

ANNEX 21

Risk Matrix

Component 1: Risk Analysis

Source/s of Risk (how)	Risk Event (what)	Impact/s on Activity (why)	L	C	R	Risk Treatment/s	Responsibility	Timing
Limited human resources in the Philippines technical agencies.	Technical agencies have limited capacity, in terms of human resources, to engage with Geoscience Australia.	Activity does not achieve milestones and ultimately objectives within agreed timeframes.	P (3)	M (3)	High (3)	Milestones and objectives have been developed according to according to available human resources. The science plan for this Activity will also be developed in accordance with available staff resources.	Philippine technical agencies/ Geoscience Australia	Activity Planning, regular review and bi-annual PSC meetings
Natural Hazard	A natural disaster occurs in the Philippines. The scale of the natural disaster will influence the consequence and thus risk to the Activity.	Technical agencies in the Philippines need to divert resources (human and financial) to responding to the natural disaster. As a result, Activity milestones may be delayed.	P (3)	N (1) to M (3)	Low (1) to High (3)	Risk treatments will depend on the scale of the natural disaster. For a smaller natural disaster that diverts resources for several months, milestones may need to be adjusted. For a large natural disaster (eg. 2004 Indian Ocean tsunami) the Activity goals and objectives may need to be adjusted.	Philippine technical agencies / Geoscience Australia / AusAID	Activity will be reviewed in the event of a natural disaster.
Complex emergency	A complex emergency (insurgency, rebellion, etc) that threatens security occurs in the Philippines.	Technical assistance of GA to the Philippines may be aborted if the Australian Government declares the Philippines, particularly Manila, as insecure and thereby declare a travel ban to the country for Australian citizens.	Rare (1)	N (1) to M (3)	Low (1) to High (3)	Risk treatments will depend on the scale of complex emergency. For complex emergency that delays Activity implementation and deliverables for several months, milestones may need to be adjusted.	Philippine technical agencies / Geoscience Australia / AusAID	Activity will be reviewed in the event of a complex emergency.

Source/s of Risk (how)	Risk Event (what)	Impact/s on Activity (why)	L	C	R	Risk Treatment/s	Responsibility	Timing
Financial restrictions of the Philippines technical agencies	Financial restrictions in the Philippines technical agencies limit their ability to engage with Geoscience Australia.	Restrictions in finances result in reduced human resources and therefore milestones are delayed.	U (2)	M (3)	Medium (2)	Activity planning takes into account available finances and human resources currently available and if these change over the course of the Activity then milestones and possibly objectives are modified accordingly.	Philippine technical agencies / Geoscience Australia	Ongoing
Lack of appreciation of Geoscience Australia personnel on development objectives	Geoscience Australia personnel do not understand and therefore do not support the development environment	Activity planning is overly ambitious and therefore milestones and objectives may not be met within agreed timeframes.	U (2)	M (3)	Medium (2)	Geoscience Australia personnel without prior experience working in a developing country are mentored by Geoscience Australia personnel who have considerable experience working in developing countries. Mentoring could also be provided by AusAID to GA personnel working in the Philippines.	Geoscience Australia / AusAID	Ongoing
Activity exacerbates staff turnover in the Philippines technical agencies	The training and staff development provided to the Philippines technical agencies exacerbates staff turnover as better trained staff move into higher paid jobs in private industry.	Achievement of Activity milestones and objectives may be delayed. Moreover, other activities within the technical agencies may be delayed due to staff loss.	U (2)	M (3)	Medium (2)	The treatment for this risk will be determined by individual Philippines technical agencies as this has been an on-going concern for many of these agencies. However, it is envisaged that training will be given to as many staff as possible so there will be an institutional rather than just personal gain.	Philippine technical agencies	Ongoing and Bi-annual Planning Meetings
No complementarity between Geoscience Australia and the Philippines technical agencies.	A lack of understanding between Geoscience Australia and the Philippines technical agencies.	Activity work plan is not followed, and milestone and Activity objectives are not met within agreed timeframes.	R (1)	M (3)	Medium (2)	Ensure that relationship building is a strong focus of the Activity approach through collaborative work plan development, training courses, staff exchange and frequent email and phone correspondence. Much of these relationships have already been developed through an existing Activity.	Philippine technical agencies / Geoscience Australia / AusAID	Scoping Missions, Activity Planning, regular communication, and bi-annual planning meetings
Succession Plan	Succession Plan for the Activity is not developed.	Risk analysis skills developed during this Activity do not have the resources for them to reach completion. Relationships	R (1)	M (3)	Medium (2)	Sufficient time is set aside in the Activity plan for the establishment of a Succession Plan.	Philippine technical agencies / Geoscience	Ongoing, Bi-annual Planning Meetings and particularly Year 3 of

		established during this Activity lapse.					Australia / AusAID	Activity.
AusAID Manila Post	AusAID Manila Post is unable to contribute time to supporting this Activity.	Activity planning is compromised. Possible impact of Activity sustainability beyond the planned 3 years.	U (2)	M (2)	Low (1)	Support from the relevant AusAID Posts will be a key requirement of the Activity initiation.	AusAID Canberra and AusAID Manila Post	Activity Planning and bi-annual planning Meetings

Component 2: Community Based Disaster Risk Management (CBDRM)

RISK		IMPACT	RISK MANAGEMENT
Resistance from some officials: Change in political administrations during 2 local elections (all key stakeholders met by the design team highlighted this as a critical risk – refer to Annex B)	Medium: The risk increases when new officials are also new to the program	<i>High:</i> Program staff and volunteers may be excluded from official public processes, or worse, become targets of harassment	<ul style="list-style-type: none"> • By working with officials who support and personally advocate the program's goals in their own administration. • By working with the BDCCs and the Taguig DCC who are part of the national disaster management system. • By having a program duration of 5 years gives the leeway of about 2 years after the 2013 election to work with new officials if necessary and also allows for replication in other barangays of Taguig City to build up a critical mass. All the above would ensure sustainability after the lifespan of the program.
Disruptions from natural disasters: Calamities such as typhoons, floods, landslides, earthquakes, etc. are a recurring danger.	Area-specific, medium/high in some areas.	<i>Low/medium:</i> if caught unprepared, staff may suffer disruption in office and field operations.	<ul style="list-style-type: none"> • Observe basic disaster risk reduction/ management strategies • When necessary that a disaster occurs within the project timeframe and within the project area then activities under this design will be suspended temporarily so that implementing partners can assist in emergency response
Resistance of project partners to work together	Medium/high	<i>High:</i> would result to non-accomplishment of project objectives and outcomes	<ul style="list-style-type: none"> • Establish an advisory board where project partners could set together directions, strategies and priorities; and identify and resolve issues in a collegial manner
Project is used for political and vested interests	Medium/high	<i>High:</i> reputational risks for Australian Government and PRC	<ul style="list-style-type: none"> • Prepare a communication strategy linked with the program to enhance transparency of the project • Maintain transparency with stakeholders at all times by the advisory group, through the implementing partners to reduce mistrust of intentions • Link the project with the DRRM Act of 2010 as CBDRM initiatives are mandated by the national government
Barangay Plans and Equipment not maintained	Medium: especially with a change of administration or lack of funds	<i>Low:</i> during the life span of the program there will be continuous monitoring of inputs and outputs/outcomes	<ul style="list-style-type: none"> • Establish sustainability mechanisms through advocacy by the community groups with the local officials for after the lifespan of the program: local legislation, inclusion into annual local development plans and budgets. • Beneficiaries aware of the benefits of maintaining such systems during specific trainings on maintenance of equipment
PRC capacity limitations to effectively provide CBDRM up to 28 barangays?	Medium	<i>High</i>	<ul style="list-style-type: none"> • International Red Cross and Australia Red Cross will provide technical backstopping and support to the PRC

Component 3: Risk-Sensitive Land Use Planing

Risk	Probability	Impact	Management
The Planning Office has not deployed the full staff complement of the Implementation Group.	Medium	High	The Agreement between Taguig City and AusAID provides the deployment of full staff complement as a conditionality for support. Support will be provided for Taguig City to seek secondment of staff from other departments of the City Government and for possible recruitment of fresh personnel to the Planning Office
The required hardware for a land information system/GIS has not been set up nor a dedicated GIS team been put in place.	Low	Medium	The Agreement between Taguig City and AusAID will include a Council's allotment for the procurement of GIS with basic training and support.
The Sanggunian Panglungsod's and stakeholders' participation in the activities of the Risk Responsive Land Use Planning component activities is weak.	Low	Medium	<p>The team will conduct intensive briefing on the scope, process and expected benefits of the Component with the SP and other stakeholders.</p> <p>New forms of communication like the use of new media may be utilized to raise stakeholders' awareness and generate feedbacks on the various development and land use planning issues.</p>
Delays in the delivery of the outputs in parallel initiatives e.g READY, GA's Vulnerability Analysis maps, etc. will affect the Risk Responsive Land Use Planning's timetable.	Medium	High	The coordinating group will synchronize the delivery of different outputs and lay out contingent plans. Common implementation plan prepared between GMMMA READY and BRACE Component 3 where communication protocols and operational linkages are agreed.

Component 4 : Safer Settlements

RISK	LIKELIHOOD	IMPACT	RISK MANAGEMENT
POLITICAL AND INSTITUTIONAL RISKS			
The Program and its budgetary requirements from the local government for Component 4 need the approval of the City Council. However, the new administration may encounter difficulties in securing the approval of members of the City Council since all of them are affiliated with the political party of the previous administration.	Medium	High	Briefings about the Program and its components will be conducted for the City Council as needed. The Program's economic, social, health and political benefits which will position as an innovator in socialised housing incorporating DRR/CCA will be highlighted.
A change in administration in the course of program implementation is possible since local elections are held every three years.	High	High	A strong, binding and long-term commitment from the LGU through a City Council Resolution will be required by AusAID as part of the Grant Agreement.
With a new administration, it may take time for the LGU's capacity to design and implement safer settlements incorporating DRR/CCA to be developed.	Med-High	High	The design of Component 4 incorporates PPPs and 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 which garnered local governance excellence for their innovations in socialised housing.
FINANCIAL RISKS			
Past experience link low collection efficiency with local governments assuming the burden of collecting from the household beneficiaries.	Med	High	The design allows NGOs with experience in estate management, microfinance and social intermediation to participate.
ENVIRONMENTAL RISKS			
Risks associated with land use incompatibility may dissuade candidate informal settler families from accepting units at Novelty site. Such risks include:			
Incidence of fire in adjacent warehouses and factories (applicable to Novelty site only)	Low	High	Perimeter road and vegetation buffer which will provide adequate distance to the housing units resulting to additional response time for residents. Carriageway width will also allow mobility of fire trucks around the buildings and strategically-located fire hydrants facilitate fire suppression procedures.
Road safety concerns from delivery vans and trucks servicing the area	Low	Low	Traffic management strategies such as rerouting, scheduling and employment of traffic aides may reduce risks to traffic-related accidents in the area.
Initial detection of heavy metals in the soil	Low	Low	Detailed soil analysis to establish baseline/ambient conditions for control areas will be conducted. Safeguards to include immobilization of soil through vegetation cover and landscaping works. Tapping of groundwater for water source will be constrained by the perceived depth of the water table.
Mismanaged solid wastes and domestic wastewater may create unsanitary and unliveable conditions for the residents, contrary to the objectives of Component 4.	Low	Medium	The design provides for garbage shoots and community materials recovery facility for solid wastes, and adequate septic systems for initial wastewater treatment. Training on proper usage will be complemented with regular garbage collection and septic tank maintenance by the City.

RISK	LIKELIHOOD	IMPACT	RISK MANAGEMENT
Environmental impacts during construction works, such as air/noise pollution, increased traffic, sedimentation of road and drainage ways, unsanitary conditions from the influx of labourers etc, lead to public inconvenience that may cause work delay or stoppage.	High (but short term)	High (but short term)	Best management practices for construction, such as provisions for temporary facilities, fences and silt traps, traffic management planning and equipment maintenance, among others, are to be incorporated in the service contracts.
Access to community utilities (church, market and health facilities) for Dumlao residents may prove difficult if Manuel L. Quezon Street remains inaccessible.	Medium	Medium	Several access points to M. L. Quezon Street are included in the on and off-site development plans for Dumlao site.
TECHNICAL RISKS			
The conceptual plan was done without the benefit of a topographic survey/data which could impact on proposed design solutions and consequently parameters used for the cost estimates of the project.	low	Low	Conservative parameters were used in the preliminary design. Adequate physical and price contingencies were added to the estimated base costs.
The conceptual plan for newly regained areas assumed that the entire area would be vacated by all ISFs residing in that particular area. There is a possibility that newly regained parcels of land will not result in one contiguous large area but patches of vacant sites in a still ISF-occupied area. This will most likely occur especially if the target beneficiaries will be sourced from only one particular site.	Low	Low	Assessment, ranking and prioritization of source sites will be made hand in hand with the selection criteria of target beneficiaries. This means that source sites with the highest number of qualified target beneficiaries within a contiguous area will be given a higher rank than another site which has many ISFs willing to transfer but are situated in different areas within the site.
RESETTLEMENT RISKS			
A number of informal settler households within the identified danger areas will not be willing to move away from the high risk areas or are not willing to avail of a housing unit offered by the LGU.	High	High	An intensive information and education campaign (IEC) as part of the social preparation activities in the resettlement plan will be implemented. Community organizers and/or community relations officers will be designated to facilitate the IEC activities on the disaster risks/hazards especially in the high risk areas, and the direct benefits of transferring to a safer location and better housing facility. The IEC campaign will also disseminate the provisions of the city ordinance prohibiting any development in Mauling Creek and declaring it as an area for parks and playground. A detailed resettlement plan (RP) for each subproject will be prepared by the LGU which will identify the specific resettlement impacts per affected household, and the corresponding entitlement package that they will receive. The RP preparation will be in close consultation with the affected persons. Options for 'Balik Probinsya' and cash compensation will be offered to households not willing to avail of a unit at the new housing sites.
Households not qualified under the program may apply as beneficiaries.	High	Medium	The design plans, census and tagging operations will screen and select beneficiaries using a multisectoral awards and redress committee comprising the LGU, multi-community group representatives including women, PWD, PPP partners and NGOs for a more transparent process. This committee will also spearhead the monitoring of the overall resettlement implementation.

RISK	LIKELIHOOD	IMPACT	RISK MANAGEMENT
A few informal settler households (i.e., ultra poor households) within the identified danger areas are not eligible to avail of a housing unit due to affordability issues, despite their willingness to transfer to the socialized housing areas.	High	High	<p>The LGU, through the City Social Welfare Office, will facilitate the access of these disqualified households to other housing programs available in the City, or to offer conditional cash assistance for housing until these households are able to pay for their obligations.</p> <p>The LGU will explore other interventions such as housing sponsorships, where ultra-poor households will be matched with donors who can partially or fully pay for the housing unit. Livelihood, skills trainings, or job placement assistance will also be provided to the members of the ultra-poor families to improve their household income.</p>
Encroachment of new informal settlers on the regained/vacated sites after dismantling/transfer operations.	Medium	High	<p>After the dismantling and clearing operations at the vacated sites, proper fencing, notices or bulletins, and guard patrols will be installed to prevent further encroachment of residents. The LGU will detail guards to monitor the vacated areas 24 hours a day, 7 days a week. The Barangay Tanod will also be enlisted to secure the area.</p>
LIVELIHOOD SUPPORT RISKS			
I. Training and Placement Intervention			
Graduates of the training and placement program may not get employed due to unsuitable or inadequate skills, market saturation, or lack of readiness for the labour market.	Medium	Medium	<p>Adequate duration of training and apprenticeships to acquire competency in the occupational skills learned will be ensured.</p> <p>New and growing markets will be identified under Component 4.</p> <p>Coordination among the implementing organizations will be done to prevent the duplication of efforts and limit the saturation of the local market with too many people trained in the same profession.</p>
II. Development of Microenterprises and Enterprise-based Livelihoods with Microfinance Services			
There may be problems with pricing and repayment of loans because of the interest-free SEA-K assistance of the LGU and the relatively higher interest rate charged by microfinance institutions.	Medium	Medium	<p>Microfinance institutions will conduct regular briefings and orientations on tried and tested microfinance principles and methodology not only in the Philippines but around the world.</p>
III. Cooperative Development			
Poor community organization and leadership in group or community based projects result to financial losses.	Medium	High	<p>Training and learning exchange activities on community organizing and governance will be conducted.</p>