

8 ENVIRONMENTAL MANAGEMENT PLAN

QUEZON CITY

The environment sector seeks to create a **clean, green and resilient** environment that is conducive to healthy city living and attracts not only the local residents but also visitors from outside the city. This envisioned outcome, when realized, ensures compliance with its General Welfare mandate of the Local Government Code (Sec. 16) which directs local governments to enhance the people's rights to a balanced ecology.

GOALS, STRATEGIES, AND POLICY INTERVENTIONS

8.1 Goal 1: To create a clean environment that is conducive to healthy urban living

Strategy 1: Reduce the volume of solid waste reaching the final disposal site to 50% of the amount generated

POLICY INTERVENTIONS		
Programs/ Projects	Services	Legislations
<ul style="list-style-type: none"> • Capacity development for barangays to implement proper SWM • Provision of Barangay Incentive Package and awards under the Zero Basura Olympics to other stakeholders • Establishment of Waste Market in malls • Integration of the Informal Waste Dealers into the Formal SWM System thru the Junkshop Standardization Project • Expansion of the Kitchen Waste Collection Project • Retrieval and disposal of car and cellphone batteries and high-tech gadget wastes • Creation of pockets of "Pook Kalinisan" areas together with the private sector to serve as models of cleanliness 	<ul style="list-style-type: none"> • Implementation of the Incentive Package on SWM for the barangays • District monitoring of the SWM practices of all stakeholders for waste diversion documentation • Strict enforcement by the City Environment Police and the barangay-deputized enforcers of ordinances on anti-littering and the use of waterways as dumping area • City-wide implementation of waste segregation by all stakeholders (e.g., barangays, schools, hospitals, establishments, etc.) • Inventory and monitoring of establishments utilizing toxic and hazardous wastes • Intensified Zero Litter Campaign • Monitoring of hospitals and other establishments generating healthcare wastes 	<ul style="list-style-type: none"> • Mandatory compliance with the provisions of RA 9003 and EO 774 (e.g., waste segregation, establishment of MRFs, 50% reduction, etc.) • Integration of SWM in the public education system, adopting the provisions of RA 9512 • Use of ecological waste management practices in all business establishments located in the City • Enactment of Plastic Bag Regulation to reduce the use of plastic bags • Integration of population, health and environment programs • Sharing/clustering of SWM facilities for contiguous barangays

POLICY INTERVENTIONS		
Programs/ Projects	Services	Legislations
<ul style="list-style-type: none"> • Establishment of community and cluster materials recovery facilities (MRFs) • Promotion of and support to the conduct of research and studies on new solid waste management (SWM) technologies and establishment of partnerships in the implementation of such new technologies • Partnership with the private sector and other agencies for the processing of wastes at the disposal facility • DOST for the use of densifier in the production of bricks from residual plastics • Holcim for the used tire retrieval project and the recovery of residual plastics as alternative source of fuel in the production of cement • PM for the establishment of the City MRF • Quezon City Biodigester Facility in three (3) selected areas (One (1) area per year) • Mixed soft plastic recycling and conversion into school chairs • Management of organic waste thru integrated composting systems in twelve (12) selected areas in Quezon City 	<ul style="list-style-type: none"> • Sustained information, education, and communication campaigns to educate and increase the level of awareness and participation of the public in keeping the environment free of garbage and pollution • Strict implementation of all environmental laws (penalty system/ designation of bgy envi police) • Strict implementation of Plastic Bag Ordinance • Control proliferation of sidewalk vendors (by barangay with assistance from the local government) 	<ul style="list-style-type: none"> • Requiring generators of toxic/hazardous and healthcare wastes to: • Implement mandatory waste segregation to ensure proper handling of these types of wastes • Secure the services of accredited private contractors in the collection and disposal of their wastes • Policy on waste reduction program down to the household level/ implement policy (no segregation impose penalty) – collected funds to be used exclusively for bgy envi projects supported by bgy ordinance • Creation of Green Fund Unit to monitor and manage the use of the city’s Green Fund • Require subdivision development to provide their own composting facilities/MRF • Provide separate city fund for deputized environment police/ barangay •

Strategy 2: Develop ecological solid waste disposal systems

POLICY INTERVENTIONS	
Programs/ Projects	Services
<ul style="list-style-type: none"> Establishment of an environmentally-compliant landfill for the exclusive use of the city Policy research programs for potential investments on modern technology & equipment 	<ul style="list-style-type: none"> Organize citizens volunteers group for project support in the barangay (participation of POs, HOA) Special wastes collection and disposal system for busted fluorescent bulbs and spent domestic batteries

Strategy 3: Ensure efficiency in solid waste collection

POLICY INTERVENTIONS
Services
<ul style="list-style-type: none"> Contracting out of collection services under terms and approaches ensuring efficiency Strict monitoring of the SW Contractors' compliance with the SW Cleaning, Collection, and Disposal Services contract terms

Strategy 4: Enhance the quality of the city's air to the levels meeting EMB standards

POLICY INTERVENTIONS		
Programs/ Projects	Services	Legislations
<ul style="list-style-type: none"> Establishment of air quality monitoring stations Anti-Smoke Belching Project Tree Planting/Greening Project Conduct of Pollution Summit for business owners and Transport Summit for transport groups to educate them on different Environmental Standards & Pollution Control Methods 	<ul style="list-style-type: none"> Strict implementation of the requirement for the submission of Permit to Operate Air Pollution Source and Control Installation upon renewal of business permit Strict implementation of the Anti-Smoke Belching Ordinance, Green Building Ordinance and other related ordinances Strict monitoring and inspection of business establishments that are possible sources of air pollutants 	<ul style="list-style-type: none"> Promotion of the use of clean fuels Incentives for clean fuel investors and users Prohibit discharge of untreated water in city's drainage outlets & tributaries Enact or implement a green building or structure Penalties for offenders/non-compliance

POLICY INTERVENTIONS		
Programs/ Projects	Services	Legislations
<ul style="list-style-type: none"> • Payatas methane gas extraction project (Partnership with Pangea of Italy) (Renewable) • City Fleet Fuel Efficiency project • Partnership with the private sector in establishing clean fuel refilling stations • City wide tree-planting and more trees to be planted along major roads • Acquisition of ambient air monitoring devise that is handy and portable for mobile monitoring 	<ul style="list-style-type: none"> • Strong implementation of the provisions of the Clean Air Act, Renewable Energy Act, and Climate Change Act • Sustained information, education, and communication campaigns to educate and increase the level of awareness and participation of the public in energy conservation and attaining energy efficiency • Implementation of SP 1958, S-2009 (Prescribing guidelines and procedures on anti-smoke belching for motor vehicle in Quezon City) • Strict implementation of Clean Air Act 	<ul style="list-style-type: none"> • Provision of incentives to investments on clean air technologies and clean fuel businesses • Issuance of Environmental Clearance to business establishments who are complying with the different environmental laws and ordinances.

Strategy 5: Rehabilitate and restore rivers and creeks to the level/ condition that can support aquatic life and non-contact sports and recreation and keep the community safe from danger and disasters

POLICY INTERVENTIONS		
Programs/ Projects	Services	Legislations
<ul style="list-style-type: none"> • Riverways Management Program • Sagip Batis sa QC Project • Clean River Zones Project • Biological Remediation of Rivers, etc. • River easement recovery and beautification • Establishment of Rivers/ Waterways linear parks • Acquisition of portable water quality meter to monitor water quality effluent 	<ul style="list-style-type: none"> • Sustained information, education, and communication campaigns to educate and increase the level of awareness and participation of the public in river rehabilitation and preservation 	<ul style="list-style-type: none"> • Mandatory requirement for big establishments to have their own sewage treatment plant and recycle their wastewater

POLICY INTERVENTIONS		
Programs/ Projects	Services	Legislations
<ul style="list-style-type: none"> • Kids Conserve Project in schools • Development of aquifer recharge schemes • Conduct IEC and capacity-building on simple technologies to implement groundwater conservation and protection 	<ul style="list-style-type: none"> • Establishment of tie-up with NWRB in monitoring of groundwater extraction • Implementation of Ord. No. SP-1682, S-2006 regulating the use of groundwater and close monitoring thereof • Sustained information, education and communication campaigns to educate and increase the level of awareness and participation of the public in water conservation 	<ul style="list-style-type: none"> • Prohibition of further groundwater extraction in the city • Requiring big establishments to have their own sewage treatment plant and recycle their wastewater • Creation of Water Quality Monitoring Board • Coordinated inter-agency implementation of the Supreme Court Mandamus

8.2 Goal 2: To nurture and sustain a green environment where there is an ample and convivial space for living

Strategy 1: Develop an integrated system and hierarchy of parks and open spaces to make Quezon City the greenest city and most disaster-resilient community in Metro Manila

POLICY INTERVENTIONS		
Programs/ Projects	Services	Legislations
<ul style="list-style-type: none"> • Formulation of the Integrated Parks and Open Spaces Plan • Clearing, recovery and/or development of open spaces, easements and utility corridors into parks and urban forests to increase the green areas to 25% of the city's total land area • Survey of easements, open spaces and other potential green areas 	<ul style="list-style-type: none"> • Maintenance and improvement of parks • Promotion of the use of parks • Public education on environment protection 	<ul style="list-style-type: none"> • Strong policy/ ordinance on open space and parks preservation and prohibiting the conversion of easements, parks and park strips for other uses

POLICY INTERVENTIONS		
Programs/ Projects	Services	Legislations
<ul style="list-style-type: none"> • Plant Nursery Development • Green development of center islands, directional islands and sidewalks • Rationalized tree planting projects to increase the city's carbon sinks • QMC Tree Tagging Project • Establishment of bike lanes • Urban farming project • Comprehensive Quezon City Greening Program • Greening Quezon City • City wide tree-planting • More trees to be planted along major roads/roadside planting • Establishment of Seedlings Bank/Support tree planting activities • Plants/seedlings donation for QC Seedlings Bank • Greening of Public Buildings • Parks Development Program • Comprehensive Parks Development Program • Development/Rehabilitation/Improvement of parks • Development/Rehabilitation/Improvement of center islands • Beautification of entry points • Development/improvement of linear parks along waterways • Immediate implementation of greening projects on identified open spaces to prevent ISF from returning • Continuing reforestation and Forest Park Development of La Mesa Dam 		<ul style="list-style-type: none"> • Ordinance requiring developers/builders to replace every single tree affected/ removed during development with 10 trees and replace every planted tree that dies

POLICY INTERVENTIONS		
Programs/ Projects	Services	Legislations
<ul style="list-style-type: none"> • Payatas methane gas extraction project • Formulation of Green City Indicators • Renewable Energy Efficient Program • Retrofitting and installation of Light Emitting Diode (LED) streetlights in various locations • Solar Facility in Five (5) selected Quezon City Public Schools • Quezon City Green Route Project • Use of alternative technology such as biodigester, Refuse-Derived Fuel and Waste-to-Energy • Installation of solar energy panels to be partially subsidized by the QC government • Novaliches District Center to be solarized • Study on all public buildings (e.g., schools, bgy halls, public hospitals, offices) for solarisation 	<ul style="list-style-type: none"> • Implementation of the Green Building Ordinance 	<ul style="list-style-type: none"> • Provision of incentives to users of renewable energy and alternative fuels • City Fleet Fuel Efficiency (use of clean/alternative fuels in all government-owned vehicles) • Mainstreaming green development in the Land Use Plan • Require developers to come up with future funds for retrofitting

Strategy 3 Protect and preserve the city's wildlife, educating the public on its richness and engaging the participation of the community, civil society and habitat landowners and harnessing the expertise/services of the academe and scientists in conservation programs and efforts.

POLICY INTERVENTIONS	
Programs/ Projects	Services
<ul style="list-style-type: none"> • Inventory of flora and fauna wildlife • Development of conservation partnerships with habitat landowners and the private sector • Sustained information, education, and communication on the city's biodiversity and to increase the level of awareness and participation of the public in promoting and enriching biodiversity 	<ul style="list-style-type: none"> • Identify monitoring group responsible for flora/fauna (PDAD & EPWMD in coordination with DENR) • Intensify and widen IEC on the importance of biodiversity • Support academic/scientific studies on the city's • Utilize NSTP enrollees and LGU-funded schools/colleges (e.g. QCPU) as part of monitoring group for less cost to the City

Strategy 4 Transform and promote the city's parks as attractive public spaces for recreation, social interaction, education, cultural and historical promotion, and environment

POLICY INTERVENTIONS		
Programs/ Projects	Services	Legislations
<ul style="list-style-type: none"> • Completion of the QMC Masterplan (with Business Plan) • Formulation of a Green Lung Promotion Plan • La Mesa Dam continuing re-forestation and forest park development 	<ul style="list-style-type: none"> • Promotion of parks-oriented recreational activities, parks-based events, celebrations and activities • Identify government agency/ies responsible for security & protection of La Mesa Reservoir • Strong support for sustainable conservation programs harnessing multi-sectoral partnerships and capitalizing on the tourism potentials of parks Immediate implementation of greening projects of identified open spaces to prevent ISF from returning 	<ul style="list-style-type: none"> • Amend Laws on Informal Settlers • Stricter ordinances (Existing City Ordinance) • Prevention of influx of ISF • Exile as per Law enacted illegal loggers & other green project offenders • Enact ordinance regarding the prop. projects of other government agencies in the city's parks

Strategy 5 Provide citizens, regardless of age, gender and status in life, access to people-friendly parks

POLICY INTERVENTIONS
Programs / Projects
<ul style="list-style-type: none"> • Parks Development Program • Acquisition of lands for parks • Development of safe access to parks like underpasses, overpasses and walkways • Identify open spaces for barangay/community parks

Strategy 6:” Actively engage participation of the community and all sectors of the society in the care, protection and promotion of the environment based on the concept of stewardship with respect to sharing of knowledge, capabilities and resources

POLICY INTERVENTIONS	
Programs/ Projects	Services
<ul style="list-style-type: none"> • Agreements between HOA’s and barangays for the maintenance and management of parks in the community • Adopt-a-Park Project engaged with the community and private sector • Support academic/scientific studies on the city’s flora and fauna and other environment-related issues/concerns • Plants/seedling donation for QC Seedlings Bank (Goal 2, Strat 1) • Provision Seedlings Bank (Support tree planting activities) 	<ul style="list-style-type: none"> • Environment conservation services and programs • Services sustaining multi-partite agreements on major parks • Intensive public information and education in environment protection, preservation and conservation • Memorandum of Agreement between homeowners associations & barangay (rules & regulation) • Conduct of dialogue to settle issues related to the community’s general welfare • Identify monitoring group responsible for possible parks/open spaces in barangays • Implementation/Awareness of the present resolution/ordinance regarding the use of vacant lot/parks

8.3 Goal 3: To build a resilient city.

Strategy 1: Strengthen measures and institutionalize policies and mechanisms for disaster risk reduction and climate change mitigation and adaptation.

POLICY INTERVENTIONS		
Programs/ Projects	Services	Legislations
<ul style="list-style-type: none"> • Renewable Energy Efficient Program <ul style="list-style-type: none"> * <i>Development of solar energy panels to be partially subsidized by the QC government</i> * <i>Novaliches District Center to be solarized</i> 	<ul style="list-style-type: none"> • Implement programs, projects and activities under the QCDRRMP 2014 – 2020 	<ul style="list-style-type: none"> • Ordinance on the conduct of infrastructure audit on public and private infrastructure

POLICY INTERVENTIONS		
Programs/ Projects	Services	Legislations
<ul style="list-style-type: none"> • Exploring the use of simple wastewater treatment technologies at community level • Built-in water management to prevent the depletion of ground water sources by preventing degradation of watershed • Provision of waterway banks with grouted riprap / retaining wall • Greening the buffer zone of the West Valley Fault Line (5meters) on both sides • Housing and Resettlement Programs for ISFs • Relocation of ISFs located along the fault line • Resettlement of ISFs • Allocate sizeable budget for the relocation of informal settlers along waterways and other danger areas to include transport expenses, etc. • Construct MRBs for informal settlers (tenement housing) • Recovery of easements • Removal of illegal structures/ encroachments • Retrofitting and repair of buildings • Conduct of training on infrastructure audit • Acquisition of infrastructure audit equipment • Identify and implement risk transfers mechanisms through disaster risk financing and insurance at community level • Development of indicators for inclusive and child friendly disaster risk management and CCA 	<ul style="list-style-type: none"> • Regular updating of in-house DRRM database and inventories, including partner and key stakeholders databases • Full implementation of the QC Shelter Plan • Strict implementation of mandatory easement (3meters) from the creekside • Continuous implementation of project “Sagip Batis” of EPWMD • Regular desilting of waterways • Enforce and monitor the septage and sewerage program • Continuous promotion of ecotown establishment initiative by QCG in key biodiversity areas • Establish IEC for city Climate Change Stakeholders and IMS for green environment, clean air and water, ground water, rivers and creeks • Climate Change and Gender Sensitive public safety risk sanitation disposal management • Scope of GHG emission • Formulate workshops on Renewable Energy System and scope GHG emission 	<ul style="list-style-type: none"> • Climate change and gender-sensitive sanitation and disposal management to prevent ground-water and fresh-water contamination • Amend existing rules and regulations regarding building permits • Enact laws on policy incentives or deterrents to enforce zoning ordinances particularly in hazard prone areas • Formulation of policy on Urban Environmental and Natural Resources Accounting

POLICY INTERVENTIONS		
Programs/ Projects	Services	Legislations
<ul style="list-style-type: none"> • Develop innovative financing program for environmentalist sustainable transportation to air pollution and GHG emissions • Conduct gender impact analyses to identify gender-specific adaptation options to flood, increase in temperature and other climate change related disasters along the framework of ecosystem and environmental stability • Develop knowledge and capacity for integrated ecosystem based management on local and community levels • Updating of DRRM Plan <ul style="list-style-type: none"> * <i>Generate latest and updated maps of hazard areas including waterways</i> * <i>Updating of hazards, vulnerability and risk assessment</i> 	<ul style="list-style-type: none"> • Develop GHG protocol scope including scope 1, 2, 3 emissions to identify feasible projects to achieve emission reduction goal • City wide campaign on CCA • Completion and implementation of the LCCAP • Enforce and monitor the implementation of clean air act and green city program • Strict implementation on the National Building Code 	<ul style="list-style-type: none"> •

Strategy 2: Increase/strengthen capacities of local communities to anticipate, cope with and recover from the negative impacts of disasters brought about by natural and man-made hazards.

POLICY INTERVENTIONS		
Programs/ Projects	Services	Legislations
<ul style="list-style-type: none"> • Acquisition of low frequency radios powered by solar • Acquisition of water quality monitoring measuring water quality effluent during extreme weather situation • Develop, institutionalize and test early warning systems especially at the community level 	<ul style="list-style-type: none"> • Conduct IEC on the residents living in danger areas • Adopt disaster risk reduction along danger areas • Conduct seminars on disaster preparedness and risk management 	

POLICY INTERVENTIONS		
Programs/ Projects	Services	Legislations
<ul style="list-style-type: none"> • Procurement of equipment for early warning system facilities • Development of criteria for standardizing early warning systems • Procurement of updated orthophoto map from NAMRIA • Establish mechanism for supporting business continuity planning for local economies 	<ul style="list-style-type: none"> • IEC for disaster preparedness • Conduct of drills (earthquake, flood and fire) • Continuous training on CBDRRM • Strict utilization of BDRRM fund • Increasing level of awareness on DRRM in the community • Pre-deployment of relief goods to strategic areas • Awareness raising of direct and indirect stakeholders regarding food security • Children training on water and food conservation during temporary shelter situation 	

Strategy 3 Increase awareness and instill preparedness to avoid loss of life and damage to social, economic and environment assets before, during and after emergencies and disasters.

POLICY INTERVENTIONS		
Programs/ Projects	Services	Legislations
<ul style="list-style-type: none"> • Project on developing protection strategy of organic, toxic, hazardous and other hospital and business establishments’ waste during extreme weather events • Identify and acquire safe, open areas for permanent evacuation areas • Construction of dedicated evacuation centers 	<ul style="list-style-type: none"> • Conduct of drills (Formulate coordination mechanisms and guidelines for partnership arrangements • Identification of schools/churches for temporary evacuation centers • Establish MOA with the private sectors (hospitals, drug stores, supermarkets and construction supply owners) 	<ul style="list-style-type: none"> • Formulate and lobby for the passage on forced evacuations

POLICY INTERVENTIONS		
Programs/ Projects	Services	Legislations
<ul style="list-style-type: none"> • Development of early and long term recovery plans for immediate restoration of lifelines and local government facilities and services, as well as business and local economy • Resilient Livelihood Program • Conduct of livelihood-oriented activities and/or income generating activities for potential internally displaced population 	<ul style="list-style-type: none"> • 	