technical assistance and capacity building support of the BRACE program.

304. **Eligibility Criteria for Beneficiaries, NGOs.** Eligibility and selection criteria for beneficiaries, participating NGOs and private sector have been prepared based on lessons learned from other government and donor-funded programs and projects including the World Bank's Zone Improvement Program under the Third Urban Development Project, the ADB's Development of Poor Urban Communities Sector Project, and the Metro Manila Basic Urban Services for the Poor Project. AusAID and Taguig will review and approve the participation of NGOs and private sector partners.

305. **Eligibility and Selection of Beneficiaries.** An Awards and Redress Committee comprising the City of Taguig Counterpart Coordination team, multi-community group representatives including women, PWDs, PPP partners and NGOs will establish the eligibility of informal settlers and award Certificates of Transfer based on the **criteria summarized in Annex 13**. They include, among others, the residents being in a high risk area unfit for human habitation, non-ownership of lot or housing unit under any government program, an agreed cut-off date in relation to length of stay in the high risk area, and the head of household being a registered voter of Taguig City.

306. **Eligibility and Selection of NGOs.** There are a number of community-based or POs in the target high-risks barangays which can be tapped by the LGU in implementing the social preparation activities, and in monitoring the project preparation, procurement, and construction activities. There are five (5) POs in Mauling Creek, Brgy. Lower Bicutan, and two (2) POs in Adia Adidas sites, Brgy. Bagumbayan.<sup>66</sup>

307. An NGO or consortium of NGOs will be eligible to participate if it has demonstrated capability and a credible track record in the following areas: (i) community organising for urban housing purposes, (ii) conduct of socialised housing project feasibility studies, (iii) conflict resolution and management, (iv) participatory project planning and implementation of socialised housing, and (v) project monitoring and evaluation. For an NGO or NGO consortium that meets the eligibility criteria, the following selection criteria will be applied:

- It has a legitimate legal status and is registered under the relevant registration act or its equivalent;

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<sup>66</sup> POs in Mauling Creek, Lower Bicutan: Samahan ng Magkakapitbahay sa Dalampasigan, C6 Neighborhood Association, Kabisig, Bay Side Neighborhood Association, Banay Neighborhood Association. POs in Adia Adidas, Bagumbayan: Adia Adidas Neighborhood Association and Baybayin Neighborhood Association.

- It has a minimum of three-years continuous operational experience in socialised housing in Metro Manila, preferably in Taguig City;
- It must have sufficient staffing, facilities, and equipment and sound management systems to enter into an agreement with Taguig City;
- Its staff proposed must be technically qualified and certified as available for the project, including cost recovery, estate management, and livelihood and microfinance as needed; and
- It must conform to all other pertinent requirements of the IRR of the Government Procurement Reform Act.

## **Procurement Plan**

308. **Proposed Procurement Arrangements.** The general principle for procurement is that, regardless of the source of funds, open and transparent competitive tendering procedures will be used for all procurement actions including for consultants, technical assistance, goods, services and physical works.

309. AusAID will procure the services of the Managing Contractor (MC) using Commonwealth of Australia procurement laws, regulations and procedures. The MC will be AusAID's agent and will implement the project on AusAID's behalf. The MC will, as appropriate, provide from its own resources or otherwise procure the consultants, technical assistance, goods, services and physical works that are to be financed from Australia's grant funds. All procurement will use open and transparent competitive tendering procedures acceptable to the Commonwealth of Australia.

310. The procurement actions will include: (i) consultants for preparing detailed architectural and engineering designs, contract documents and construction management and supervision services; (ii) consultants and NGOs for intensive social preparation, capacity building and relocation assistance for the beneficiary communities; (iii) technical assistance and capacity building for livelihood and income enhancement activities; (iv) consultants and technical assistance for capacity building of Taguig City Government and (v) civil works contracts for the construction of medium rise buildings.

311. The Taguig City Government will be responsible for procuring civil works contracts for the site development and horizontal infrastructure works at the new housing sites using open and transparent competitive tendering procedures in accordance with GoP procurement laws and regulations that are acceptable to Australia.

312. The MC will provide the overall project management and will be responsible for coordinating all project related activities including consultants, service providers, suppliers and works contractors to ensure that the project is implemented efficiently. In this capacity the MC will coordinate with and assist as necessary the Taguig City Government to: (i) prepare the detailed engineering designs and contract documents for the site development and horizontal

infrastructure works; (ii) conduct the competitive tendering process and award the contracts and manage the timing, phasing, coordination of the implementation activities and (iii) supervise the implementation of the contracts.

313. The Taguig City Government may wish to undertake some of its activities by force account through its direct labour organisations. For certain activities, such as clearing site debris and earthworks, this may be acceptable, and will be agreed a case-by-case basis among AusAID, MC and Taguig City Government.

314. **The Program Components/Contracts and Indicative Procurement Methods for Component 4.** The indicative list of contracts and procurement methods are summarized below.

**Table 6. Program Components/Contracts and Indicative Procurement Methods**

	Procurement Method	Remarks
Procurement of Contract for Detailed Engineering and Construction Supervision for Site Development and Housing Component	Open Competitive Bidding by MC following procedures acceptable to Australia	Dumlao, Novelty, Pipeline Areas
Procurement of Civil Works Contractors for Site Development and Housing Component	Open Competitive Bidding by Taguig City Government following the IRR of RA 9184, harmonized with the CPG and APPP.	Dumlao, Novelty, Pipeline Areas
Development of Regained Lands	Open Competitive Bidding by Taguig City Government following the IRR of RA 9184, harmonized with the CPG and APPP.	Mauling Creek and other sites to be finalized
Resettlement, Gender and Disability Support	Open Competitive Bidding by MC following procedures acceptable to Australia	Detailed arrangements to be finalized in coordination with beneficiary communities
Livelihood Support	To be identified; may involve NGO participation	Details to be finalized with residents of MRBs and Homeowners associations, as applicable
Project Management Support (Managing Contractor)	Recruited by AusAID through Commonwealth of Australia Open Competitive Tendering and Procurement procedures	

315. **Flow of Funds.** Funds for the safer settlement component will come from the Australian Government's grant and Taguig City Government's own resources. AusAID will manage the grant on behalf of the GoA. The grant funds could be routed through the LGU accounts system for disbursement by the City. However, the COA reports on Taguig and AusAID's own due diligence investigations into Taguig's financial management systems indicate that the City's financial management systems are not sufficiently robust at this time to ensure that adequate financial management is practiced and that there is full transparency and accountability for any funds dispersed. In these circumstances, the preferred method of

disbursement for AusAID grant funds is through payment in arrears for goods delivered and services rendered.

316. Taguig City Government is required by Philippine law to manage and disperse its own funds and may not assign responsibility, or transfer funds for management to any third party. Taguig City has also indicated that it does not want the AusAID grant funds to be passed through its accounts system and wishes to retain a separation between its own funds and the grant funds.

317. AusAID will appoint a Managing Contractor (MC) to manage the project and disburse the grant funds. The MC will be responsible for commissioning the overall detailed design and phasing, contract packaging and sequencing of procurement for the housing sites including site development, horizontal infrastructure and housing units in MRB. The MC will group the contract packages into contracts that are to be financed by Taguig using its own resources and contracts that are to be financed through the AusAID grant.

318. The MC will, using competitive tendering procedures acceptable to the GoA, undertake the procurement of the contract packages to be financed by the grant. The MC will be the contracting party with the successful bidder, will manage the contracts including quality assurance, and verify and make the necessary progress payments that become due from time to time under the various contracts. The MC will seek reimbursement of the progress payments from AusAID.

319. The MC will assist the Taguig City Government with the preparation of contract packages that are to be financed from Taguig's own resources. The MC will assist the Taguig City Government to undertake the procurement of the contracts using competitive tendering procedures that are in accordance with the GoP's procurement law. The Taguig City Government will be the contracting party with the successful bidder. The MC will assist the Taguig City Government to manage the implementation of the contracts including quality assurance and verifying the validity and accuracy of contractors' invoices for progress payments.

320. Taguig City Government will establish an escrow account with an authorised government financial institution like Land Bank or Development Bank of the Philippines. Before entering into contract with the successful bidder Taguig City Government will deposit the contract amount in the escrow account. This is to provide assurance that the funds are available for the contract. The MC will assist Taguig to verify the validity and accuracy of the contractor's invoices for progress payments and Taguig will authorise the escrow account manager to release payments to the contractors.

321. Taguig City Government will agree that the project components to be financed by the City will be procured through competitive tendering procedures. This is to ensure timeliness, consistency, quality and value for money. Taguig City Government will also agree that the MC will be responsible for the design, phasing, contract packaging and sequencing of procurement.

The MC will assist the City with the preparation of all the necessary contract documents, and the conduct of competitive tendering procedures. The MC will assist the City with contract management and supervision including quality control and verification of progress payments. Construction by administration or force account will be permitted in limited circumstance to be discussed and agreed among Taguig, AusAID and the MC. It is likely that there are some activities, for example removal of debris from housing sites and earthworks that could be done by the City using its direct labour force.

322. The second generation funds that will arise from the cost recovery from housing beneficiaries' payments will be paid into the City's escrow account and will be used for future social housing development projects or the estate management and maintenance of the social housing schemes developed under the project. The use of the second generation fund will be discussed and agreed between AusAID and Taguig.

323. **Disbursement Arrangements.** AusAID's preferred payment mechanism for goods and services procured from the grant funds is through payment in arrears. Therefore, funds will be disbursed through the Managing Contractor and paid upon receipt of approved invoices. All payments will be made on a reimbursement basis within 30 days of receipt of an approved invoice. The Managing Contractor will act for and on behalf of AusAID as its agent. The Managing Contractor will submit the invoices for reimbursement to AusAID on a monthly basis.

324. For the disbursement of its own funds Taguig will set up an escrow account and deposit funds into the account before entering into contract with a contractor. The Managing Contractor will assist Taguig to certify the invoices for payments submitted by contractors to Taguig City. Upon receipt of the certified invoices Taguig City will authorise the escrow account manager to release payment to the contractor. The escrow account will be subjected to an independent annual audit.

## ***Anti-Corruption***

325. ***Anti-Corruption Mechanisms.*** All projects under Component 4 will adopt the following anti-corruption mechanisms:

- Procurement of goods, consulting services and infrastructure projects will be done through open, transparent and competitive bidding procedures following applicable government procurement rules and AusAID guidelines.
- The administration of any escrowed funds will be done by a financial institution authorised to accept government deposits and regulated by the Bangko Sentral ng Pilipinas.
- Projects will be subject to post audit by the Commission on Audit for government counterpart funds and by AusAID or its agent for grant funds administered by the Managing Contractor. Further, civil society monitoring groups (watchdogs) can be tapped to undertake participatory financial and performance audits.
- Contractors and proponents will be required to expressly warrant that neither it nor its representatives have offered any official or employee of any government agency

any consideration or commission for the award of any contract nor has it or its representatives exerted or utilised any corrupt practice or unlawful influence to secure or solicit such contract for any consideration or commission.

- Contractors and proponents will not be allowed to subcontract any portion of its obligations under any contract to supply goods, consulting services or infrastructure works to any public officer or employee or to relatives within the third degree of consanguinity or affinity of any such public officer or employee directly or indirectly involved in the award or implementation of any project contract.
- If any consideration or commission is paid to any person, contractors and proponents must disclose the name of the person and the amount paid.
- Any breach of the anti-corruption warranties and undertakings will constitute sufficient ground for the rescission or cancellation of the contract without prejudice to the filing of civil or criminal actions against the contractor and/or its representatives including officials and employees of the government agency or local government unit involved under the Philippine Anti-Graft and Corrupt Practices Act and other applicable laws.

## Program Benefits, Impacts, and Safeguards

### Social Assessment

326. **Profile of Target Beneficiaries.** The City's Disaster Management Office identified twelve (12) disaster-prone barangays in Taguig. The socio-economic conditions of nine (9) of the high risk barangays were assessed by social development specialists commissioned by AusAID. A total of 1013 households, representing 20 percent of the total population participated were surveyed. The 9 barangays include: Hagonoy, Napindan, Palongon Tipas, Bagumbayan, Bambang, Lower Bicutan, Wawa, Tuktukan, and Ususan.

Table 7. List of Barangays in Taguig, with Area and Population

BARANGAY	Hazard-Prone Area	Initial surveys done	AREA (sq. m.)	POPULATION (2007 CENSUS OF Population NCR- NSO: Aug. 1, 2007)
1. BAGUMBAYAN	✓	✓	3,620,000	31,777
2. LOWER BICUTAN	✓	✓	1,289,000	44,088
3. NEW LOWER BICUTAN			1,061,000	35,798
4. HAGONUY	✓	✓	1,912,000	14,748
5. SAN MIGUEL			992,800	6,433

6.	WAWA	✓	✓	1,980,000	8,662
7.	BAMBANG	✓	✓	920,000	6,199
8.	TUKTUKAN	✓	✓	310,000	8,011
9.	USUSAN	✓	✓	1,450,000	25,182
10.	STA. ANA			220,000	14,946
11.	CALZADA-TIPAS	✓		1,770,000	14,822
12.	LIGID-TIPAS	✓		680,000	7,839
13.	IBAYO-TIPAS	✓		1,560,000	18,031
14.	PALINGON-TIPAS	✓	✓	1,117,000	10,625
15.	NAPINDAN	✓	✓	2,700,000	11,623
16.	TANYAG			407,600	18,284
17.	SOUTH DAANG HARI			178,700	15,119
18.	NORTH DAANG HARI			146,800	10,049
19.	UPPER BICUTAN			947,600	38,279
20.	(SITIO) CENTRAL BICUTAN			492,400	24,291
21.	CENTRAL SIGNAL VILLAGE			775,400	31,364
22.	SOUTH SIGNAL VILLAGE			801,200	33,697
23.	NORTH SIGNAL VILLAGE			622,700	27,960
24.	KATUPARAN			307,700	14,885
25.	WESTERN BICUTAN				70,639
26.	PINAGSAMA			622,700	32,777
27.	FORT BONIFACIO				20,741
28.	MAHARLIKA VILLAGE			510,000	16,474
TOTAL				45,382,000	613,343

327. Survey results indicated that most households have one to two economically-active members who are contributing to the household income. The average monthly income is recorded at PhpP11,000, while the estimated monthly expenditure for most of the households is at PhpP10,000, and the remaining monthly savings at PhpP1450.

328. Majority of the households have one nuclear family residing in one housing unit, while the remaining is sharing the dwelling unit with one or more extended families. The usual type of housing is single-detached unit, while a few are built as either duplex or apartment/row house type. The typical size of the housing units was within the range of 20 to 40 square meters. The housing structures are typically made of light materials, while some houses are semi-concrete or are made of salvage materials. Most of the households have their own water-sealed or non-water sealed toilets. There are still a few households who share a toilet, but still a number have no toilet at all and use available public toilets. The main source of water is from piped water connections. Other sources include deep and shallow wells, public faucets and water refilling stations for drinking water. **A summary of the socio-economic survey is available in Annex 4.**

329. The majority of the target beneficiaries in the high risk areas own their dwelling units, while the others are house renters, sharers and caretakers. The average housing rental is at Php1000 a month. The minimum monthly rental rate is Php200, and the maximum rate is up to Php2400. Focus group discussions (FGDs) were conducted to validate the socio-economic survey results by the UP PLANADES. Most households expressed willingness to transfer to the new site for purposes of safety of their families. Preference for a house and lot package had been expressed. The participants also disclose that the rental rate has risen to Php500 pesos a month at the minimum, and up to Php2500/monthly rental for space averaging 20 square meters.



330. A significant number of unemployed population is composed of women. Most unemployed women are housewives or housekeepers. In most of the decision-making activities at home, the decisions are shared by women and men, particularly in buying a new house, in the choice and transfer of residence, in buying a house equipment/appliance, and in the livelihood or economic activities to be pursued. On child-rearing, food preparation, and housekeeping such as cleaning and garbage disposal, the women or the wives are the lead decision-makers.

331. A small proportion of the population (1.3%) has a certain type of disability. The types of disability are hearing, visual, mobility, speech, and cognitive or learning difficulties.

332. **Resettlement Planning, Disability and Gender Framework.** All projects under Component 4 will follow the Resettlement Planning, Disability and Gender Framework prepared in consultation with the community and the local government. The gender and disability framework specifically aims to (a) increase the participation of women and persons with disabilities (PWDs) in the preparation and implementation of socialised housing and livelihood support project activities; (b) enhance access by the PWDs and women to project benefits; (c) include sex-disaggregated baseline data and gender-specific indicators into the planning and monitoring system of the project; (d) assist women and disabled persons in organising themselves into self-help groups (e.g., cooperatives, mutual aid associations, and savings groups); and (e) facilitate access of disabled persons and female-headed informal settlers to microfinance opportunities.

333. This resettlement framework (RF) outlines the guidelines and pre-requisites for the preparation, implementation, and monitoring of the LGU's resettlement, gender and disability plan. The RF is anchored on the national government's policies on resettlement and relocation, as well as AusAID's guidelines on integrating displacement and resettlement safeguards in project design.

334. The main resettlement policy objectives of this RF are (a) to encourage voluntary relocation among households located in danger areas not fit for human habitation; (b) to mitigate the adverse impacts of relocation on assets, livelihood or incomes of affected households through provision of project assistance and entitlements; (c) to ensure that pre-project conditions of the affected households, especially the vulnerable groups (i.e., women, children, elderly and disabled persons ) will be restored, and or improved; and (d) to maximise the participation of target and host communities in planning and implementation of the resettlement plan.

335. A detailed resettlement plan will be prepared for each beneficiary community. A community consultation process to be assisted by Taguig's accredited NGOs and POs will be utilised. The plan will include specific project entitlements, eligibility criteria, procedures for voluntary and involuntary resettlement, strategies for improving the capacity of community for DRRM and development of appropriate livelihood activities. Given the risk of exposure of children during community preparation where community workers will have direct interaction

with children, the resettlement plan will include appropriate risk management strategies to prevent any form of child abuse during implementation.

336. Program implementation will be within the limits of community-driven relocation policies and procedures. Voluntary relocation of project-affected households will be encouraged by providing them adequate venues for community consultation on relocation policies, resettlement planning, and on the types of project assistance available to qualified households. Community participation will be embedded throughout the process of project design and implementation. Gender, PWDs, and ethnic-inclusive housing design with livelihood support strategy for poor women household heads and disabled persons will be mainstreamed. Specific roles and responsibilities of both men and women will be identified during the detailed designing of the socialised housing and livelihood support programs for the affected households. **The full version of this framework is in Annex 14.**

337. **Child Protection Policy.** AusAID employs zero tolerance to any form of child abuse. The component recognises the potential risk children and other vulnerable groups (including women and people with disability) face during infrastructure works. The presence of workers in communities increases the exposure of children to different forms of abuse (e.g. physical, sexual, emotional, child pornography, child labor). Community mobilisation and social preparation activities are also potential source of child protection concerns where social preparation activities will involve direct exposure to children. The project is committed to adopt measures that will minimise opportunities for child abuse.

338. The two identified sites (Novelty and Dumlao) are free from any encumbrances<sup>67</sup>. While this eliminates the exposure risk of children of beneficiary families or host communities during construction works, there is no assurance that the welfare of children from nearby settlements will not be threatened. The program will ensure that all activities are implemented and managed in a way that children will be protected against any kind of abuse. As part of the AusAID condition, all participating contractors and NGOs, will be required to comply with the AusAID's Child Protection Policy. Service providers will be required to develop their own child protection code of conduct and they will need to ensure that their personnel, including partners and subcontractors will agree and abide by the agreed child protection code of conduct. Compliance will be monitored during contractor performance review and assessments.

339. **Social Benefits.** The socio-economic profiling study indicated positive impacts of resettlement: (a) security of tenure, (b) safer housing location, (c) improved living conditions, (d) improved self-esteem, (e) increased income through livelihood opportunities, (f) increased community participation and cohesiveness, and (g) stimulated urban development.

340. Most of the ISFs feel insecure about their current housing status due to threats of demolition. The ISFs only pay monthly dues for the 'right to stay', but with no formal transfer of ownership. This component intends to provide an access to a permanent and safe housing

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<sup>67</sup> Part of the criteria for selecting relocation sites is that it should be free from any lien or encumbrances.

with secure tenure. Moving to a safer housing location also lessens the risks to fire, flood, and other damages brought by typhoons and earthquakes. In addition, a safer housing location reduces the losses to properties, flood-related health risks, and the inconvenience of evacuating during strong flood occurrences. Living conditions will likewise be improved by providing better housing structures, reliable access to water and power facilities, and access to health, education, commercial services, and livelihood opportunities that increase household income. Communal facilities such as community centres and parks will provide venues for social activities aimed at increasing community cohesiveness and participation. Consequently, the safer settlements will stimulate improved urban development in the neighboring area.

341. **Economic Analysis.** For each proposed site, an economic analysis will be conducted. The analysis will identify potential economic benefits such as annual incremental increase in land values, savings from reduced health risks, environmental benefits, and employment and income generation that can be attributed directly to the project. To the extent possible, the identified benefits will be quantified for comparison against costs. The economic analysis will encourage a least-cost approach and will calculate an economic internal rate of return (EIRR). All projects must generate an EIRR of at least 12 per cent to exceed the generally accepted economic opportunity cost of capital for development projects geared towards poverty reduction. The economic analysis must be performed in accordance with the guidelines of the NEDA Investment and Coordination Committee (ICC).

342. For Novelty and Dumlao socialised housing projects, an economic analysis was carried out based on the preliminary site development plans and cost estimates prepared. The proposed development of the Dumlao and Novelty sites includes basic services such as roads, footpaths, drainage, and housing to (i) increase access to employment and livelihood opportunities, (ii) reduce damages and losses due to flooding, (iii) decrease exposure to respiratory and waterborne diseases associated with flooding, (iv) improve hygiene and sanitation with drainage system, (v) provide access to clean water, and in general uplift the living conditions of informal settlers living in danger areas such as the residents along Mauling Creek.

343. The base case EIRR for the Novelty and Dumlao pilot projects are 21.81 per cent and 19.83 per cent, respectively, which both exceed the benchmark of 12 per cent economic opportunity cost of capital (EOCC). This confirms the economic robustness of the projects. A sensitivity analysis was conducted on parameters which included a 10 per cent increase in costs, a 10 per cent reduction in benefits, or both, and delays in the realisation of benefits. The results showed that the EIRR will be sensitive to changes in anticipated benefits. The design of Component 4 incorporates features, such as community-driven planning approach and an aggressive information and education campaign on the net benefits of moving out of the high risk areas, to ensure that anticipated benefits are realised in a timely manner.

## ***Financial Analysis***

344. **Financial Management Assessment.** A review of the financial management system of Taguig City was undertaken to gauge the existing financial management capacity and strength of resource generation and utilisation of the local government. The assessment covered the accounting system, internal control, audit, funds disbursement and flows, project performance and monitoring system, information system, organisational structure, and manpower complement.

345. It must be noted that with the change of administration after the May 2010 election, the City of Taguig is in a stage of transition and has newly appointed heads for most of its departments. Analysis of the City's Audited Financial Statements for fiscal years 2008 and 2009 reflected the city's use of the Government Accounting and Auditing Manual (GAAM) prescribed under the New Government Accounting System (NGAS) as required by the COA.

346. The COA findings on the financial statements for 2009 indicated that Taguig City needs improvement in efficiently recording all its transactions and balances and in preparing financial monitoring reports. The new administration has conducted a systems audit which became the basis for the ongoing procurement of services for the updating and improvement of the existing electronic NGAS. The City's capacity to handle the volume of transactions resulting from the fast pace of development in The Fort commercial district as well as in the urban redevelopment of Taguig City requires parallel enhancement of systems for its accounting, budget, and treasury functions. **The assessment is fully discussed in Annex 15.**

347. **Affordability to the Local Government.** Taguig City is poised to allocate funds in its proposed 2011 budget for on-site and off-site development related to socialised housing and source grant funds for construction of MRB from the BRACE Program. The operating units source their funds from the Internal Revenue Allotments (IRA) and revenues generated from real estate and other local taxes, service and operations, grants, and other extraordinary and miscellaneous receipts. The City will allocate counterpart funds to settle its unpaid balance for the acquisition of Dumlao property (estimated at about Php18.76 million) and for acquisition of additional 3-hectare site to achieve the target of providing socialised housing, basic services and secure tenure to 1,800 informal settler households in the high risk areas

348. An assessment of the financial statements of Taguig City showed that its tax revenues climbed at an average rate of 24 per cent during the period 2007 to 2009. Non-tax revenues soared, with an annual growth rate of 61 per cent accompanied by a parallel growth in investments. In 2009, a Php325.7 million deficit before debt service was recorded due mainly to the unprecedented surge in the local government's capital spending in land acquisition, equipment, vehicles, maintenance, and operating expenses. The City's investments in housing program for low-income informal settlers and other social projects such as employment services, livelihood, education (i.e., the Taguig University), and health (i.e., the green card health benefit program) have been recognized as best practices through the Galing Pook Awards. Resources used included its IRA, local tax revenues, and additional borrowings from the Land Bank of the Philippines. Partnerships with private sector entities and NGOs have

likewise been initiated under the past administration. The fast paced growth of Taguig City's own source revenues from both tax and non-tax sources is likely to continue in the coming years with its new administration. The growth will be fuelled by Taguig's local economy which is rapidly expanding. Taguig City has the capacity to finance its share of the financing requirements of Component 4 and the ability to mobilize private participation for its socialised housing projects through PPP.

## **Environmental Assessment**

349. **Environmental Assessment Framework.** An environmental assessment will be conducted on all projects to be implemented under Component 4. The conduct of an environmental assessment (EA) ensures that potential impacts of a project on its biophysical and socioeconomic environment are identified and mitigated in the most practical and cost-effective way. It also establishes the vulnerability of the project to natural and man-made hazards within its surroundings. Undertaking an EA also facilitates effective initiatives that can enhance existing environmental conditions in the project areas.

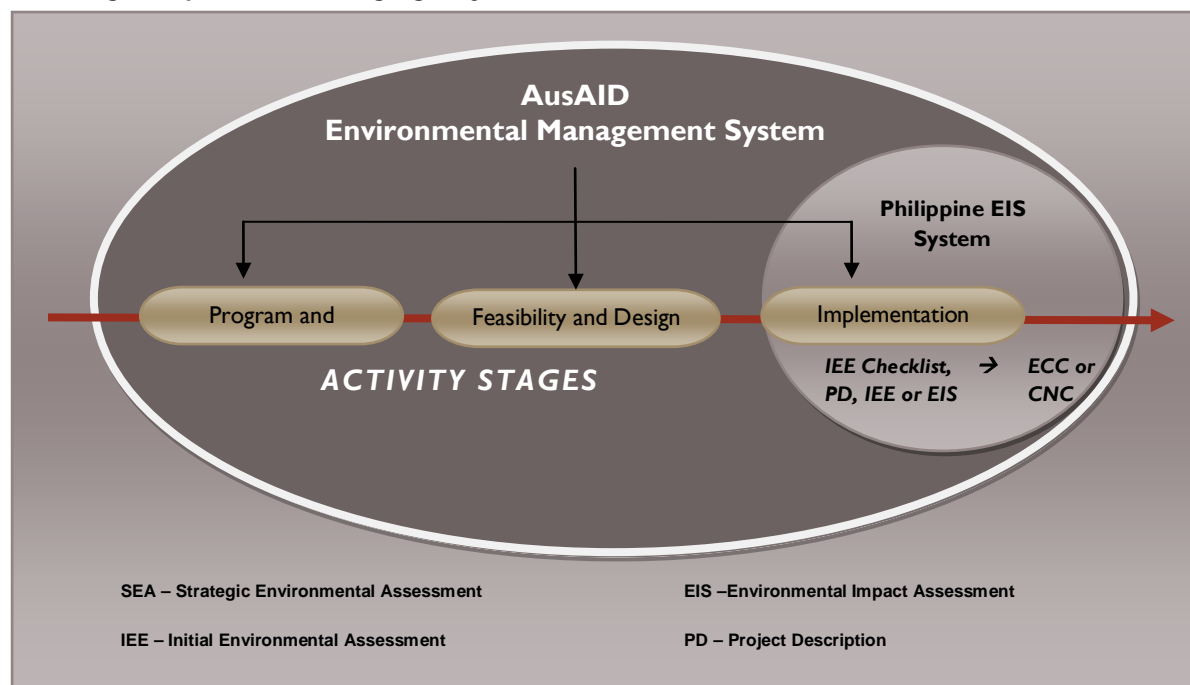
350. The Environmental Assessment Framework (EAF) for Component 4 serves both as a reference that summarizes the environmental assessment processes which the feasibility and design work undertook, and as a guide that ensures that environmental safeguards are considered prior to the implementation of sub-activities within each of the components. The EAF satisfies the requirements of the decision makers (AusAID and GOP) and provides the tools for the implementer (Taguig City Government) to be in line with poverty alleviation and sustainable development principles and strategies.

351. The legal and policy context of the EAF is anchored on AusAID's internal and international obligations and the partner government legislation relevant to the proposed interventions. Aside from multilateral environment agreements, AusAID activities are bound to development cooperation policies and Commonwealth environmental legislation, particularly the Environment Protection and Biodiversity Conservation Act of 1999 (EPBC Act). The EPBC Act requires AusAID to seek advice from the Minister for the Environment and Heritage before entering into contracts or agreements for the implementation of projects that have the potential to cause significant impacts on the environment anywhere in the world. The Environmental Management System (EMS) of AusAID institutes steps which guarantee that the magnitude of impacts is considered in every activity phase of the aid program.

352. **Figure 12** illustrates the EAF for Component 4. The AusAID EMS spans the entire project cycle from program/strategy formulation to feasibility and design studies, up to actual implementation of activities based on the design framework. A Strategic Environmental Assessment (SEA) was conducted in the development of the BRACE Program and the subsequent Initial Environmental Examination (IEE) identified potential environmental issues and impacts in the program components. Significant environmental impacts were not foreseen, thus, referrals to the Minister for the Environment and Heritage were deemed unnecessary.

Nevertheless, the feasibility and design studies require Environmental Management Plans (EMP) derived from Environmental Impact Assessment (EIA) processes for each sub-activity.

**Fig 12. Environmental Assessment Framework for the Safer Settlements and Land Use Planning Components for Taguig City**



353. Prior to actual implementation of sub-activities in Safer Settlements and Land Use Planning components, particularly with civil works and the development of newly regained areas, the partner local government unit is expected to undergo environmental assessment under the Philippine Environmental Impact Statement (PEIS) System in compliance with partner government legislation (Presidential Decree No. 1586 and subsequent Implementing Rules and Regulations). The Department of Environment and Natural Resources (DENR) issues either a Certificate of Non-Coverage (CNC) or an Environmental Compliance Certificate (ECC) upon the review and evaluation of required EA documents based on the project category. Under the PEIS System, the sub-activities can be categorized as Environmentally Critical Projects (ECP, Category A), Projects located in Environmentally Critical Areas (ECA, Category B), Environment Enhancing Projects (Category C) and Projects unlikely to cause adverse environmental impacts (Category D). Table 8 provides an overview of possible sub-activities under Component 4 and the corresponding EA documents and certificates that are expected to be required and issued, respectively, by the DENR based on DENR Administrative Order 2003-30.

**Table 8: Environmental Assessment Requirements of Possible Sub-Activities for the Building Safer Settlements component for Taguig City under the Philippine EIS System**

Philippine EIS System				
Type of Sub-Activity	Activity Characteristics	Project Category	Document Required for Application	Certificate Issued (LLDA)

Philippine EIS System				
Type of Sub-Activity	Activity Characteristics	Project Category	Document Required for Application	Certificate Issued (LLDA)
Building Safer Settlements	Construction of MRBs in areas no larger than 15,000 m <sup>2</sup> .	B	IEE Checklist	ECC
Development of Newly-Regained Areas	Mixed-used development of newly-regained areas			
	(1) Parks	C	PD	CNC
	(2) Commercial / Institutional establishments			
	>= 25,000 m <sup>2</sup> in gross/total floor area including parking and other areas	B	EIS	ECC
	>= 10,000 m <sup>2</sup> but < 25,000 m <sup>2</sup> in gross/total floor area including parking and other areas	B	IEE	ECC
	< 10,000 m <sup>2</sup> in gross/total floor area including parking and other areas or Kiosk-type mobile fast food stands	D	PD	CNC
	(3) Domestic wastewater treatment facilities			
	>= 5,000 m <sup>3</sup> daily capacity	B	EIS	ECC
	< 5,000 m <sup>3</sup> daily capacity	B	IEE	ECC
< 30 m <sup>3</sup> daily capacity	D	PD	CNC	
Livelihood Support	Micro-Business Enterprises	D	PD	CNC

354. **Environmental Impact Assessment.** The EIA for the feasibility and design study phase covers sub-activities under the Building Safer Settlements Component, which include the construction of MRBs in two priority sites in Brgy. Bagumbayan, Taguig City. The development of newly-regained areas and sub-activities under the Land Use Planning Component are considered flexible activities or activities which remain undefined until the implementation stage. Once these activities are established, environmental assessments for these sub-activities will be undertaken through the PEIS System, which features similar environmental assessment and management planning principles and processes. On the other hand, small to medium scale enterprises under the livelihood support are not expected to cause adverse environmental impacts. Although micro-business enterprise facilities in general falls outside the purview of the PEIS System, the potential generation of toxic or hazardous materials and other pollutive by-products in certain livelihood activities can prompt the DENR to require the proponent to undergo environmental assessment processes under the system.

355. **The full EIA and EMP documents for the proposed MRBs in the Novelty and Dumlao sites are in Annex 16.** In summary, construction activities and the actual occupancy of ISFs in both sites potentially cause impacts on the physical, biological, and socioeconomic environment that are preventable and manageable. The application of best engineering and construction practices, coordination with the local communities, and the incorporation of environmental management measures in the design will help keep the impacts from both construction and operations to acceptable levels.

356. Construction impacts are generally temporary in nature and can be mitigated through best management practices by the service contractor. Effects of dust and air pollution, as well as noise and odour emissions from earthmoving activities and operations of heavy equipment could be minimized through temporary fencing, regular maintenance of vehicles and equipment, and watering of exposed soils. Specifically in Dumlao, timely coordination with the local community in terms of scheduling construction works and materials delivery may prevent disturbance of classes in adjacent schools and right-of-way concerns. In addition, the loss of vegetation in Dumlao will be mitigated through replacement measures as landscaping works and provisions for vegetative buffer zones are incorporated in the design. For Novelty, the proper relocation of the existing satellite market and tricycle terminal occupying the eastern boundary of the site will prevent possible losses of livelihood and income. These establishments are set to be accommodated in the newly developed site and are expected to continue to provide services in a more convenient and orderly facility.

357. During construction, possible local flooding and siltation of existing urban drainage systems can be averted through the establishment silt traps along temporary ditches or onsite water impounding areas. Issues on occupational health, sanitation and safety are anticipated with the influx of workers in the construction sites. Temporary facilities with adequate sanitary features will be built for workers while protective gear, safety signs, and debris nets will be provided and installed to prevent unsanitary workplace conditions and reduce the incidence of accidents within and around the site. Proper solid waste management during construction will also be prioritized through the orientation of workers on waste segregation, provision of separate trash receptacles for biodegradable, non-biodegradable and recyclable wastes, and regular waste collection of the City government.

358. During occupancy of the housing units, the potential impact to the environment is unsanitary living conditions for residents due to poor management of solid wastes and sewage/wastewater. The design incorporated solid waste management features to the building structures to facilitate segregation, temporary storage and collection of garbage. Areas for materials recovery facilities were designated in the mixed use sections and perimeter roads were given ample width to accommodate garbage collection trucks. For wastewater management, sanitation code requirements were met and green technology is considered for the treatment of sewage in lieu of City sewerage systems and wastewater treatment facilities.

359. Environmental hazards related to land use incompatibility are triggered once residents start occupying the dwelling units. In Novelty, operations within the Mañalac Industrial Estate will continue to pose risks to residents even if the official use of the area is lawfully reclassified. Vulnerability to the health effects of industrial fires is reduced through the provision of a perimeter road with a vegetation buffer zone. The road serves as a firebreak that gives residents additional response time for evacuation during incidents. Carriageway width allows mobility of fire trucks around the buildings and strategically-located fire hydrants facilitate fire suppression procedures. Vulnerability of residents to road accidents due to delivery vans and trucks servicing the area can be controlled through traffic management strategies that may include vehicle rerouting, scheduling, and employment of traffic aides. The



possible risk of exposure to heavy metals in the soil will be mitigated through comprehensive vegetation and prohibiting the use of onsite groundwater as a water source.

## **Critical Risks and Risk Management Strategies for Building Safer Settlements**

360. **Risks Associated with Political and Administrative Change.** The Building Safer Settlements Component will rely on the strong support and continuing commitment of the local government as the pilot city and its desired reputation as an innovator in socialised housing. Given the 3-year term of Local Chief Executives in the Philippines, and the uncertainty of re-election there is also the possibility of a new administration in Taguig City by 2013. The negative effects of administrative change will be mitigated by (i) an intensive awareness and advocacy program about the project; and (ii) securing binding and longer term commitments including assigning of resources and appropriate local staff to lead implementation.

361. **Risks Associated with the Local Government's Capacity Constraints.** The design of Component 4 financing as well as cost recovery innovations (e.g. microfinance, cross subsidies, localizing the balanced housing provision of UDHA) as a way to share risks and mobilize private sector participation. PPPs in particular enable the new administration of Taguig to work with the same private sector partners of the previous administration.

362. **Risks Associated with Timely Implementation.** The Project is expected to be completed in 6 years, although achieving the desired scale and number will require (i) convincing and preparing the target households which may take longer than expected, and (ii) an efficient Implementing Group from the local government. Project management support built into the design of the Program will help address potential delays.

363. **Risks Associated with Environmental Hazards.** The minimal risks of environmental hazards related to the proximity of residential units at Novelty to ongoing industrial activities and the residual risk from soil contamination from former industrial activities have been mitigated through careful site planning and site design to ensure adequate buffer zones between the residential units and the industries, extensive planting and vegetation on the site, prohibition on the use of groundwater from the site and the local government's enforcement of the ordinances and bylaws on the operation of industrial facilities adjacent to residential areas. The design incorporates sanitation facilities and solid waste management features to the building structures to facilitate segregation, temporary storage and collection of garbage and comprehensive estate management procedures to mitigate the risk of unsanitary living conditions for residents.

364. **Risks Associated with Resettlement.** Among the social risks anticipated under the Project is the possibility that a number of informal settler households within the identified danger areas will not be willing to move away from the high risk areas. The design calls for a resettlement plan (RP) to be prepared for each project. Through an intensive information and

education campaign (IEC) and the appropriate resettlement support, each RP will provide a menu of options for the local government to offer in dealing with involuntary relocation which include 'balik-probinsya' and appropriate compensation. For residents of the danger zones little substantive improvement in their safety, disaster preparedness and resilience or public health standards and living conditions can be achieved through in-situ upgrading. For these people the alternative to resettlement is to do nothing and leave them, undisturbed, in their current location. This will leave them exposed and vulnerable and in harm's way during extreme weather events like typhoons. Community organisers and/or community relations officers will be designated to facilitate the IEC activities on the disaster risks/hazards especially in the high risk areas, on local ordinance prohibiting any development along Mauling Creek<sup>68</sup> and on the net benefits to households of transferring to a safer location with better housing and services and security of tenure.

365. **Risks Associated with Beneficiary Selection.** Households not qualified under the program may apply as beneficiaries. The design plans, census and tagging operations will screen and select beneficiaries using a multi-sectoral awards and redress committee comprising the LGU, multi-community group representatives including women, PWD, PPP partners and NGOs for a more transparent process.

366. **Risks that new informal settlers will encroach on the regained/vacated sites after clearing/transfer operations.** The design incorporates security measures such as proper fencing and hiring of guards to prevent further encroachment of the property and development of the sites.

367. **Risks Associated with Housing Payments.** Past experience link low collection efficiency with local governments assuming the burden of collecting from the household beneficiaries. The design allows NGOs with experience in estate management, microfinance and social intermediation to participate.

368. **Risks Associated with Planning Using Incomplete Data.** The preliminary site development plans and conceptual plans were prepared without the benefit of a topographic survey. This gives rise to the possibility that there will be discrepancies between the assumptions made on site and the results of technical surveys during the detailed design and implementation phase. This situation will impact the proposed design solutions and consequently the estimated costs. The design adopted conservative parameters and provided adequate physical and price contingencies in preparing the cost estimates.

## ***Specific Assurances and Conditionalities for Grant Effectiveness***

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<sup>68</sup> Municipal Ordinance 117 of the City of Taguig, declares Mauling Creek as areas for parks and playgrounds, and any development shall be prohibited within the area.

369. The Grant Agreement will take effect subject to the execution of the necessary City Council resolutions indicating approvals and commitment of Taguig City to participate in the pilot phase of AusAID's BRACE Program. The LGU will also secure ICC approval for its participation in BRACE.

370. The execution of a tripartite escrow agreement with Taguig City and the Trust Department of a government bank (escrow agent) will be a condition precedent to its effectiveness. This would ensure that funds committed by the City and AusAID will be properly channeled to BRACE components.

371. AusAID will require the City of Taguig other specific assurances, in addition to the standard assurances, which will be incorporated in the Grant Agreement. Taguig City Government has informally agreed to all of these conditionalities during the design process. This agreement needs to be formalized. **A list of preliminary grant conditionalities is in Annex 17.**

## CHAPTER V: IMPLEMENTATION ARRANGEMENTS

### **Management and Governance Arrangements and Structure**

372. The governance arrangements under the BRACE program emphasises the importance of building genuine working partnerships among various public and private institutions. It is an outcome in itself rather than just a means of implementation. The success of the BRACE integrated approach will largely depend on the coherent and unified efforts of political national governments, sub-national administrators, CSOs, community associations, development aid partners, and the scientific community to collaborate in meeting the objectives; creating significant benefits for all stakeholders.

The management arrangements for the four components are shown in **Figure 13** below.

**Fig 13. Management Arrangements for the Four Components**

373. The views and interests of each party will be respected and effectively utilised to improve the design and implementation of the program. Operational linkages with other donor and government projects and among BRACE components have been defined at the onset to ensure that harmonisation and coordination are not merely principles but incorporated as standard implementation procedures. The program shall have clear delineation roles of responsibilities, especially in enforcing accountability.

374. The highest policy making body for the BRACE Program is the Executive Steering Committee. It will be co-chaired by Taguig City Government and AusAID. Other partners in the BRACE implementation such as the PRC (on Component 2) and NDRRMC (on Component 1) will be invited as members. Other members such as newly formed Homeowner's Associations, private sector representatives may be invited to become members as and when needed. This Committee shall have the following roles and responsibilities:

- Provide strategic oversight and supervision over overall program implementation
- Be held accountable for achievement of project outcomes
- Provide the venue for resolving critical issues
- Set program directions; approves program plans
- Sets policy and financial directions
- Meet every six months or as necessary

375. Taguig City as the Implementing Partner will set up Counterpart Implementation Groups to work alongside AusAID's Managing Contractor and coordinate the activities of the program with the day-to-day activities of the various line departments of the LGU. Implementing Groups will be established for each component. They will function as the operational and technical working teams responsible for achieving agreed project outputs. They

shall be responsible for planning, implementation, and monitoring the components of the BRACE Program. The Planning and Development Office will play a lead role in managing the inputs and outputs of each activity. Taguig City is expected to allocate a complement of full-time (and preferably permanent) personnel and provide required financing counterpart.

376. The Risk Analysis, Component 1, will have relatively different management arrangements because it is implemented at the central level and will cover the greater Metro Manila area. As agreed between AusAID and the NDRMMC, a Component Executive Board (CEB) was established that comprise senior representatives from AusAID, NDCC-OCD and GA. As highest policy making body for Component 1, the Board has overall accountability for project deliverables. NDRMMC shall be a member of the Executive Steering Committee for them to report progress and provide strategic linkages between Component 1 and the rest of the BRACE components. AusAID has also contracted a Project Coordinator to promote further coordination at the operational level.

377. Management arrangements of Component 2 will be governed by the MOA that will be signed between Taguig City, AusAID and the Philippines Red Cross. Taguig City shall be responsible for ensuring participation of target barangays; activating and resourcing its Disaster Risk Reduction and Management Council to serve as implementing partner. PRC shall be responsible for the delivery of technical trainings to barangays and overall component oversight. NGOs and training institutions that are working on disaster preparedness and emergency response will be utilised such as Oxfam, Philippines DRR Net, Civil Society Organisations Working Group on Climate Change and Development, Philippine Rural Reconstruction Movement, among others.

378. The Implementation Group for Component 3 will be managed by the Taguig City Planning and Development Office. A technical working group (TWG) composed of heads of local government departments, representatives of community organisations, sectoral committee representatives will be established. The Mayor shall be nominated as the “disaster risk reduction-climate adaptation” champion. Due to the strategic nature of this component, the Taguig City Development Council will be kept informed and consulted on key project milestones. A dedicated GIS/Land Information System will be established to coordinate land cadastre data requirements.

379. The Implementation Group for Component 4 will be composed of all units responsible for housing and livelihood. It will be the starting point for institutionalising shelter management capacity in the local government. Under this group, a Task Force of Relocation and Resettlement (TFRR) will be assigned as an interagency body composed of representatives from the concerned city government departments, and will facilitate the preparation, implementation, and monitoring of the resettlement plan. The office of the Mayor will be the oversight body to review, approve, and endorse the RP for approval of the Taguig City Council (Sanguniang Panlungsod), and to development partners such as the AusAID and private sector. The TFRR will be composed of:

- City Local Housing Office,

- Urban Poor Affairs Office,
- City Planning and Development Office,
- City Social Welfare and Development Office,
- Office of Disabled Persons Affairs,
- Cooperative Development Office,
- Public Employment Service Office,
- City Engineering Office,
- City Disaster Management Office,
- Local Philippine National Police,
- Representative from the Local Housing Board,
- Barangay Officials of concerned communities,
- NGO desk of the city government, and
- NGOs and POs

380. The Component 4 Implementation Group will further establish an estate management unit (EMU) and assist in the formation of the condominium corporation or HOA, which will be tasked upon turnover by the local government's contractor or PPP partners with (i) operation and maintenance (O&M) of outdoor and community spaces and facilities; (ii) collection of membership dues, and under special circumstances; (iii) collection of housing amortization payments from the household beneficiaries.

381. AusAID shall be contracting a Managing Contractor who will provide project management and technical assistance support. The Managing Contractor will ensure the coordinated and efficient implementation the program. Its roles and responsibilities include:

- Establish a good working relationship with Taguig City
- Provide appropriate and relevant capacity-building activities for Taguig City. Design and conduct the necessary capacity development program for the LGU in relation to socialised housing, environmental management, resettlement, livelihood, land use planning, disaster risk reduction, and climate change adaptation, including the establishment of a localized Housing Association which will eventually manage all aspects of Taguig's social housing programs
- Support the Counterpart Implementation Group in its various implementation activities including: (i) preparing resettlement, disability and gender plans, conceptual planning for additional sites, detailed engineering designs, local bidding arrangements and bid documents; (ii) conducting environmental assessments, and economic and financial analyses for proposed projects; (iii) awarding and supervising construction contracts; (iv) exercising quality control; and (v) documenting partnerships with the private sector.
- Facilitate coordination across components
- Act as the technical secretariat to both the PAB and Executive Steering Committee
- Be responsible for managing AusAID grant funds
- Proactively seek public diplomacy opportunities for Taguig City Government and AusAID

382. AusAID Manila, through its Disaster Risk Reduction-Climate Change team, shall have a close oversight role over the BRACE Program AusAID to retain its visibility in high-level policy dialogue and to allow early identification of reputational risks requiring active management response. AusAID shall be represented across all components and within the implementing group level up to executive committee level.

383. BRACE will facilitate the creation of *dialogue spaces* to ensure that policy and local action are iteratively determined and are mutually-reinforcing. A high-level Policy Advisory Board (PAB) will be established to provide the forum for policy discussions and coordination in relevant BRACE areas within the context of DRR and CCA. It will be composed of national agencies, private sector representatives, other LGUs and CSOs. Other agencies such as financing institutions like the Pag-IBIG Fund, Social Housing Finance Corporation and other microfinance agencies will be invited as, and when, the needs arise. The PAB will meet every six months but may be convened as needed. AusAID, in partnership with Taguig City Government, shall facilitate the convening of the PAB. It will coordinate on policy issues with the Philippines Urban Consortium (PUC) which is a mechanism comprising government agencies, civil society groups, and donors who are involved in urban development issues. The PUC has a cluster group focusing on urban shelter where policy issues on informal settlers, relocation and resettlement are extensively discussed.

384. The Component Implementation Groups will partner with NGOs and community-based organisations in the target barangays in the conduct of social preparation activities such as public consultations, IEC campaigns, census surveys, grievance redress, community mobilisation, among others.

### **Implementation Plan**

385. **A summary of the implementation schedule is found in Annex 18a.**

386. The project will be implemented over a period of six years starting in the second half of 2011 until late 2017.

387. The first year will focus on establishing the project management and governance arrangements. The Taguig City Government will confirm counterpart staff who will be involved in the Implementing Working Groups of each component. The Managing Contractor will be mobilised and embedded within the Taguig City Government. The Executive Steering Committee and the Policy Advisory Board (PAB) will be set up. An MOU between Philippines Red Cross, AusAID, and Taguig City will be signed to govern implementation arrangements for Component 2.

388. A detailed implementation program and work plan will be prepared and updated annually. Specialist sub-contractors, including firms and individuals, will be engaged by the MC through competitive tendering procedures to undertake a wide range of varied activities to assist Taguig City like, community consultation, information dissemination, preparation of

involuntary resettlement plans, capacity building and the preparation of detailed site development plans, architectural designs, detailed engineering designs, cost estimates and contract documents for procurement. Capacity-building activities for the LGU to be provided through the MC will commence in the first year following business process review and training needs assessment.

389. The activation of barangays disaster councils and volunteer disaster teams under CBDRM Component 2 in the first year will be closely linked with social preparation activities under Safer Settlements Component 4. CBDRM activities can proceed even before houses are constructed by working with target beneficiaries in their existing barangays, to be followed through during and after relocation. Risk information from Component 1 by the first quarter of Year 2 will inform barangay-level emergency/contingency plans to be prepared by BDCs and the technical specifications for the housing design under Component 4. The risk information, validated and refined by local knowledge, will input into the risk-sensitive land use planning under Component 3.

390. Screening and awarding of housing beneficiaries will follow in the second quarter of the second year. Activities related to the livelihood component such as cooperative development, micro and small enterprises development, and skills development and job placement will commence by the first year of implementation.

391. Initially, housing projects for Novelty and Dumlao sites will be packaged for procurement through competitive tendering procedures covering civil works, site development and the construction of housing units in MRB. Construction supervision and project management contracts will also be procured. It is expected that construction work on the first two housing sites will start during the first half of the second year and that the dwelling units will be available for occupation during the first half of the fourth year. **A detailed implementation schedule for social preparation and civic works activities are in Annex 18b.**

392. The Taguig City Implementation Groups, in coordination with the Managing Contractor, will identify and evaluate additional housing sites and initiate the preparation of, site investigations, feasibility studies, cost estimates, detailed designs and contract packages. It is expected that the additional sites will be implemented during the third well through to the fifth years and can potentially spill over the sixth year.

393. Post-relocation mobilisation and CBDRM activities will continue after the beneficiaries have transferred to their new dwelling units. Training on housing maintenance and real estate management will be provided. Community consultations will continue to enable participatory monitoring of the activities. The implementation and monitoring of livelihood support activities will be conducted until project completion.



## Monitoring and Evaluation

394. A monitoring and evaluation (M&E) system will be established according to AusAID rules and regulations using quarterly and annual reviews on the basis of the targets and measurable monitoring indicators set up in the design and monitoring framework for each component. The system will enable Taguig and AusAID, with support from the Managing Contractor to monitor achievement of the envisioned outputs and outcomes. Each component has its own detailed logframe to guide implementation. **The consolidated logframe for BRACE is available in Annex 19.** A monitoring and evaluation framework was prepared at the onset of the design process outlining a possible methodology for the program, including preference for a multi-stakeholder framework. This document will be revisited regularly during project implementation. **The framework is discussed extensively in Annex 20.**

395. Monitoring and evaluation will be carried out at all levels and include participatory and community-based monitoring techniques. It will be continuous and involve data collection and assessment of the project's field implementation. It will likewise entail the Managing Contractor and key staff from Taguig's Implementing Groups to meet periodically to review operations, identify potential problems at an early stage, and propose possible solutions, or show need for mid-course adjustments. The timely identification of problems and implementation issues, through a good project monitoring process, will allow for timely application of corrective measures.

396. A Project Performance Monitoring System (PPMS) will be devised to minimise information collection while complying with both Government and AusAID requirements. It must be established early in the Project with the assistance of the project implementation support consultants, and then used in project monitoring and post-project evaluation. The tools for monitoring the Project's timely completion, quality of the outputs and the efficient use of allotted resources (financial, human and physical) will include, within the annual cycle, on a quarterly basis:

- A quality assessment shall record progress towards the completion of key results, based on quality criteria and methods agreed upon by the parties involved.
- The Managing Contractor shall track progress and resolve potential problems or requests for change by using and regularly updating an Issue Log component in the PPMS.
- Based on the initial risk analysis submitted, a risk log shall be included in the PPMS and regularly updated by reviewing the external environment that may affect project implementation.
- Based on the above information recorded in the PPMS, a Project Progress Reports (PPR) shall be generated and submitted by the Managing Contractor to the Executive Committee using the standard report format (AusAID's Quality-at-Implementation).

- A project Lesson-learned log shall be included and regularly updated to ensure on-going learning and adaptation within the organisation, and to facilitate the preparation of the Lessons-learned Report at the end of the project.
- A Monitoring Schedule Plan shall be part of the PPMS and updated to track key management actions/events.

397. Annually, these will also include

- **Field visits.** A representative from the LGU and AusAID office should conduct a field visit at least once a year. Field visits serve the purpose of results validation, especially when undertaken in the first half of the year. If undertaken in the latter part of the year, the field visit should provide latest information on progress for annual reporting preparation. Field visits should be documented through brief and action-oriented reports, submitted within the week of return to the office.
- **Annual Review Report.** An Annual Review Report shall be prepared by the Managing Contractor and shared with AusAID.
- **Annual Project Review.** Based on the above report, an annual project review shall be conducted during the fourth quarter of the year or soon after, to assess the performance of the project and appraise the Annual Work Plan (AWP) for the following year. This review will serve as a final assessment in the last year.

398. **Mid-Term Review.** The project will also be subject to at least one independent evaluation, i.e. mid-term review to be conducted by an external team to assess progress on outputs/outcomes and identify areas for strategic, budgetary, or programmatic adjustments if necessary. This will coincide with the change in administration at the City of Taguig just prior to the city elections.

399. **Audit and External Evaluation.** The project will also be subject to at least one external management audit in accordance with established AusAID regulations. Apart from the external audit mentioned above, the project is also subject to internal AusAID spot checks/audits. AusAID shall contract a quality assurance engineering contractor who will, in turn, employ civil society watch groups as well as technical experts, to review the civil works and assess progress and identify problems.

400. The program's Independent Project Completion Report (PCR) will sum up the level of the project's accomplishments in meeting its objectives, outcomes and outputs. The PCR will also highlight the breakthroughs and innovative contributions of the project in the field of coordination system development which are worth replicating in similar projects to be undertaken in other countries. It will also set out the strategies to efficiently managing resources.

401. Results from the Project will be disseminated within and beyond the Project intervention through information sharing networks and/or through publications. For publications, proper acknowledgement to AusAID for providing funding will be ensured.

402. **Terminal Evaluation.** An evaluation will be conducted at the end of the project to determine if the set outcome was achieved and to document lessons learned.

## ***Sustainability***

403. The integrated nature of the BRACE Program lends itself to promoting sustainability in many facets.

404. BRACE promotes environmental sustainability by ensuring that no shortcuts were taken in terms of the extent of environment assessments undertaken. Relocation sites were subjected to geohazard and environmental impact studies. Taguig City engineers and AusAID's managing contractor will ensure that construction of small-scale disaster mitigation activities such as drainage clearings and canal dredging at the barangay level comply with the environment standards. Site development and other horizontal land development will comply, and probably exceed, GoP standards.

405. Institutional sustainability is achieved by building the responsibility, accountability, and capacity of Taguig City Government in promoting good urban development within a DRR framework. Effective trainings, organisational development support, and policy formulation assistance will allow the local government to maintain and expand efforts even beyond AusAID grant funding. Collaborating with and providing support to the Taguig City Local Council (Sangguniang Panglungsod) will help encourage the passage of local ordinances and laws – instruments that potentially reduce political risks normally associated with changes in administration. At the end of the project, the Taguig City Government will not only have the policies but will also have the capacity to translate them into local action. More importantly, they will have the skills and understanding for conducting regular gaps analysis between policy and action in DRM, land use, and housing, enabling them to make appropriate changes to work programs beyond the duration and scope of the project.

406. Multi-sectoral partnerships promote sustainability and enhance the quality of outcomes. The BRACE Program sees itself as a broker for building partnerships among all stakeholders. Institutions that have no prior partnerships shall be encouraged to enter into operational agreements and contracts such as those between PRC and Taguig City Government and between the LGU and the private sector/NGOs. Linkages with the national government oversight and line agencies are made through the advisory group. A supportive and responsive national government can potentially lessen the gap between national policy formulation and local enforcement. The Barangays will be encouraged to work closer with the city-level offices to ensure coordinated disaster response and promote preparedness among communities. This close cooperation between barangays and the city government will also help control and minimise the proliferation of informal settlers since they can monitor the arrival of urban migrants. To increase the likelihood for sustainability, the Taguig City Government will be encouraged to pass ordinances and adopt frameworks that will compel local government offices

within Taguig City to include civil society organisations and interested private sector groups in planning and services delivery. The local government will be encouraged to sustain coordination with national government and barangays since these are core requirements under the new DRRM Act, with penalties imposed for non-compliance. Homeowners associations and other community groups will have estate management skills to ensure long-term maintenance of the structures. They will be empowered to decide and act for their community's best interests lessening potential over-dependence on local government resources.

407. Economic sustainability is achieved through the targeted livelihood program under Component 4 and the quality of socio-economic planning that would emerge from Component 3. It is recognised that the BRACE Program makes large investments that could be misconstrued as weak financial sustainability. The cost of each housing unit under BRACE, calculated as total project cost divided by the number of units constructed is relatively higher than the social housing threshold. It is important to note that BRACE cost estimates allow for inclusion of DRR and climate change concerns including having the robust hazard and risk data to underpin the structural design. In the longer-term, the costs of developing disaster-resilient communities offset the yearly recurring costs of disaster response appropriations. Security of tenure gives the homeowners confidence to improve their housing and community facilities contributing to urban renewal. Partnerships with private sector can generate continued resources for housing programs and pave the way for further commercial investments in Taguig City. The availability of second generation funds from amortisation payments are additional resources for the Taguig City Government that can be allocated to their other social housing schemes.

### ***Replicability to Other Urban Communities and the BRACE Influencing Agenda***

408. Each LGU in the country has varying capacities and features. A one-size-fits all approach is not necessarily effective. The BRACE package of support does not intend to provide a formula solution to building resilience for all urban communities in the Philippines. It intends to demonstrate wholistic but flexible approaches that may be adopted by other Metro Manila LGUs or other urban cities.

409. As a start, the BRACE program would make available the robust hazard and risk information to all Metro Manila LGUs including its neighboring provinces. This means that all LGUs in the National Capital Region can use the data to inform their land use and investment plans at no additional cost on their part.

410. Secondly, the combined work of the AusAID-supported UNDP GMMA READY project and the Integrating DRR-CCA Project with NEDA will provide mechanisms, guidelines, and capacity-building for all Metro Manila LGUs on how they can review and revise their CLUPs using a DRR-CCA lens. The BRACE Component 3 further provides a model to ensure that land use plans are effectively mainstreamed into actual land-related business transactions applicable to each LGU.

411. The housing delivery system to be developed in the Taguig City pilot under the Building Safer Settlements Component 4 presents an opportunity for Taguig City to extend and expand the socialised housing initiatives to other ISF residing in danger zones and, in the longer term, to all ISFs in Taguig City, other parts of Metro Manila and other highly urbanized cities in the Philippines.

412. The key to replication lies in the financing model underpinning BRACE. It is recognised that GoP's available housing finance programs have limited outreach that do not significantly benefit the poor. The poor generally do not have the financial capacity to participate in the available housing finance schemes. The houses built by private developers are targeted mainly at the formal sector and the middle and upper income households<sup>69</sup>. Public investment in the social housing sector has been historically marginal and currently averages approximately one percent of GDP per annum. This is one of the lowest levels of public sector investment in social housing in Asia. The GoPs strategy for shelter provision is focused primarily on housing production through direct provision of housing loans and by giving incentives to private housing developers to build houses aimed at low income families. However, these strategies have failed to address the mounting problem of the housing needs and acute shortage of affordable housing for the urban poor. The rapid rate of urbanization, population growth, increasing urban densities and, high cost of land combined with very low incomes has further contributed to the problem.

413. In addressing the finance constraints, the BRACE program will assist Taguig City Government develop financing strategies to resource housing initiatives for the marginalized poor. The expected implementation of the Social Housing Policy by the Taguig City Government will establish ways to:

- (i) get greater participation from NGOs to provide housing for the poorest-of-the-poor reducing the need for capital subsidy
- (ii) get greater participation of the private sector through PPP arrangements
- (iii) make the city more economically active and increase the local government's revenue base and increase land/property value
- (iv) advocate policy changes in applying the 20% balanced housing provision of the UDHA as a way to leverage sustained private sector funding

414. The financing framework introduced under the BRACE Program is expected to demonstrate affordability. As much as 72 per cent of total GoA financing for housing under a tiered amortisation structure that matches beneficiary capacity and willingness-to-pay may be recoverable. GoA's A\$19.29 million grant would be directed as an initial capital subsidy to fund actual vertical construction of medium-rise buildings under the Building Safer Settlements Component 4. In order to get people out of the danger zones it is likely that a capital subsidy will be needed to assist the poor. GoA's actual subsidy, carefully targetted to the poorest of the

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<sup>69</sup> Ballesteros, M. 2010. Reforming Housing for the Poor in the Philippines. PIDS .

poor, is estimated to be as low as A\$5.2 million.<sup>70</sup> Over the long-term, up to A\$14 million of GoAs total grant may be recoverable through payments from beneficiaries. Recovered funds can be used by Taguig City Government to sustain their social housing initiatives and extend it to the remaining ISFs to cover not only those living in hazard-prone areas but to all ISFs in general. The benefits to society arising from the subsidy will include (i) people living in safe locations and less likely to need emergency assistance during and after severe weather events; (ii) improved standards of public health and hygiene with reduced risks of epidemics from outbreaks of water borne diseases and (iii) better drainage characteristics for the city and reduced risks from flooding.

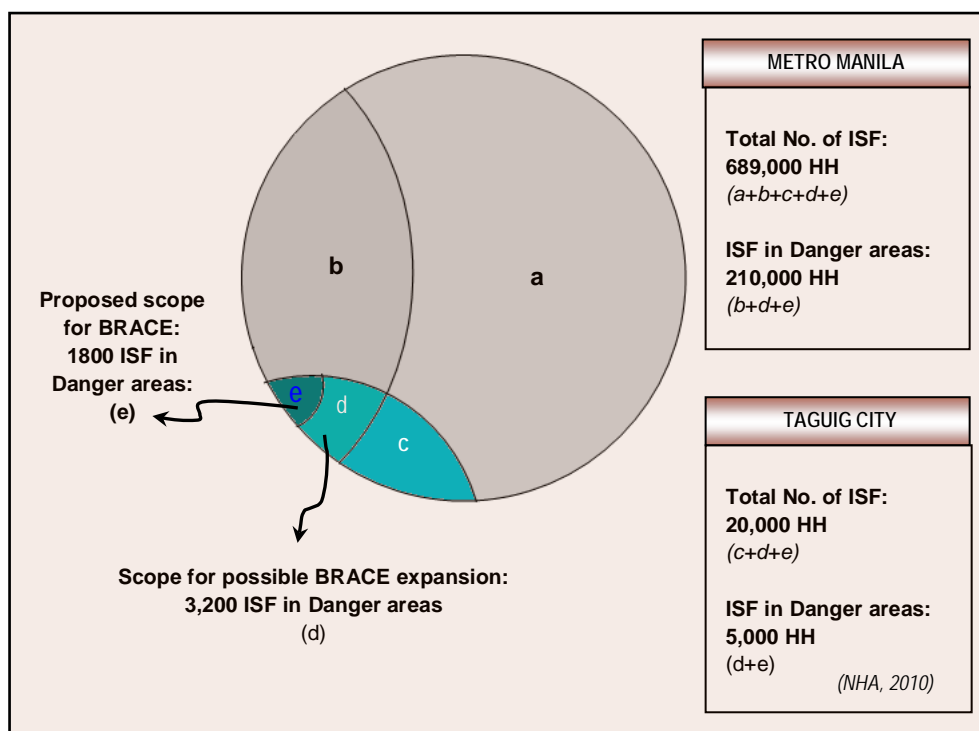
415. Taguig City Government can use their Social Housing Policy to advocate for national policy reforms aimed at increasing access to financing for social housing initiatives. The BRACE Program will support Taguig City Government to develop a policy agenda along the following lines: increasing public investments in social housing, including establishing a sound subsidy framework; reviewing the UDHA to capitalise on the use of the 20% balanced housing; and improving incentives for PPP arrangements. The actual agenda will be determined during project implementation. Both national agencies and LGUs will be targeted through the policy advocacy.

416. The BRACE Program can influence national-level policies aimed at addressing the development needs of informal settlers in Metro Manila and other urban areas. For instance, one of the potential policy concerns under the Taguig City Social Housing Policy is providing social housing for ISF living in deprived conditions but not located in danger zones where in-situ upgrading might be appropriate. In this case, the mechanisms, procedures and that will be established under BRACE will be a useful reference for other LGUs facing similar issues. It can contribute to the formulation of emerging national policies on resettlement currently being developed by the DILG. It will also inform the national slum upgrading strategy being developed by HUDCC. The Program Advisory Board is the venue where stakeholders in varying capacities and interests can sit down and discuss issues on urban development, housing finance, relocation, among others.

**Fig 14. Informal Settler Families in Metro Manila: BRACE Potential Sphere of Influence**

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<sup>70</sup> Amortisation would occur over a significant period of time, up to 25 years in some cases, so this calculation is a convenient accounting shorthand. In net present value terms, the initial AusAID subsidy is greater than A\$5.2 million.



417. AusAID Manila, particularly the Climate Change-Disaster Risk Reduction team, will devote substantial resources to both monitoring BRACE implementation and building the necessary partnerships with a broad range of stakeholders. This strategy allows the team to position BRACE to influence positive changes beyond Taguig City. Decisions to scale up the Program will depend, in part, on an assessment of the effectivity of a possible greater scale of assistance to influencing the broader agenda.

### **Overarching policy issues including Gender and Disability, Anticorruption, Environment and Child Protection**

418. **Gender, Disability, and Child Protection.** Gender issues in development and disasters are relatively well established in the Philippines and have been acknowledged globally at the highest levels. The most vulnerable groups in any society when it comes to disasters are the women, disabled, children and elderly. The BRACE program will therefore give particular priority to the poor, marginalized female-headed households<sup>71</sup>, children (including orphans), elderly, and people with disabilities.

419. Gender considerations were integrated at the very start of the design process, i.e. in the analysis undertaken to underpin the design. Focused group discussion and community consultations were done in an inclusive manner. Men, women and representatives of the

<sup>71</sup> In Taguig City, only 12.4% of all households are headed by females. Socio-economic assessment. May 2010. AusAID & University of the Philippines Planning and Development Research Foundation, Inc.

vulnerable groups were given the opportunity to actively participate in the discussion and their inputs influenced the direction of the activity design and implementation. For instance, the SEP highlighted the need to consider women's emerging roles as leaders in many urban communities. The program shall capitalise on these opportunities but being mindful that increased opportunities means that women have a larger share of community work which may prove burdensome.

420. The Program reviewed the gender and disability policies, guidelines and tools mandated by relevant GOP agencies, including:

- The Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW), signed by 185 countries as legal framework for gender equality in DRR
- The Gender and Development checklist of NEDA/AusAID
- National Commission on the Role of Filipino Women (NCRFW) and the NEDA guidelines for harmonising gender and development programs.

421. The role of Mayor Lani Cayetano as the first woman mayor of Taguig City will be important. She is vocal in her support for women and children concerns as these were her advocacies when she previously served as Taguig's representative to Congress.

422. These gender assessments were used to frame the activities and approaches of this design. For Component 4, a Gender and Disability Framework anchored on addressing issues identified in the SEP was developed. The framework aims to increase the participation of women and PWDs in the preparation and implementation of the safer settlements component, including having key roles in community consultations to ensure that their views are considered in the finalisation of the physical lay-out of their new settlements. Their competencies will be built during social empowerment activities aimed to promote social cohesion and ownership. The Framework will also ensure their access to project benefits such as facilitating financial and livelihood assistance. A more detailed gender and disability plan will be developed during the social preparation phase. **The Gender and Disability Resettlement Framework is found in Annex 14.**

423. Under Component 2, trainings are sensitive to the specific needs of vulnerable groups primarily women and children, and PWDs. The NDRMMC, in particular, have specific skills in adapting CBDRM especially to the needs of the blind and the deaf and are conducting training in specialized schools for these groups. PRC has also been part of child education for DRM. It will be assessed during the first phase of this project whether further sensitivity training is needed by the implementing partners. At the national level, there is relatively high representation of women in the technical agencies of the GoP, both at the technical and management levels. The Geoscience Australia team will seek to involve equal proportions of male and female scientists in both the technical aspect of this program, as well as within the project planning and management.

424. Under Component 3, the guidelines used by the NEDA and HLURB in on integrating gender concerns in land use planning will be used. The Program shall ensure that community consultations will have sufficient representations from vulnerable groups.



425. The M&E Framework for the BRACE Program has identified sex-disaggregated baseline data and gender-specific indicators as part of the logframe and the overall monitoring system.

426. AusAID employs zero tolerance to any form of child abuse. All participating contractors and NGO, partners will be required to comply with the AusAID's Child Protection Policy. Service providers will be required to develop their own child protection code of conduct and they will need to ensure that their personnel, including partners and subcontractors will agree and abide by the agreed child protection code of conduct. Compliance will be monitored during contractor performance review and assessments. CBDRM Modules from PRC's collaborating partners are available on child rights programming in emergencies.

427. **Disaster Risk Reduction and Environment.** DRR is the umbrella framework for all components under the BRACE program. Climate Change issues also fall within and can be integrated within this overarching framework. To better understand the rigorous analysis of the causal factors of disaster, including exposure to hazards, vulnerability of people and property, wise management of land and the environment and improved preparedness of community and LGUs for adverse events is needed. Disaster Risk Reduction and Climate Change initiatives if not well designed or not suited to the local context can increase rather than reduce environmental risks.

428. A rapid environmental impact assessment (EIA) was undertaken for Component 4 (safer settlements) since it was assessed as the one which has a potential significant bearing on the environment. The EIA provided information on the potential impacts of the project on the biophysical and socio-economic environment and identified practical and cost-effective mitigating measures. Result confirmed that no significant environmental impacts are anticipated hence the project is not required to seek referral from the Australian Minister for the Environment and Heritage. The program will comply with the legal environmental requirements of the Philippine Government.

429. To the extent possible, green technologies in site and building design will be adopted to promote production and use of clean energy.

430. **Anti-Corruption.** The delivery modality that will be used for the BRACE program includes in-part use of partner government system. Given the substantial counterpart resource requirement and procurement responsibilities of Taguig City, especially for the Building Safer Settlements Components, a review of the City's financial and administrative processes was undertaken to gauge the City's capacity to generate and utilise resources. Fund management and disbursement arrangement were subsequently developed based on the result of the fiduciary assessment. Strict financial monitoring will be observed and will form part of the M&E systems of all components of the BRACE program. Transparency in all aspects of procurement, goods or services will be promoted and strictly enforced. Furthermore, the selection of beneficiaries and stakeholder partner will be conducted in the most transparent manner with the selection criteria clearly outlined. Using a multi-sectoral approach, including community and

CSO will lessen potential monopoly by any one system. Civil society watchdogs shall be engaged to provide financial and performance audits, especially for civic works. AusAID will initiate financial audits for Component 2 within the framework of its agreement with PRC.

431. **Critical Risks and Risk Management Strategies.** BRACE intends to implement innovative approaches to address the needs of a highly neglected group in a very sensitive sector. Component 4, in particular, poses some risks since it involves resettlement and construction of new communities. However, it was assessed that the benefits far outweigh the risks since BRACE has the potential to achieve tangible and sustainable benefits for all stakeholders.

432. At the earliest stage, the design ensured that all of the risks in resettlement have been pre-identified. In accordance with the lessons in other resettlement projects, the design team conducted socio-economic profiling and capacity-assessments of the local government unit and the target communities to frame the program design details. The team likewise undertook focused group discussions, post-disaster social impact surveys, and community consultations to ensure that solutions proposed were appropriate and feasible and comply with enabling themes of disabilities, gender, environment, and anti-corruption. Environment and geo-hazard assessments were undertaken in relocation sites to emphasize DRM and CCA response. BRACE also conducted a systems review to look into the competency gaps of Taguig City in land use planning, disaster risk management, housing policy, among other areas. Finally, a rapid fiduciary assessment was undertaken to assess the feasibility of using partner government systems as a financial mechanism.

433. No-compromise principles have been adopted to guide the implementation of the safer settlements component as a risk mitigation strategy:

- The target communities will be limited to those living in hazard-prone areas *as defined by law*. These areas are deemed unfit and dangerous for human habitation especially along river banks, shorelines, in or over drainage canals and in flood plains.
- Relocated communities will have good quality housing, basic infrastructure, essential services, community facilities and access to livelihood and employment opportunities.
- Planning, design and construction of social housing units will incorporate disaster risk reduction, climate change adaptation features and appropriate environmental management techniques.
- Targeting will be done in a fair and transparent manner isolated from any vested interest or political capture. Subsidies will be carefully targeted and in accordance with the income levels to minimise any distortions to the land market or marginalisation of financing housing entities.
- Public-private partnerships will be a core approach in the provision of structures (e.g. site development and building construction). All civil works will be done under the principles of good PPP. The program shall pilot different modes of PPP such as

contracting joint-venture arrangements between NGO-Private Sector to deliver social preparation and civil works at the same time.

- A resettlement plan shall ensure that in cases of involuntarily resettlement, all beneficiaries will be **NOT** be worse off as a result of resettlement.

434. These principles are consistent with the social safeguards of the Asian Development Bank (ADB) and the World Bank, and are compliant with AusAID's Resettlement Policy.

435. Mitigating measures have been proposed and validated in the key areas of political and administrative change, institutional capacity, project timing, environmental hazards, cost recovery, technical planning, and various social and resettlement concerns. **A full risk and mitigation matrix is in Annex 21.**

