ANNEX VII-A

DISCLOSURE WORKSHOP 1

JANUARY 24, 2017

Environmental and Social Management Framework

World Bank Safeguards

- Environmental assessments should be integrated with the project cycle such that environmental screening occurs at the project identification stage
- Magnitude and sensitivity of the project and the attendant issues determine whether a full assessment is required.
- Emphasis of the environmental assessment –identify environmental issues early in the project cycle, design environmental improvements into projects, avoid, mitigate, or compensate for adverse impacts.
- Objective -address environmental issues immediately there is a project concept so as to avoid costs and delays in implementation due to unanticipated problems.

Project classification

Category A	**A full EIA is required, as the project may have diverse and significant environmental impacts**
Category B	**Although a full EA is not required, environmental analysis is appropriate, as the project may have specific environmental impacts**
Category C	Environmental analysis is normally unnecessary, as the project is unlikely to have significant environmental impacts

Project Beneficiaries

- Hydromet data Public good – entire population – reduce dislocation and loss – build resilience
- Major knowledge gap - strong demand for increased awareness and improved climate literacy.
- Messages in Communication Plan

Project Beneficiaries and engagement

List of Stakeholders - based on Sector/Function

Financing and Executing Agencies	Water resources	Met & climate data	Agriculture	Communication	Infrastructure and Utilities	Disaster Risk Management	Private Enterprise	Political representatives	Civil society	Monitoring and evaluation
Planning Institute of Jamaica (PIOJ)	Water Resources Authority	Met Services	Ministry of Agriculture and Fisheries	Caribbean Institute of Mass Communication (CARIMAC)	National Water Commission	Office of Disaster Preparedness and Emergency Management (ODPEM)	Private sector agricultural enterprise	Members of Parliament	Community-Based Organisations (CBOs)	National Environment and Planning Agency
World Bank	Ministry of Land, Water, Environment and Climate Change	University of the West Indies – Climate Studies	Rural Agricultural Development Agency (RADA)	Jamaica Information Service (JIS)	Jamaica Public Service Co (JPSCo)	Emergency Responders	Environment and Development Professionals (including engineers, architects, planners, etc.)	Councillors	NGOs- Red Cross, ADRA, Salvation Army etc. NGOs	Met Services
Ministry of Finance and Planning	National Irrigation Commission	Climate Change Division		PANOS Caribbean	Ministry of Transport, Works and Housing (MTWH)	Ministry of Health	General Insurance sector			Water Resources Authority
	National Water Commission					General Insurance sector				Planning Institute of Jamaica (PIOJ)
						Mines and Geology Division				World Bank

Application of Outputs to Messages

APPLICATION	MESSAGE
Climate and hydrological data and models - **Water sector**	• water availability and quality • promote micro-scale water harvesting technologies.
Climate data, modeling and scenario building- Agriculture sector and farmers	• use of climate smart cropping methods • use of drought tolerant crops • pest management mechanisms
Climate data and modeling - **Fisheries sector**	• importance of protecting mangroves to increase fish stock • respecting closed seasons • fish farming as a livelihood alternative
Hydrological and Met data – **Health sector**	• Effect of water supply and quality on sanitation • likely increase of vector borne illnesses such as malaria and dengue • Early Warning systems

APPLICATION	• MESSAGE
Climate data and modeling- Tourism sector	• **the need for tourism structures to withstand certain wind speeds** • **the availability of financial products that can support financial risk management** • **retrofitting and building adaptation** • **water recycling** • **water conservation measures** • **identify vulnerability** • **respect marine zones** • **consider product diversification to reduce dependence on climate sensitive resources.**
Climate data and scenarios – Vulnerability and risk assessments	• importance of following building codes • need for identifying “no build” zones • the linking of disaster risk management and physical planning
Climate and hydrological models and scenarios - Insurance sector	• increase in risk to properties and persons • the various insurance options that exist
Climate and hydrological data and scenarios – Energy sector	• risk threatening the sustainability of hydropower energy supply in the future
Improved data to be provided and the data sharing platform	• foster community involvement in integrated river basin development planning • communities involvement in watershed management and conservation activities • sector policies and programmes

Gender considerations

- ICDIMP recognizes the need for identifying roles, responsibilities, and activities by gender and for special groups.
- Mainstreaming consideration of gender and special needs groups receiving heightened attention in disaster risk reduction
- Differentiated roles of men and women in societal activities, and the vulnerabilities attendant on special groups
- Employment profile shows influence of males and females
- Women –change agents – key role in rural communities
- Climate education and early warning systems at the community level and in enterprise

Health Sector vulnerability

- **What to be assessed and where?**
- Determination of aspect of health sector to be assessed
  - Major hospital - selected parish
  - Health facilities/clinics/- selected parish
  - Central Government Capacity – MOH
  - Disease control - Vector identification and management
  - Parish focus - health facilities and services
  - Emergency Response Capacity - parish, national
  - Public Health capacity /parish/urban centre , rural towns
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Health Sector

- **Hazard Identification**
- History of flooding at selected location (s) - incidence, impact on health facilities and supporting infrastructure
- Hurricane/Storm - history of impact at selected location – health facility, supporting infrastructure and services
- Landslides - Disruption of road communication
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- **Vulnerability Assessment**
- Structural Vulnerability - Engage structural engineer to identify areas of weakness and to recommend mitigation measures.
- Assess vulnerability of site to flooding
- Assess vulnerability of access routes to flooding and landslides

Health Sector …

- For each facility the following need to be assessed.
  - Emergency water supply – storage capacity , accessibility
  - Emergency power supply - standby generation, fuel, battery availability, appropriateness of site
  - Food supply - system for and safety of stores of non-perishables, access to supplies in event of emergency
  - Pharmaceuticals/medicines – system for and safety of stores, system to access and preposition emergency supplies
  - Other supplies **-** – system for and safety of stores, system to access and preposition emergency supplies
  - Waste management capacity - general waste, medical waste
  - System for grounds management – removal of debris to facilitate access of emergency vehicles and staff.
  - Records management - safety , back-up
  - Emergency response capacity - staffing roster, vehicles, supplies

Environmental Screening

- Environmental Screening Framework follows WB template for an ESMF/ Environmental Management Plan (EMP) for Small Works
- footprint for ICDIMP small activities generally environmentally benign. No major environmental and social safeguards triggered
  - Environmental Assessment OP/BP 4.01;
  - Natural Habitats OP/BP 4.04;
  - Physical Cultural Resources OP/BP 4.11;
  - Involuntary Resettlement OP/BP 4.12 –

  Project activities mainly positive environmental and social impacts- improving weather and climate information and forecasting - contribute to strengthening disaster risk management, reduction of vulnerability and loss, and increased productivity.
- Must comply with national regulations

SCREENING PROCEDURE

ACTIVITY	ENVIRONMENTAL AND SOCIAL SAFEGUARDS												
	Environmental Assessment			Natural Habitat			Physical/Cultural Resources			Involuntary Resettlement			Any other Comment
	Yes	No	If Yes what action*	Yes	No	If Yes what action	Yes	No	If Yes what action	Yes	No	If Yes what action	
Installation of 26 new ordinary and AW climate stations	x			x							x		No environmental impact is anticipated

METEOROLOGICAL SERVICES

Regulatory Requirements

- NEPA Permit and License system
- No activities within prescribed categories for environmental permit
- Screening of activities under the Met Services and the WRA.
- Replacement of the Doppler Radar entailed some small civil works and other activities with some environmental consideration

Screening – Radar

- Transportation from port to site
- reconditioning of the tower with metal cleaning, welding and repainting
- Refurbishing of the building - removal of worn carpets, cleaning of walls, windows and doors, replacement of windows and doors, repair of roof etc.
- Disposal of waste and transportation from the site must be executed with best practice.
- Upgrade water storage - Sustainable water supply- install rainwater harvesting system - remediate existing tanks - connect rainwater catchment to tank
- Install Standby power generation to support existing power supply. Install solar powered system.

Screening – WRA

- Installation of stream gauges (new and replacement)
- Rainfall intensity gauges (new and upgraded)
- Construction of instrument shelters
- Site selection, transportation and installation
- Soil moisture probes
- Loggers on monitoring wells.

Environmental Management Plan

- developed in keeping with the template of the WB Safeguards.

Layout:

- General Conditions; Occupational Health and Safety
- Rehabilitation and Construction activities
    - Air and Water Quality, Noise, dust, Waste Management
- Wastewater treatment - stormwater runoff, sewage
- Archaeological Heritage
    - Historic buildings artifacts
- Land Acquisition
- Toxic Materials/Hazardous Waste
- Natural resources –forests, wetlands, protected areas.
- Traffic and pedestrian safety

ACTIVITY	PARAMETER	MITIGATION MEASURES CHECKLIST	RELEVANT SUB-COMPONENT ACTIVITY	I INSTITUTIONAL RESPONSIBILITY
0. General Conditions	Notification and Worker Safety	(a) The Parish Council and respective communities have been notified of upcoming activities (b) The public has been notified of the works through appropriate notification in the media and/or at publicly accessible sites e.g. Library, post office, parish council office, site of the works, etc. (c) All legally required permits have been acquired for construction and/or rehabilitation (d) The Contractor formally agrees that all work will be carried out in a safe and disciplined manner designed to minimize impacts on neighboring residents and environment. (e) On site construction workers will comply with international good practice (always hardhats, as needed masks and safety glasses, harnesses and safety boots) (f) Appropriate signposting of the radar site will inform workers of key rules and regulations	EACH ACTIVITY All	MSJ WRA MSJ MSJ MSJ

A. General Rehabilitation and /or Construction Activities	**Air Quality**	**(a) During interior refurbishing old carpeting, windows, doors etc will be carefully removed and debris transported to temporary storage area on site** **(b) Debris shall be kept in controlled area and covered with tarpaulin** **(c) The surrounding environment (sidewalks, roads) shall be kept free of debris to minimize dust** **(e) There will be no open burning of construction / waste material at the site** **(f) There will be no excessive idling of construction vehicles at sites**	**Installation of the New Radar** **Rehabilitation of existing building on radar site**	**MSJ**
	Noise	(a) Construction noise will be limited to day time. (b) During operations the engine covers of generators, air compressors and other powered mechanical equipment shall be closed. Equipment should be in good working order to further minimize noise	Installation of the New Radar Rehabilitation of existing building on radar site	MSJ

E. Toxic Materials	**Asbestos management**	**(a) If asbestos is located on the project site, it shall be treated as hazardous material.** **(b Asbestos should be handled and disposed by skilled & experienced professionals** **(c) If asbestos material is be stored temporarily, the wastes should be securely enclosed inside closed containments and marked appropriately. (d) Security measures will be taken against unauthorized removal from the site.**	**Existing Building on radar site**	**MSJ** **NEPA**
	Toxic / hazardous waste management	(a) Temporary storage on site of all hazardous or toxic substances will be in safe containers labeled with details of composition, properties and handling information (b) The containers of hazardous substances shall be placed in a leak-proof container to prevent spillage and leaching (c) As far as practicable paints with toxic ingredients or solvents or lead-based paints should not be used	Radar site - supporting structure and building renovation	MSJ NEPA

F. Affected forests, wetlands and/or protected areas	Protection	(a) All recognized natural habitats, wetlands and protected areas in the immediate vicinity of the activity will not be damaged or exploited, all staff will be strictly prohibited from hunting, foraging, logging or other damaging activities. (b) A survey and an inventory shall be made of large trees in the vicinity of the construction activity, large trees shall be marked and cordoned off with fencing, their root system protected, and any damage to the trees avoided (c) Adjacent wetlands and streams shall be protected from construction site run-off with appropriate erosion and sediment control features - e.g. silt fences (e) If any work in a Protected Area is being considered, the Policy on Natural Habitats OP/BP 4.04 would be triggered and applicable actions in the ESMF must be followed.	AWS installation Stream gauge installation	MSJ WRA MSJ WRA

Site assessment for new and existing installations	Hazard vulnerability- flood and seismic risk, slope failure,	**AWS and stream gauges**
Property ownership	Avoid involuntary acquisition	
Ease of Access	Minimal clearance – minimize vegetation clearance and habitat	
	Minimal road construction and	
Waste management	Proper disposal of packaging for material - off site	
Installation of cables	Minimize earthworks and slope	
Installation of stream	Maintain riparian rights	
	Control sediment generation and	
	Avoid heavy equipment in streams or on	
Refurbish old buildings	Appropriate disposal of debris generated, packaging, paint containers, chemical residue, etc. Use licensed waste disposal contractors	Radar site Stream gauge sites AWS
New structures	Minimise earthworks, consider site vulnerability to hazards	Stream gauge sites AWS
Materials Supply (Gravel, Concrete, Asphalt, etc.)	Environmental compliance of suppliers re dust control, and material spillage/loss during transport,	Stream gauge AWS Radar site
Noise	Close to residential area so consider time of day for installation. Ensure muffler	Radar site
Dust	Regular wetting	All sites where necessary

Chance Find of Cultural Artifacts	Contact relevant authorities – Jamaica National Heritage Trust	All sites – weather and hydrological installations
Management of Solid Wastes (Non-Hazardous)	Collection, transport, and disposal of any debris	All sites
Management of toxic substances	Enforce use of safety gear for workers. Package empty containers for disposal by contractor.	All sites
Management of Hazardous waste	Contain waste and Contact NEPA	All sites
Emissions from Construction Equipment/vehicles	Keep equipment/vehicles in good running order	All sites
Management of spills from Equipment	Appropriate clean up	All sites
Worker Health and safety	Sensitize workers and adhere to safety standards – protective gear as appropriate.	All sites
Management of wastewater from refurbishing Maintenance	Avoid runoff	

- Sub-components of ICDIMP have been screened according to the Environmental and Social Safeguard Framework of the World Bank.
- Mitigation measures have been identified as appropriate
- compiled in an Environmental Management Plan.
- Engagement of stakeholders pivotal to the successful implementation of the Investment Project
- Project beneficiaries have been identified, categorized and consulted.
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Monitoring

- MOU with NEPA proposed
- Installation schedule to be provided
- Periodic Monitoring of sample installation sites - Radar, Stream gauge , AWS, Tide Gauge