



# National Climate Change Expenditure Tagging Typology Code Manual

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The Climate Change Expenditure Tagging (CCET) lays the foundation for climate budgeting. It enables identification and tracking of climate responsive expenditure in the budget and facilitates a discussion on its performance. CCET also generates timely statistics and baseline information for assessing trends, tracking budget execution and monitoring physical performance. The finalized data is expected to facilitate the establishment of a climate change expenditure baseline by the National Climate Change Action Plan (NCCAP) outcome and output area in support of an informed policy dialogue within and outside government.

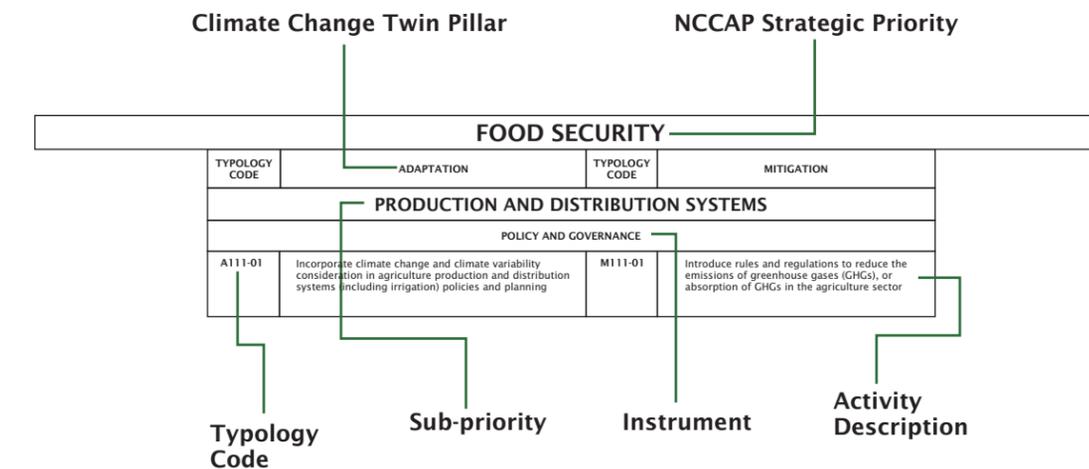
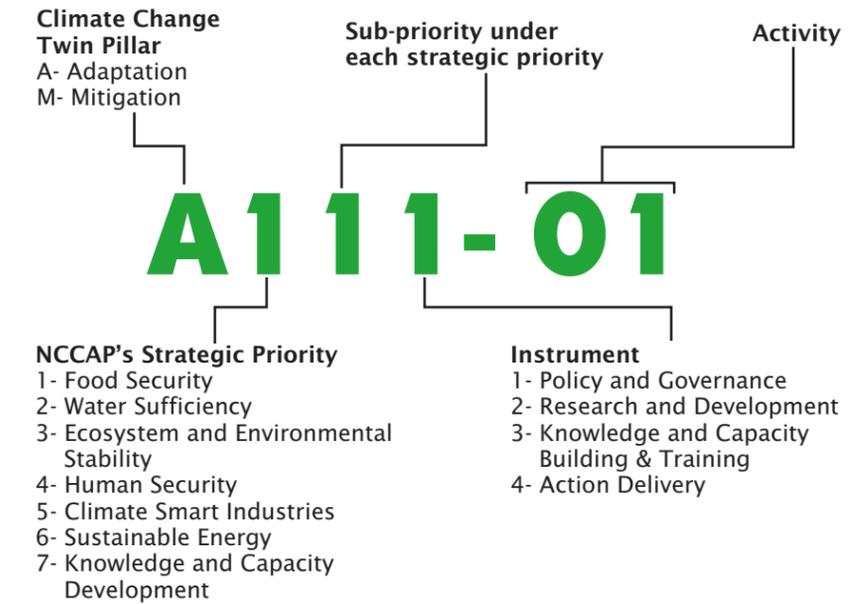
Since 2014, the National Government Agencies (NGAs) is tagging its respective budget since the adoption of the CCET of the national budget through the Department of Budget and Management (DBM) and the Climate Change Commission (CCC) Joint Memorandum Circular (JMC) 2013-01.

Climate change expenditure tagging entails NGA assessments about each Program, Activity, and Project (PAP) in the budget along three dimensions: (i) if the PAP is climate responsive; (ii) for climate responsive PAPs, if the entire PAP or only specific components are climate responsive; and (iii) classify and tag the PAP using a climate expenditure typology code, and report as climate expenditure the budget for the PAP or specific identified components.

The Philippines developed a standardized climate change (CC) typology and coding structure. In the absence of established best practices, the CC typology and guidelines adopted in the JMC were developed by the CCC from the CC activities based on the priorities identified under the National Climate Change Action Plan (NCCAP) and restructuring the overall structure in use at the World Bank and other MDBs to provide comprehensive and detailed coverage of CC activities.

Learning from the first two years of implementation, and with inputs from the NGAs, the CC typologies were reviewed with the objectives of: (i) streamlining the CC typology to ensure distinction from each other, remain policy-relevant, and operationally manageable to track; (ii) establishing a standard hierarchical structure of typology with distinct and mutually exclusive elements, and uniformly incorporates instruments of action across all strategic priority areas.

The CC typologies now include 247 activity-level typologies, coming from the 412 activity-level typologies in 2014; with majority focused on adaptation activities.



### Climate Change

a change in climate that can be identified by changes in the mean and/or variability of its properties and that persists for an extended period typically, attributed directly or indirectly to human activity that alters the composition of the global atmosphere and is in addition to natural climate variability observed over comparable time periods

### Climate Change Adaptation

an activity should be classified as adaptation-related if it intends to reduce the vulnerability of human or natural systems to the impacts of climate change and climate related risks, by maintaining or increasing adaptive capacity and resilience

### Climate Change Mitigation

an activity should be classified as climate change mitigation if it aims at reducing greenhouse gas emissions (GHG), directly or indirectly, by avoiding or capturing GHG before they are emitted to the atmosphere or sequestering those already in the atmosphere by enhancing "sinks" such as forests

### INSTRUMENT

#### Policy and Governance

Enabling activity focused on empowering stakeholders to take action through the development, adoption, monitoring, and review of policies, plans, regulations, department administrative order, or executive order.

#### Research & Development, Extension

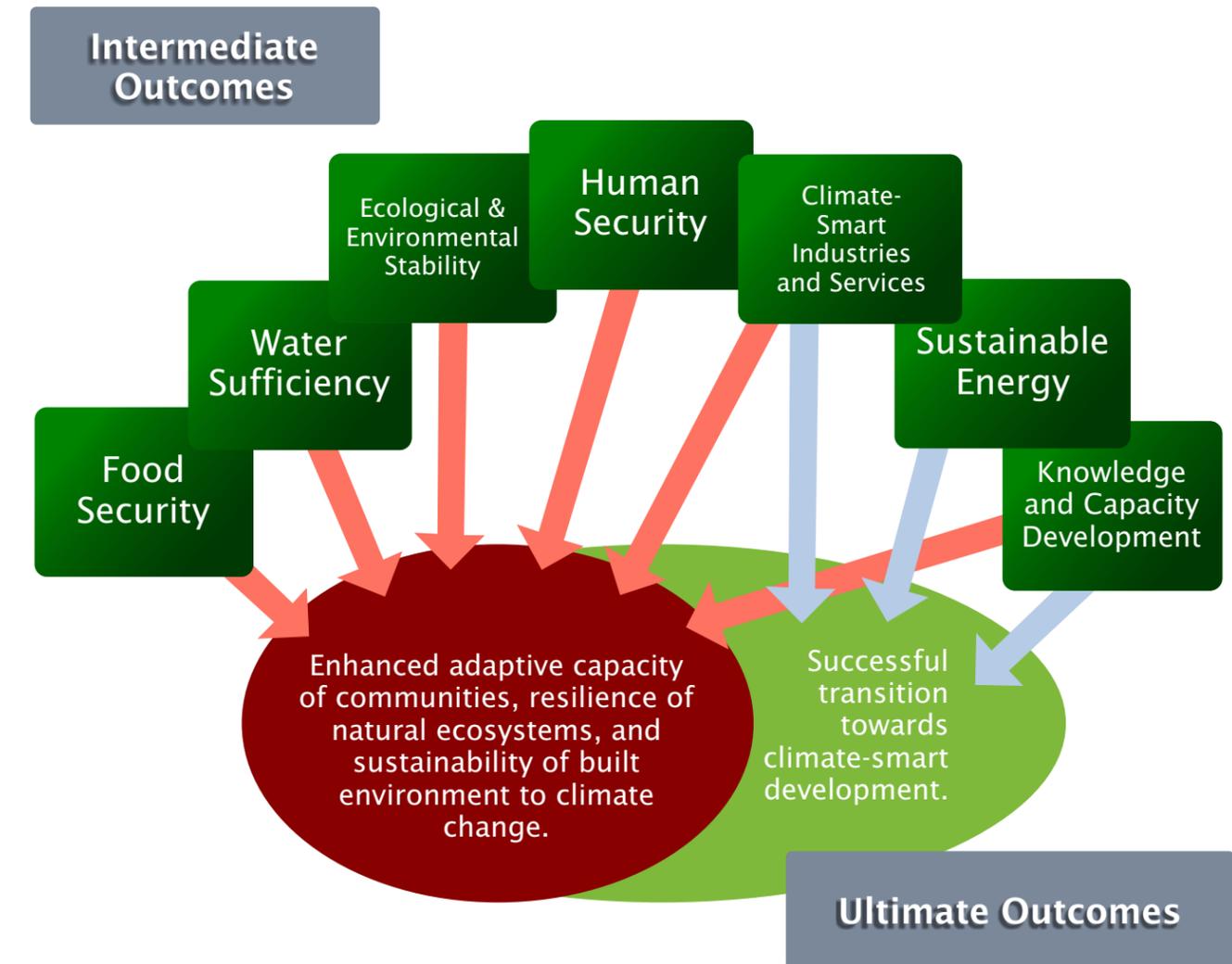
Enabling activity focused on the generation, management, and sharing of information.

#### Knowledge and Capacity Building & Training

Enabling activity focused on institutional capacity to implement climate action including through dissemination, awareness raising and training activities focused on knowledge update.

#### Action Delivery

Includes activities that directly mitigate GHG/sequester carbon or reduce risk and/or vulnerability, increase adaptive capacity or potential impact.



Source: DBM and CCC Joint Memorandum Circular 2015-01

TYPOLOGY CODE	ADAPTATION	TYPOLOGY CODE	MITIGATION
<b>PRODUCTION AND DISTRIBUTION SYSTEMS</b>			
<b>POLICY AND GOVERNANCE</b>			
A111-01	Incorporate climate change and climate variability considerations in agricultural production and distribution systems (including irrigation) policies and planning	M111-01	Introduce rules and regulations to reduce the emissions of greenhouse gases (GHGs), or absorption of GHGs in the agricultural sector
A111-02	Regulate commodity shifting and agricultural land conversion	M111-02	Introduce rules and regulations to reduce the emissions of GHGs, or absorption of GHGs in the fishing sectors
A111-03	Formulate guidelines on reversion of abandoned fishponds back to mangroves		
A111-04	Harmonize climate change adaptation plans in local resource management and local fisheries development		
<b>RESEARCH AND DEVELOPMENT</b>			
A112-01	Conduct agricultural vulnerability and risk assessments, impact assessments and simulation models on major crops and livestock	M112-01	Develop practices or techniques that reduce GHG emissions and/or techniques to sequester carbon dioxide (CO <sub>2</sub> ) in crop production systems, animal husbandry systems, and aquaculture management systems
A112-02	Conduct of provincial-level vulnerability and risk assessments for fisheries	M112-02	Sector studies, surveys, assessments on energy and water use efficiency in agriculture and fishery sector
A112-03	Develop climate-resilient crop and livestock production systems and technologies		
A112-04	Research on new threats to agriculture, fishing, and forestry from climate change and climate variability		
A112-05	Conduct researches on best practices in fisheries and coastal climate change adaptation, technologies and tools		
<b>KNOWLEDGE AND CAPACITY BUILDING &amp; TRAINING</b>			
A113-01	Establish climate information systems and database/resource network on agriculture sector	M113-01	Establish or strengthen institutions, information systems and capacity building on energy and water use efficiency in agriculture sector
A113-02	Establish climate information systems and database/resource network on fishery sector	M113-02	Establish or strengthen institutions, information systems and capacity building on energy and water use efficiency in fishery sector
<b>ACTION DELIVERY</b>			
A114-01	Establish early warning systems for agriculture	M114-01	Integrated organic and inorganic nutrient management
A114-02	Establish early warning systems for fisheries	M114-02	Reduce fishing fleet
A114-03	Introduce or expand soil management practices that control soil erosion, nutrient loss and improve the water regime in the soil profile	M114-03	Improve energy efficiency in fishing fleets
A114-04	Construct/Repair/Rehabilitate national and communal irrigation systems, dams and water storage systems to manage changes in the water cycle due to climate change and climate variability	M114-04	Switch to soil management techniques that reduce GHG emissions or increase carbon sequestration
A114-05	Change fish farming and aquaculture practices or techniques to reduce vulnerability to climate change and climate variability	M114-05	Intensify or expand farm and fodder production using techniques that reduce GHG emissions or increase carbon sequestration
A114-06	Implement climate-responsive and gender-sensitive Comprehensive National Fisheries Industry Development Plan	M114-06	Manure management and methane capture in animal husbandry
		M114-07	Change forage systems to reduce ruminant methane emissions
		M114-08	Introduce or expand water pumping for irrigation using renewable energy sources
		M114-09	Replace existing water pumps with more energy efficient pumps
		M114-10	Implement agricultural and fisheries waste recycling and composting
		M114-11	Switch to less water intensive crops

TYPOLOGY CODE	ADAPTATION	TYPOLOGY CODE	MITIGATION
<b>AGRICULTURE AND FISHING COMMUNITIES</b>			
<b>POLICY AND GOVERNANCE</b>			
A121-01	Design climate change risk transfer and social protection mechanisms in agriculture and fisheries		
A121-02	Develop policies on food safety/ food security measures that take account of new conditions caused by climate change		
<b>RESEARCH AND DEVELOPMENT</b>			
A122-01	Conduct policy study on climate change risk transfer and social protection mechanisms for agriculture and fisheries		
<b>KNOWLEDGE AND CAPACITY BUILDING &amp; TRAINING</b>			
A123-01	Establish farmers' field school to demonstrate best adaptation practices		
A123-02	Develop and conduct formal and non-formal training programs on climate change adaptation (CCA) and disaster risk reduction (DRR)		
A123-03	Review fisheries education and develop climate change- responsive curricula		
<b>ACTION DELIVERY</b>			
A124-01	Implement climate change risk transfer and social protection mechanisms in agriculture and fisheries		
A124-02	Introduce weather and/or climate indexed insurance programs (e.g. crop insurance)		

TYPOLOGY CODE	ADAPTATION	TYPOLOGY CODE	MITIGATION
<b>INTEGRATED WATER RESOURCE MANAGEMENT (IWRM) AND WATER GOVERNANCE</b>			
<b>POLICY AND GOVERNANCE</b>			
A211-01	Review and streamline existing water resources management and institutional structure and policies		
A211-02	Develop policy and guidelines for water conservation, allocation, recycling and reuse		
A211-03	Develop guidelines for implementing Integrated Water Resources Management (IWRM) and climate change adaptation at the local, watershed and river basin level		
A211-04	Develop guidelines for rain water collection, such small water impoundments, retarding basins, mini dams to address water shortage and flooding		
<b>RESEARCH AND DEVELOPMENT</b>			
A212-01	Study "low cost, no regrets" adaptation measures and technologies under various hydrologic conditions, supply-demand conditions, and policy scenarios for surface and groundwater systems		
A212-02	Conduct vulnerability assessments in communities, cities, and sectors that are at risk to present or future flooding		
A212-03	Define areas not suitable for large water infrastructure development and settlements based on vulnerability and assessment		
A212-04	Monitor networks for hydrologic trend analysis, forecasting and detecting shifts in trends of precipitation and stream flow		
A212-05	Develop and network government database on water resources and users		
<b>KNOWLEDGE AND CAPACITY BUILDING &amp; TRAINING</b>			
A213-01	Conduct Integrated Water Resource Management (IWRM) and climate change adaptation and disaster risk reduction training for vulnerable communities		
A213-02	Develop gendered and accessible knowledge products and IEC materials that include local and indigenous knowledge on water resources management, climate change impacts on water resources and adaptation best practices		
<b>ACTION DELIVERY</b>			
A214-01	Improve early warning information and alert systems to increase readiness to extreme flood risks		
A214-02	Monitor impact of climate change and climate variability as part of water resource management		
A214-03	Incorporate climate change and climate variability in design standards for flood control and drainage systems		
A214-04	Improve resilience of infrastructure (bridges, water supply, community infrastructure, water storage, coastal defense, etc.) to account for climate change and climate variability related extreme weather and climate variability that could increase flood risks in infrastructure		
A214-05	Rehabilitate of degraded watersheds and forest areas		

TYPOLOGY CODE	ADAPTATION	TYPOLOGY CODE	MITIGATION
<b>SUSTAINABILITY OF WATER SUPPLY</b>			
<b>POLICY AND GOVERNANCE</b>			
A221-01	Develop public financing mechanism for water supply infrastructures rehabilitation and development		
A221-02	Develop a comprehensive ground water management program that includes CC vulnerability assessment		
<b>RESEARCH AND DEVELOPMENT</b>			
A222-01	Conduct ground water resource vulnerability and recharge areas assessment in water stressed cities		
A222-02	Improve hydromet infrastructure and monitoring systems for data collection and management and the development and delivery of information, products and services to increase flood resilience		
A222-03	Identify alternative water sources and demand management especially for urbanized areas that rely on reservoirs and are prone to recurrent and severe drought events		
<b>KNOWLEDGE AND CAPACITY BUILDING &amp; TRAINING</b>			
A223-01	Training for community-based water associations to managed water supply infrastructures	M223-01	Administration, sector studies, surveys, assessments, information systems and capacity building for energy and water use efficiency in water, sanitation and flood protection, and solid waste management
<b>ACTION DELIVERY</b>			
A224-01	Implement water harvesting technologies and designs to improve management of storm water		
A224-02	Construct new and expand existing water supply infrastructures for waterless communities		
A224-03	Rehabilitate water infrastructure with climate lens (use of climate projections and other relevant climate data)		

TYPOLOGY CODE	ADAPTATION	TYPOLOGY CODE	MITIGATION
<b>ACCESS TO SAFE AND AFFORDABLE WATER</b>			
<b>POLICY AND GOVERNANCE</b>			
A231-01	Design guidance for incorporating climate risk into water sanitation and treatment planning, operation, and management (including accounting for increased construction and maintenance costs that account for climate risk)	M231-01	Upgrade existing landfills to capture methane for energy generation or gas flaring for CO <sub>2</sub> generation
A231-02	Develop programs and incentive system for CC proofing and retrofitting water infrastructure at the household/community levels		
<b>RESEARCH AND DEVELOPMENT</b>			
A232-01	Conduct vulnerability assessments for the sanitation and treatment of water supply		
A232-02	Study and adopt centralized wastewater treatment systems to improve quality in highly urbanized and densely populated areas with respect to increased flooding, storm surge, and extreme precipitation events		
<b>KNOWLEDGE AND CAPACITY BUILDING &amp; TRAINING</b>			
A233-01	Increase local knowledge for how to consider climate change information and climate risks in water quality and wastewater treatment	M233-01	Provide trainings on improving water efficiency in business operations
<b>ACTION DELIVERY</b>			
A234-01	Incorporate changes in design of sanitation systems, wastewater treatment and disposal system in response to extreme weather and flood events arising from climate change and climate variability		
A234-02	Incorporate risk of sea level rise, storm surge, and saltwater intrusion on the design and upgrades of coastal water sanitation infrastructure		
A234-03	Treatment of wastewater conservation/re-use purposes to respond to declines in water availability due to climate change and climate variability		

TYPOLOGY CODE	ADAPTATION	TYPOLOGY CODE	MITIGATION
<b>POLICY AND GOVERNANCE</b>			
A311-01	Design payments for ecosystem services (PES) and other innovative conservation financing mechanisms to support ecosystem-based adaptation and mitigation		
A311-02	Establish zoning guidelines for different ecosystems based on the vulnerability and risk assessment results		
A311-03	Design and develop integrated ecosystem management approaches for watersheds and wetlands to reduce vulnerability to climate change variability		
A311-04	Review PEENRA policy and implement greening of the national income accounts		
<b>RESEARCH AND DEVELOPMENT</b>			
A312-01	Conduct ecosystems vulnerability and risk assessment		
A312-02	Update status of Protected Areas and Key Biodiversity Areas from results from the vulnerability and risk assessment		
A312-03	Study, design and implement financing mechanisms for IWRM and climate change adaptation implementation in critical watersheds and river basins		
A312-04	Study and design financing mechanisms for IWRM and climate change adaptation implementation in critical watersheds and river basins		
<b>KNOWLEDGE AND CAPACITY BUILDING &amp; TRAINING</b>			
A313-01	Training on vulnerability and risk assessments		
A313-02	Establish management information system for different ecosystems that link various data sources		
A313-03	Document and disseminate best practices, including climate change responsive indigenous practices		
A313-04	Implement training program on wealth accounting or ENRA		
<b>ACTION DELIVERY</b>			
A314-01	Retain or re-establish mangrove forests, wetlands, and other ecosystems considerations to as protection against floods risks	M314-01	Implement and monitor progress of REDD+ related policies
A314-02	Conserve and protect existing watershed and protected areas	M314-02	Re-forestation and afforestation that increases vegetative cover or sequesters carbon
A314-03	Delineate "ridge-to-reef" ecosystem-based management zones for the ecotowns through multi stakeholder process	M314-03	Sustainable peat land/ wetland/forest management and protection
		M314-04	Avoided deforestation

TYPOLGY CODE	ADAPTATION	TYPOLGY CODE	MITIGATION
<b>COMMUNITY AND LOCAL LEVEL CLIMATE CHANGE ADAPTATION AND DISASTER RISK REDUCTION</b>			
<b>POLICY AND GOVERNANCE</b>			
A411-01	Mainstreaming climate change adaptation (CCA) and disaster risk reduction and management (DRRM) in local plans		
A411-02	Design guidelines, emergency protocols, and encourage preparedness and risk/contingency planning in communities that are exposed to climate risk		
<b>RESEARCH AND DEVELOPMENT</b>			
A411-01	Develop innovative technologies and methodologies to communicating climate-related emergency information to relevant populations and communities		
A412-02	Identify, map and profile areas and communities highly prone to climate-related disasters		
A412-03	Assess impact of climate change and climate variability on livelihoods and poverty with focus on vulnerable groups		
<b>KNOWLEDGE AND CAPACITY BUILDING &amp; TRAINING</b>			
A413-01	Develop and implement knowledge management on climate change and disaster risks for local government units and communities		
A413-02	Increase local capacity for forecasting, early warning (Including indigenous systems) and disaster risk communication		
A413-03	Conduct training of trainers to respond to the needs of communities for climate change adaptation		
<b>ACTION DELIVERY</b>			
A414-01	Identify and implement gender-responsive sustainable livelihood and social protection programs for resettled and vulnerable poor families		

TYPOLGY CODE	ADAPTATION	TYPOLGY CODE	MITIGATION
<b>HEALTH AND SOCIAL PROTECTION</b>			
<b>POLICY AND GOVERNANCE</b>			
A421-01	Develop policy requiring integration of climate change and disaster risk reduction concepts and approaches In medical and allied health training courses		
A421-02	Develop monitoring health infrastructure damage and rehabilitation plan		
A421-03	Develop post disaster epidemic outbreak management and disease surveillance system (ex. water-borne diseases and other health risks due to climate change)		
A421-04	Develop guidelines on treatment of health issues due to climate change and climate variability		
A421-05	Include climate related diseases in basic benefits of insurance policies		
<b>RESEARCH AND DEVELOPMENT</b>			
A422-01	Assess changes in risk, exposure or sensitivity to climate change and climate variability related diseases for vulnerable groups		
<b>KNOWLEDGE AND CAPACITY BUILDING &amp; TRAINING</b>			
A423-01	Training and education of health personnel on treatment, monitoring and surveillance of climate change and climate variability related health issues		
A423-02	Strengthen health management information management		
A423-03	Incorporate climate related health risks into clinical practice guidelines, and curricula for continuous medical education		
<b>ACTION DELIVERY</b>			
A424-03	Upgrade health systems to respond to changes In environmental health risks from climate change and climate variability (e.g. malaria)		
A424-02	Develop and implement program for community-based adaptation measures and health emergency preparedness		

TYPOLOGY CODE	ADAPTATION	TYPOLOGY CODE	MITIGATION
<b>HUMAN SETTLEMENTS AND SERVICES</b>			
<b>POLICY AND GOVERNANCE</b>			
A431-01	Consider changes to zoning and land use to accommodate increase flood risk from sea level rise, storm surge, and tropical cyclones in coastal and riverine communities		
A431-02	Incorporate vulnerability to climate change and climate variability in housing design standards		
A431-03	Develop green building rating scheme, specifications and criteria		
<b>RESEARCH AND DEVELOPMENT</b>			
A432-01	Conduct risk and vulnerability assessment		
A432-02	Conduct a study on population carrying capacity of areas and CC adaptive capacity of various communities		
<b>KNOWLEDGE AND CAPACITY BUILDING &amp; TRAINING</b>			
A433-01	Conduct of trainings and capacity buildings in integrating of climate-risks and information into land use planning and zoning		
<b>ACTION DELIVERY</b>			
A434-01	Develop and implement post-disaster resettlement and counseling of displaced families and communities		

TYPOLOGY CODE	ADAPTATION	TYPOLOGY CODE	MITIGATION
<b>CLIMATE SMART INDUSTRY</b>			
<b>POLICY AND GOVERNANCE</b>			
A511-01	Enhance tourism policies and strategies to promote green tourism	M511-01	Introduce rules and regulations to reduce GHG emissions or absorb of GHGs In industry and trade
		M511-02	Introduce a system of incentives to encourage the use of climate-smart technologies and practices
		M511-03	Integrate monitoring of existing and new-climate smart industries and services within existing business registration system
<b>RESEARCH AND DEVELOPMENT</b>			
A512-01	Conduct of research on green and climate-smart products	M512-01	Conduct baseline inventory of climate-smart industries and services and good practices in the country
		M512-02	Baseline data on GHG emissions from industry and other sources
		M512-03	Conduct national needs assessment on the state of eco efficiency in SMEs
<b>KNOWLEDGE AND CAPACITY BUILDING &amp; TRAINING</b>			
A513-01	Design and conduct training modules on climate-proofing industries and services	M513-01	Develop modules and conduct trainings to capacitate industries to conduct GHG emissions inventory and carbon footprint
<b>ACTION DELIVERY</b>			
A514-01	Retrofit assets and capital to protect against climate change and climate variability		
<b>SUSTAINABLE LIVELIHOOD</b>			
<b>POLICY AND GOVERNANCE</b>			
A521-01	Development of livelihood diversification strategies to reduce dependence of climate related income opportunities		
A521-02	Develop a nationally acceptable operational definition of "green jobs"		
<b>RESEARCH AND DEVELOPMENT</b>			
A522-01	Conduct studies and research on innovative and indigenous approaches promoting sustainable livelihood		
<b>KNOWLEDGE AND CAPACITY BUILDING &amp; TRAINING</b>			
A523-01	Conduct of trainings on sustainable livelihood for the communities and the vulnerable		
A523-02	Promoting and operating centers for skills development and sustainable development		
<b>ACTION DELIVERY</b>			
A524-01	Marketing and trade support for changing agricultural product mix in response to climate change and climate variability	M524-01	Marketing and trade support for products that reduce GHG emissions per unit of output
A524-02	Support new income generating opportunities and industries utilizing natural resource better adapted to climate change and climate variability		

TYPOLOGY CODE	ADAPTATION	TYPOLOGY CODE	MITIGATION
<b>GREEN CITIES AND MUNICIPALITIES</b>			
<b>POLICY AND GOVERNANCE</b>			
A531-01	Integrate in the National Building Code a requirement for all water-intensive facilities to have water recovery system	M531-01	Develop a system of incentives for the use of reusable bags and containers
A531-02	Incorporate new CC and CV resilient design standards in new buildings		
A531-03	Incorporate change in design of solid waste management systems in response to extreme weather and flood events arising from climate change and climate variability		
<b>RESEARCH AND DEVELOPMENT</b>			
A532-01	Identify the carrying capacity of tourism areas		
<b>KNOWLEDGE AND CAPACITY BUILDING &amp; TRAINING</b>			
<b>ACTION DELIVERY</b>			
A534-01	Design and construct new buildings with climate risk considerations	M534-01	Construction of sanitary landfill facilities
A534-02	Renovate old buildings with climate risk considerations	M534-02	Intensify waste segregation at source, discard recovery, composting and recycling

TYPOLOGY CODE	ADAPTATION	TYPOLOGY CODE	MITIGATION
<b>ENERGY EFFICIENCY</b>			
<b>POLICY AND GOVERNANCE</b>			
		M611-01	Promote energy efficient housing
		M611-02	Change operational procedures or techniques, or retrofit technologies to reduce GHG emissions in existing operations
		M611-03	Sector reform and capacity building related to energy efficiency and efficient energy pricing
		M611-04	Improve non-transport fuel efficiency standards
<b>RESEARCH AND DEVELOPMENT</b>			
		M612-01	Sector studies, surveys, assessments and information systems on energy efficiency, efficient energy pricing, and promotion of renewable energy
<b>KNOWLEDGE AND CAPACITY BUILDING &amp; TRAINING</b>			
		M613-01	Sector reform and capacity building related to energy efficiency in energy sector, promotion of renewable energy and efficient energy pricing
<b>ACTION DELIVERY</b>			
A634-01	Mandatory implementation of A0110 and A0126 directing the institutionalization of Government Energy Management Program	M614-01	Improve energy efficiency in telecommunications information technologies
		M614-02	Pilot programs on energy efficiency activities
		M614-03	Replace existing power plant with more efficient facility
		M614-04	Rehabilitate transmission and distribution systems to reduce technical losses

TYPOLOGY CODE	ADAPTATION	TYPOLOGY CODE	MITIGATION
<b>SUSTAINABLE RENEWABLE ENERGY</b>			
<b>POLICY AND GOVERNANCE</b>			
A621-01	Incorporate climate change and climate variability risk factors In assessments of total and seasonal water availability for hydropower generation and water storage	M621-01	Strengthen regulatory and institutional framework to support expansion of renewable energy production and use
A621-02	Water flow management throughout the hydrological cycle for hydroelectricity generation	M621-02	Develop renewable energy project-based and service contracts-based portfolios to encourage potential investors in Identified sites
A621-03	Design system of incentives for renewable energy host communities and local government units that can be used for sustainable livelihood programs and climate change adaptation measures		
A621-04	Changes to power systems to cope with shifts in seasonal peak demand results from climate change and climate variability		
A621-05	Secure access to water for crops used as bioenergy source		
<b>RESEARCH AND DEVELOPMENT</b>			
A622-01	Incorporate impacts of climate change and climate variability on power system reliability assessments	M622-01	Conduct studies on hybrid systems (e.g. fuel cells, electric vehicles)
		M622-02	Conduct survey of renewable energy potential in off-grid areas
<b>KNOWLEDGE AND CAPACITY BUILDING &amp; TRAINING</b>			
A623-01	Conduct capacity building of community-based renewable energy organizations on system maintenance, energy efficiency and conservation, organizational development, tariff setting and management systems	M623-01	Strengthening capacity of institutions to plan for low- carbon growth and environmentally sustainable energy supply
		M623-01	Conduct capacity building of community-based RE organizations on RE system maintenance, EE&C organizational development, tariff setting and management systems
		M623-03	Sector reform and capacity building related to promotion of renewable energy
<b>ACTION DELIVERY</b>			
A624-01	Incorporate climate change and climate variability related risk factors (changes in precipitation, run-off, temperature, evapotranspiration) in hydro-meteorological forecasts related to water demand for energy generation	M624-01	Retrofit/Install new heating and cooling system using renewable energy
		M624-02	Transmission and distribution capacity (new, expansion or strengthening of existing) or any new system to facilitate the integration of renewable energy sources into the grid
		M624-03	Construct or rehabilitate energy generation capacity from renewable sources other than hydropower including demonstration and pilots
		M624-04	Rehabilitate existing hydropower plant
		M624-05	Construct new hydropower plant

TYPOLOGY CODE	ADAPTATION	TYPOLOGY CODE	MITIGATION
<b>ENVIRONMENTALLY SUSTAINABLE TRANSPORT</b>			
<b>POLICY AND GOVERNANCE</b>			
A631-01	Incorporate risks from climate change and climate variability in transportation system planning	M631-01	Review and integrate the National Biofuels Program
		M631-02	Improve vehicle emission standards
		M631-03	Improve fuel efficiency standards
		M631-04	Strengthen vehicle inspection systems in emissions and fuel efficiency
<b>RESEARCH AND DEVELOPMENT</b>			
		M632-01	Conduct study on feasibility (performance and safety) of biofuels blends in other transport system (air and sea transport)
		M632-02	Conduct technical study on the development of standards on energy efficiency labelling for vehicle
		M632-03	Review current standards for fuel quality to support clean fleet program and fuel efficiency labeling for vehicles
		M632-04	Research and development in low-carbon or non-fossil fuel transport technologies
		M632-05	Research & development to reduce the GHG intensity in sea and lake bound transport operations
<b>KNOWLEDGE AND CAPACITY BUILDING &amp; TRAINING</b>			
		M633-01	Capacity building related to energy efficiency in the transport sector
<b>ACTION DELIVERY</b>			
A634-01	Implement mixed-use, medium-to-high density integrated land use-transport plan in developing new urban communities or in expanding existing ones	M634-01	Urban traffic management (e.g. improve traffic flow) to reduce GHG emissions per unit transported
		M634-02	Improved waterways, port and aviation facilities to reduce the carbon intensity per unit transported

TYPOLOGY CODE	ADAPTATION	TYPOLOGY CODE	MITIGATION
<b>CLIMATE RESILIENT ENERGY AND TRANSPORT INFRASTRUCTURE</b>			
<b>POLICY AND GOVERNANCE</b>			
A641-01	Taking account of climate variability and change in planning for power system reliability and designing future energy supply mix		
A641-02	Design of new design criteria and technical standards in planning location, and construction of power generation facilities in order to respond to climate change and climate variability		
A641-03	Develop guidelines for climate-proofing of existing and new energy system		
A641-04	Incorporate effects of extreme weather events caused by climate change and climate variability in design standards of power systems, transmission and distribution lines.		
A641-05	Develop/upgrade design standards to take action of climate change impact on transportation infrastructure		
A641-06	Change operational management practices at power generation facilities due to climate change and climate variability		
<b>RESEARCH AND DEVELOPMENT</b>			
A642-01	Conduct risk and vulnerability assessment of the transport system		
A642-02	Conduct of risk and vulnerability assessments of energy systems		
A642-03	Improve design of turbines to withstand higher wind speeds as a result of extreme weather events		
A642-04	Improve design of solar panels to withstand higher intensity storms resulting from climate change and climate variability		
<b>KNOWLEDGE AND CAPACITY BUILDING &amp; TRAINING</b>			
A643-01	Capacity building or strengthening capacity for energy sector institutions to improve climate risk management in the energy sector		
<b>ACTION DELIVERY</b>			
A644-01	Protect transport infrastructure against extreme weather events (especially floods and storms) becoming more frequent and violent due to climate change and climate variability	M644-01	Rehabilitate existing power plants to decrease GHG emission intensity
A644-02	Establish of emergency services designed to cope with climate change and climate variability related emergencies in the transport sector		
A644-03	Construct new roads, ports, airports and aviation infrastructure to climate resilient design standards		
A644-04	Development of telecommunications infrastructure for use as part of an emergency response system during extreme weather events		

TYPOLOGY CODE	ADAPTATION	TYPOLOGY CODE	MITIGATION
<b>KNOWLEDGE OF CLIMATE SCIENCE</b>			
<b>POLICY AND GOVERNANCE</b>			
A711-01	Review and rationalize systems and infrastructure requirements to Improve climate change modeling and weather forecasting		
<b>RESEARCH AND DEVELOPMENT</b>			
A712-01	Support research on CC adaptation	M712-01	Support research on CC mitigation
<b>KNOWLEDGE AND CAPACITY BUILDING &amp; TRAINING</b>			
A713-01	Upgrade personnel's capacity and skills on climate change modeling and weather forecasting		
A713-02	Establish centers of excellence on climate change science at the national and regional level		
A713-03	Improve government systems and infrastructure required for climate change modeling and climate forecasting		
<b>ACTION DELIVERY</b>			
A714-01	Construction/Rehabilitation of Weather stations and facilitates		
A714-02	Operation of weather surveillance infrastructures		
<b>LOCAL AND COMMUNITY CLIMATE CHANGE ADAPTATION (CCA) AND DISASTER RISK REDUCTION (DRR)</b>			
<b>POLICY AND GOVERNANCE</b>			
<b>RESEARCH AND DEVELOPMENT</b>			
A722-01	Development of climate change adaptation focused curricula, graduate courses and programs		
<b>KNOWLEDGE AND CAPACITY BUILDING &amp; TRAINING</b>			
A723-01	Awareness raising programs on climate change and climate variability		
A723-02	Conduct of disaster awareness and preparedness trainings		
A723-03	Production and dissemination of disaster awareness and preparation information materials		
A723-04	Conduct trainings on community-based climate change adaptation and disaster risk reduction		
<b>ACTION DELIVERY</b>			
A724-01	Conduct of disaster risk reduction operations		

TYPOLOGY CODE	ADAPTATION	TYPOLOGY CODE	MITIGATION
<b>CC KNOWLEDGE MANAGEMENT</b>			
<b>POLICY AND GOVERNANCE</b>			
<b>RESEARCH AND DEVELOPMENT</b>			
<b>KNOWLEDGE AND CAPACITY BUILDING &amp; TRAINING</b>			
A733-01	Review and revise, current textbooks, modules and exemplars for pre-elementary, elementary, for climate change content and gender-sensitivity		
A733-02	Review and revise, current textbooks, modules and exemplars for high school and alternative learning system for climate change content and gender-sensitivity		
A733-03	Training for pre-elementary, elementary, high school and college teachers on integrating climate change in basic courses		
<b>ACTION DELIVERY</b>			

TYPOLOGY CODE	ADAPTATION	TYPOLOGY CODE	MITIGATION
<b>CONVERGENCE PLANNING AND COORDINATION</b>			
<b>POLICY AND GOVERNANCE</b>			
A831-01	Setting policy direction on national and local climate change adaptation action	M831-01	Setting policy direction on national and local climate change mitigation action
A831-02	Planning on national and local climate change adaptation action	M831-02	Planning on national and local climate change mitigation action
<b>RESEARCH AND DEVELOPMENT</b>			
<b>KNOWLEDGE AND CAPACITY BUILDING &amp; TRAINING</b>			
A833-01	Provide trainings and information material on community-based adaptation actions	M833-01	Provide trainings and information material on community-based mitigation actions
A833-02	Policy dissemination on climate change adaptation	M833-02	Policy dissemination on climate change mitigation
<b>ACTION DELIVERY</b>			
A834-01	Coordination of national and local climate change adaptation actions	M834-01	Coordination of national and local climate change mitigation actions
<b>FINANCE</b>			
<b>POLICY AND GOVERNANCE</b>			
A841-01	Introduce regulations and programs to support climate resilient investments	M841-01	Introduce regulations, programs or financial instruments to support GHG reducing activities
A841-02	Expand insurance eligibility to populations vulnerable to climate related diseases	M841-02	Strengthen Institution and policies to mobilize carbon finance
A841-03	Fiscal policy and management measures in support of adaptations	M841-03	Fiscal policy and management measures in support of mitigation
		M841-04	Reduce fossil-fuel consumption through taxes, levies or fees on energy or transport services
<b>RESEARCH AND DEVELOPMENT</b>			
A842-01	Analysis of impact of climate change and climate variability on long-term growth, and poverty	M842-01	Prepare for carbon markets or implement carbon finance market transactions
A842-02	Economic research, modeling and policy making for adaptation	M842-02	Economic research, modeling and policy making for mitigation
A842-03	Economic analysis of financial needs for adapting to climate change and climate variability (cost of adaptation)		
<b>KNOWLEDGE AND CAPACITY BUILDING &amp; TRAINING</b>			
<b>ACTION DELIVERY</b>			
A844-01	Monitoring of national and local climate change adaptation actions	M844-01	Monitoring of national and local climate change mitigation actions