Guidance Manual:
Environmental Screening Checklists and Guidelines for BNTF 10 Programme

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Contents

ACRONYMS AND ABBREVIATIONS

BNTF	Basic Needs Trust Fund
BNTF 10	Basic Needs Trust Fund, 10th Programme Cycle
CARICOM	Caribbean Community
CC	Climate Change
CDB	Caribbean Development Bank
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CLO	Community Liaison Officer
CNAA	Community Needs and Assets Assessment
CPA	Corrective and Preventive Actions
CVRA	Climate Vulnerability and Risk Assessment
DG	Dangerous goods
EA	Environmental Assessment
EIA	Environmental Impact Assessment
ESMP	Environmental and Social Management Plan
IA	Implementing Agency
MIS	Management Information System
MSDS	Materials Safety Data Sheet
NA	Not Applicable
NC	Nonconformity
NGO	Non-governmental Organisation
OE	Oversight Entity
OM	Operations Manual
PM	Project Manager
PMC	Project Monitoring Committee
PPE	Personal Protective Equipment
TOR	Terms of Reference
UNESCO	United Nations Educational, Scientific and Cultural Organisation

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1.0 Introduction

An environmental screening framework for assessing BNTF sub-projects[1] was developed for BNTF 5. This has been reviewed and upgraded to be applied for 10 projects. This framework consists of a series of practical environmental impact assessment (EIA) tools, that integrate a climate risk perspective, to be used throughout the BNTF project cycle to ensure that environmental (including natural hazard vulnerability and climate change (CC), social/gender, etc.) considerations are integrated into all stages of project design and decision-making. The tools developed are intended to provide guidance to the Implementing Agency (IA) staff and Consultants in key phases of the BNTF project cycle including screening, monitoring, supervision and reporting.

This Guidance Manual outlines how these EIA tools are to be used throughout the BNTF project cycle to ensure that sub-projects have minimal negative impacts on the environment and the local community. It explains how the tools fit within the various stages of the BNTF project cycle.

2.0 EIA Background

Projects, be they large or small, have the potential to adversely impact the environment, and depending on their location, can be vulnerable to natural hazard impacts. An EIA is a systematic planning process for identifying, predicting, analysing and interpreting the environmental impacts of project proposals on the environment and the effects the environment, in particular natural hazards, can have on proposed projects. It can also facilitate a more detailed assessment of how the environment is changing over time as a result of CC, and therefore guide revised thinking around the choice of sub-projects, and the best design for specific interventions. Ultimately, the purpose of an EIA is to guide environmentally sound and sustainable decision-making based on the age-old common wisdom that "an ounce of prevention is worth a pound of cure". Environmental Assessment (EA) is a synonymous term with EIA and the terms are used interchangeably in the literature. In this manual, the term EIA will be used.

The benefits of EIA can be direct, such as improved design of a sub-project, or indirect, such as raising environmental awareness of those involved in the project. EIA:

(a) Facilitates avoidance or elimination of environmental impacts or damage through the identification of mitigation measures to be applied, both now and under changing conditions.
(b) Informs improvements in project design.
(c) Identifies measures with the potential to realize savings in capital and operating costs.
(d) Identifies measures for monitoring and managing impacts.
(e) Increases the potential for public acceptance of a project.

The EIA process must start early in the planning stages of any development project proposal, to ensure that environmental considerations are fully taken into account in project decisions including site selection, identification of alternatives to the project or alternative ways of carrying out the project, project planning, and selection of mitigation technologies. The following sections provide a chronological discussion of the major steps in the BNTF project cycle. For each step, key activities are noted and where applicable, the

[1] Sub-projects refer to specific project sectors that are funded by the CDB, such as education facilities and rural roads.

EIA technical tools for guiding decision-making by the Implementing Agency (IA) are presented.

3.0 BNTF Project Cycle

Step 1: Project Application/Request Stage

At this initial stage in the BNTF project cycle, two major activities occur:

(a) A project request is made using the **Sub-Project Proposal Form**. This request may originate from a variety of sources, including an individual, NGO, government agency or community organisation.
(b) The completed Sub-Project Proposal Form is submitted to the IA for consideration.

These two activities originate and are executed by local community, and the IA is primarily a recipient of information.

Step 2: Community Liaison Officer Desk Review

At this stage in the project cycle, the Community Liaison Officer (CLO) must undertake a desk review of the Proposal. This should be done within three weeks of receipt to determine whether the sub-project meets BNTF criteria. This includes:

(a) ensuring conformance with the CPF and other national and sectoral policies and plans;
(b) consulting with other development officers; and
(c) referring to past needs assessments.

It is at this stage that the first EIA tool, the **Exclusion List of Projects** (Appendix 1), should be applied. The Exclusion List outlines projects that BNTF will not finance because of their likelihood to harm humans and/or the environment. The Exclusion List excludes projects that use endangered species, harm significant resources, or contravene international Conventions signed by the country. By consulting this Exclusion List, the CLO is able to exclude projects that fail BNTF funding criteria at an early stage in the project cycle, and in turn, focus on projects that meet the funding criteria.

If the proposed sub-project meets the criteria, it proceeds to Step 3. If it fails to meet BNTF criteria, the Permanent Secretary of the relevant line ministry is informed within two weeks of the decision by the IA. The decision is placed in the register and the Oversight Entity (OE) is notified.

Step 3: Field Preparation: Request Becomes BNTF Project

If the proposed sub-project meets the criteria for BNTF funding, the IA is tasked with a number of duties:

(a) The IA Project Manager budgets time for the CLO to undertake a preliminary site visit. A short list, **CLO Observations for Inclusion on a Community Map** (Appendix 2), has been developed to enhance the CLO's information collection during this initial site visit. This list includes questions relating to community features and should prompt observations during the sub-project site visit, so that key features may be located on a community map.

(b) Pertinent community information is collected from the community using the **Community Needs Assets Assessment (CNAA)** (Appendix 3). The CNAA provides guidance for the CLO as to what questions to ask of the community in order to gather required information.

This information helps to determine if the sub-project development or use of the site identified for the sub-project is likely to have adverse impacts on the local environment or the community, or whether the proposed sub-project site is vulnerable to any natural hazards, particularly with increasing climate change risk. It also prompts the CLO to ask questions pertaining to handling and disposal of wastes within the community, patterns of use and control of resources by men and women, traditions governing land use, etc., and to inform identification of opportunities for sub-project performance enhancement, as well as additional measures that can help to mitigate climate change impacts and build community resilience.

A Project Monitoring Committee (PMC) is formed at the end of this step, to include representation from the community, the IA and the relevant line Ministry. Representatives of entities responsible for future operation and maintenance of the completed facility should be members of the PMC.

Step 4: Design Project

At this step of the project cycle, the IA must:

(a) Undertake EIA Screening.
(b) Prepare cost estimates.
(c) Create a sub-project profile.
(d) Recommend on the need for full EIA and/or Climate Vulnerability and Risk Assessment (CVRA).

The Project Monitoring Committee (PMC) becomes the community contact with the IA.

To assist the IA in its EIA Screening, an **Environmental Screening Checklist** (Appendix 4) and **Environmental Guidelines** (Appendix 5) have been developed. The Screening Checklist guides the IA in identifying key environmental issues and impacts associated with sub-projects prior to the final sub-project design. The Environmental Screening Checklist asks key questions on matters that are of environmental importance to the sub-project. By responding "Yes", "No", "Unknown" or "NA" (Not Applicable), the IA is guided on whether further direction should be sought from the supporting Environmental Guidelines.

When planning a sub-project, there is a list of issues that must be considered. If these issues are considered early in the project cycle, the building sub-project will be more sustainable and accepted by the local community. These relate to:

(a) Natural hazards (including climate change related)
(b) Preservation of cultural property
(c) Preservation of land use/impact of adjoining uses
(d) Preservation of species and natural spaces
(e) Community and gender equality issues
(f) Building issues
(g) Construction issues
(h) Waste management issues – solid, hazardous and sewage
(i) Location considerations
(j) Public and occupational health and safety

The checklist in Appendix 4 identifies issues within each of the above areas that are to be considered as part of the sub-project planning and design. The list is intended to guide the IA in identifying key

environmental issues and impacts that may be associated with sub-projects in all sectors, prior to the sub-project design. Adverse impacts of the sub-project on the local environment or the community and vice versa may be minimised through changes to sub-project design or the use of mitigation measures to lessen negative effects. The Environmental Guidelines (Appendix 5) provide further guidance and direction to users in relation to the key issues, and recommend actions based on the responses to the questions in the Environmental Screening Checklist. The IA may be guided to revise site selection, flag areas in which the Design Consultant should identify suitable mitigation measures, undertake additional site-specific investigations and consultations, or request an EIA, environmental and social management plan (ESMP) or CVRA, prior to the finalisation of the sub-project design.

This step is critical as safeguards, mitigation, etc. are best considered at this stage, prior to the completion of the sub-project design and construction. In general, it is more efficient and cost effective to integrate mitigation in the project design phase.

The Environmental Screening Checklist is designed to identify potential impacts of typical BNTF 10 projects, including building sub-projects such as day care centres and elementary schools, and linear infrastructure sub-projects such as rural roads, footpaths, water supplies and drains. The checklist starts with generic questions intended to address environmental issues common to all of the sub-projects in these groupings (buildings and linear infrastructure). There are environmental issues that are common to all projects, irrespective of sector, and these are considered before questions specific to the various BNTF 10 focus areas are listed. Although certain environmental issues are generic to all sub-project sectors, the challenges they pose and the methodology for mitigating them would vary. These variations are addressed in the Environmental Guidelines.

The screening process will facilitate a preliminary determination of the expected impact of a sub-project on the environment and the relative significance of this expected impact. A certain level of basic information about the proposed sub-project and its location is required in order to undertake a screening. The time it takes to complete the screening will depend on the proposed sub-project, the location or environmental setting, the availability of existing information, the understanding of its potential impacts and the experience of the reviewer. The process should not exceed one month. If the issues raised in the checklist can be addressed and there are insignificant or no environmental consequences, there is no need to undertake a more comprehensive level of EIA; however, if the issues cannot be readily addressed a more comprehensive EIA should be recommended, including a possible CVRA.

It is recommended that each IA refine the checklist to meet the country specific context. Information yielded through the environmental screening process is to be incorporated into the **Sub-Project Profile** (see **Sub-Project Profile Form and Appraisal Guidance** in Appendix 6) prepared by the IA.

Step 5: OE Review of Project Profile

In Step 5 of the project cycle, the BNTF Oversight Entity (OE) reviews CNAAs and sub-project profiles and approves for submission to Caribbean Development Bank (CDB) for ‘no objection’.

Step 6: CDB Appraisal

If approved by the OE, the profiles are submitted to CDB through the electronic Management Information System (MIS), complete with the CNAA and minutes of the OE meeting at which approval was given. CDB then undertakes the appraisal of the sub-project. This involves the following key tasks:

(a) Receive the sub-project profile, CNAA report, and OE meeting minutes.

(b) Appraise the sub-project.
(c) Validate the Screening Checklist completed by the IA. This may require a field visit.
(d) Include a statement in the documentation confirming the validation of the Screening and any additional comments.
(e) Include a summary of any additional community actions that could be considered to enhance the sub-project benefits and sustainability of the sub-project, arising from the participatory community development approach.

Step 7: Notification of Project Approval

At this step:

(a) CDB notifies the IA Project Manager that sub-project(s) are approved.
(b) The IA executes a Tripartite Agreement immediately among the line ministry, IA and PMC of the beneficiary community. This agreement governs the implementation and operation process, and identifies the roles and responsibility of each party to the Tripartite Agreement.
(c) If required, ESIA terms of reference (TOR) is prepared by the IA, and once approved by CDB, the environmental specialist is hired as part of the technical consultant team. The technical consultant TOR requires him/her to prepare an ESMP to be implemented by the Contractor. If a CVRA is required, the CVRA TOR (see Appendix 7) should be prepared and once approved by CDB, the appropriate consultant, if different from the environmental specialist, is hired.

For this step in the project cycle, two specific tools have been developed to assist the IA. The first is an **IA Consultant Monitoring Sheet** (Appendix 8) that has been developed for use by the IA Project Manager, to assist in IA monitoring of technical consultant's environmental performance. Issues of importance include adherence to measures identified in the Screening Checklist, compliance with contract requirements, compliance with local construction laws, implementation of the ESMP, etc.

The second tool consists of **Standard Contract Wording** (Appendix 9) regarding ESMPs and best practices for mitigation etc. that can be included in construction contracts. The standard contract wording is based on broad site management principles and best construction practices that may be applied to all sites. It is deliberately intended to be different from an ESMP, which focuses on site-specific considerations. Preparation of the ESMP is the responsibility of the Consultant for all works. Consultant TOR should be worded accordingly.

The tripartite agreement between the IA, PMC and line Ministry must commit the relevant parties to maintenance once the facility/infrastructure is operational. Any training and other support required to ensure project sustainability through the operations phase must be identified, and if feasible, put in place during works implementation, in readiness for operation. The training aspect may be incorporated into a separate sub-project.

Step 8: Project Implementation

At this step in the project cycle, the Design Consultant (or the IA if there is no Design Consultant) is responsible for monitoring the construction contractor to ensure that commitments made to minimise impacts as part of the Construction Contract (developed in accordance with the environmental screening or EIA findings and ESMP) are carried out. A **Consultant Environmental Checklist** (Appendix 10) has been developed for use by the Design Consultant. This should be completed monthly and appended to the

Consultant's monthly report. The Consultant's monthly report should also include a narrative summarising the key findings.

To assist the IA in its project management and overall supervision, an **IA Site Visit Checklist** (Appendix 11) has been developed for use by the BNTF Project Manager during field/site visits. The checklist focuses on the key environmental aspects to consider during construction and implementation and addresses environmental permits, site conditions/management, off-site environmental effects and record keeping.

Step 9: Operation/Environmental Management

This step in the project cycle involves the following activities:

(a) Implementation of operations and maintenance responsibilities under the tri-partite agreement between community, IA and the operating Ministry.

(b) The IA monitors sub-project operations to ensure maintenance is routinely done, and information on outcomes and impacts on beneficiaries is gathered and analysed.

No EIA tools are required for the IA.

APPENDIX 1. EXCLUSION LIST OF PROJECTS

1. Sub-projects that would harm or utilise products made from endangered species, including species identified in the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).
Rationale: The survival of many plant and animal species has been jeopardised due to overexploitation and diseases. All species are a part of intricate interconnected ecosystems and a loss of species ultimately threatens the functioning and stability of these natural systems. Direct harm to species can occur from local consumption of the species (food, trade, etc.) or through habitat destruction. A significant aspect of overexploitation is through international trade ranging from the sale of live animals and plants to a vast array of products derived from endangered species. Since the trade in wild animals and plants is international, the effort to regulate it and to safeguard certain species from over-exploitation requires international cooperation. To this end, the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) was instituted, providing varying degrees of protection to more than 30,000 species of animals and plants, whether they are traded as live specimens, parts or products. All of the BNTF7 BMCs are signatories to CITES.
2. Sub-projects that would destroy wetlands including wetlands listed under the International Convention on Wetlands (Ramsar Convention).
Rationale: Wetlands are components of larger biophysical systems. The functions and benefits provided by wetlands often extend beyond the confines of the wetland itself. Wetlands help to regulate water levels within watersheds; improve water quality; reduce flood and storm damage; provide important fish and wildlife habitat; and support hunting, fishing and other recreational activities. The International Convention on Wetlands (Ramsar), signed in Ramsar, Iran, in 1971, provides the framework for national action and international cooperation for the conservation and wise use of wetlands and their resources. There are presently 150 Contracting Parties to the Convention, including Belize, St. Lucia, Jamaica, Antigua and Barbuda and Grenada.
3. Sub-projects that would harm protected spaces as identified on UNESCO's World Heritage List or other protected spaces, such as national parks, botanical gardens, etc. as designated by national governments.
4. Sub-projects that would displace indigenous (originating, produced or occurring naturally locally) populations.
Rationale: Population displacement can create extreme hardship and most often involves more than just a loss of property, but more significantly a loss of way of life and the traditional knowledge that is associated with it. Sub-projects that displace indigenous populations have the potential to result in such irreplaceable loss.

5. Sub-projects involving construction of facilities such as community centres, recreational facilities, daycare centres, schools, emergency shelters, sewage treatment facilities, roads in marginal areas including (a) zones designated by planning authorities as unsuitable for construction such as volcano exclusion zones, and (b) areas highly prone to landslides, or otherwise unstable ground, (c) areas at high risk to flooding, sea level rise, storm surge, coastal erosion, either under current conditions, or under best estimates for future impacts from climate change, or (d) active earthquake faults.
Rationale: These are areas that are highly prone to natural hazards including, flooding, landslides, volcanoes, hurricanes and tropical storms. Constructing facilities in such marginal areas can place users at high risk. Public development in hazard vulnerable areas builds a false sense of security among the broader community, leading to further development in these areas, thereby increasing community vulnerability, risk of property damage/loss and risk of loss of life in the event of a major hazard or disaster.
6. Sub-projects that would prevent the continued use of areas or resources that are of unique local/traditional value.
Rationale: Communities often place special significance on certain local resources. These resources, be they natural (such as beaches, hot springs, waterfalls or lookout points) or man-made features, may serve multiple functions including aesthetic, spiritual, recreational or ceremonial. Sub-projects that could potentially prevent the continued use or availability of these resources by limiting access or by encouraging an influx of outsiders, are likely to face public opposition.
7. Sub-projects that would discriminate on the basis of sex or gender.
Rationale: The CDB seeks to achieve gender equity in all of its programs, including BNTF7. Women, in general, tend to have less access than men to assets that provide security and opportunity and therefore female poverty tends to be more prevalent and typically more severe than male poverty. All CARICOM countries have ratified the 1979 UN Convention on Elimination of all Forms of Discrimination Against Women. This Convention, often referred to as an international bill of rights for women, prohibits any distinction, exclusion or restriction made on the basis of sex that impairs or nullifies human rights and fundamental freedoms of women. The Convention also sets out an agenda for action by countries to guarantee the enjoyment of those rights. Any subproject that discriminates on the basis of sex should be excluded from consideration. This, however, does not preclude projects that are intended to address specific gender needs, for example a water supply project that is intended to reduce the time and effort expended by local women for collecting and transporting water.

APPENDIX 2. COMMUNITY LIAISON OFFICER OBSERVATIONS FOR INCLUSION ON A COMMUNITY MAP

While visiting a potential sub-project site, the following should be identified and preferably noted on a community map:
1. Location of closest residences or businesses.
2. Location of any activity in close proximity that produces emissions or effluents that may adversely affect the proposed sub-project.
3. Location of any nearby rivers, streams, lakes, other water bodies or wetlands, gullies and ghauts.
4. Location of any local water supply source or on-site water wells.
5. Evidence/report of existing or previous natural hazards such as floods, landslides, severe wind damage (associated with hurricanes, tropical storms or other weather systems), storm surges, coastal erosion, volcanic eruptions and earthquakes, as well as how these events impacted the community (areas most at risk).
6. Evidence/report of potential changes in the frequency/intensity of natural hazards as a result of climate change, and the potential change in impact to communities.
7. Location of agricultural use including crops or animals.
8. Site topography– is it hilly, steep or flat?
9. Site drainage – is it likely to flood during rainfall events? Is it likely to flood if rainfall events become more severe due to climate change?
10. Proximity to the ocean or coastal features. Elevation above sea level in consideration of sea level rise and storm surge.
11. Location of community services – schools, health care, emergency shelters, churches, recreational space, markets, and garbage collection and disposal.
12. Presence and condition of basic infrastructure (roads, drainage, water, sewerage and waste disposal, electricity, telephone) near the sub-project.
13. Proximity to areas of local or national significance (e.g. national parks, waterfalls, tourist attractions, heritage sites, historic/cultural artefacts).
14. Evidence of pollution and contamination (e.g. spills, oil stains, dead vegetation) on or near the sub-project site.
15. Evidence of any garbage/waste buried on site (e.g. pits, mounds).
16. Presence of any hazardous material within the site (e.g. asbestos, mold, rat/bat waste).
17. Location of any unique vegetation, animal/bird dwellings/nests, cultural and heritage properties.
18. Site ownership.

APPENDIX 3. COMMUNITY PROFILE AND COMMUNITY NEEDS AND ASSETS ASSESSMENT

Contents

COMMUNITY PROFILE AND COMMUNITY NEEDS AND ASSETS ASSESSMENT

1.0 Key Concepts

1.1 Community Profile

A community profile can be conceptualised as:

(a) "a comprehensive description of the needs of a group/population that is defined, or which defines itself as a *community*, and the resources that exist within that community, carried out with the active involvement of the community for the purpose of developing an action plan or other means of improving the life of the community" (Hawtin, 1994, pp. 2).

(b) "a report which presents data about the neighbourhood as a whole which can be used as a source of data about the community" (Henderson and Thomas 2002. pp. 79).

A community profile includes both hard and soft data. Information from statistical departments, previous reports and official documents will provide 'hard', secondary data on population size, poverty, employment and education while interviews with members of the community will provide 'soft', primary, qualitative data. A profile can be used to collect baseline data and to monitor a community's progress.

1.2 Community Profiling

Community profiling is a process whereby local persons participate in research on themselves which enables an understanding of the nature of the community (its resources and needs) and in determining actions to aid problem resolution. The process involves community empowerment and capacity building. The roles and responsibilities of the researcher/community liaison officer (CLO) involves:

(a) Preparing the groundwork –reviewing secondary data; site visit; gaining community entry; setting up or identifying a steering committee to work with; establishing community relationships and building trust; motivating and enabling participation; initiating organizational strengthening through training as necessary
(b) Understanding the nature of the community
(c) Deciding on research methodology in relation to the objectives of the initiative –use of existing data and research with the community using participatory learning and action (PLA) tools and techniques
(d) Data gathering
(e) Data analysis and action planning.

1.3 Community Needs and Asset Assessment (CNAA)

The CNAA is a type of community profile which utilises a community based participatory research approach and is informed by the Asset Based Community Development (ABCD) model. Steps in the CNAA process include desk and field research. In the field there are a number of participatory tools that

can be used.

2.0 Methodology

2.1. Desk Preparation

The CLO researches existing secondary data and information on the community, including socio-economic status of residents, environmental conditions including potential climate change risk, and social and political dynamics. This provides background information on the community and informs the participatory consultation that follows. In undertaking desk preparation, the CLO should consult with line ministries/agencies and partner organization and clearly identify the linkages with the following:

(a) National Strategic Plans;
(b) Country Strategy Paper/Country Poverty Assessment;
(c) Poverty Reduction Action Plan (PRAP);and
(d) Relevant legislation and policy document.

2.2. Participatory Rural Appraisal (PRA) Techniques

PRA covers a wide range of techniques especially aimed at involving communities in self-assessment, in the development of stakeholder partnerships and decision-making. Field visits and community consultations are generally coordinated by the CLO and are designed to enable communities to identify their most important problems and potential solutions.

The general principles governing participatory consultation for the BNTF Programme are:

(a) Information about community needs is best obtained from community members;
(b) It is essential to involve all members of the community (adult male and female, youth, elderly, disabled and disenfranchised). Their involvement should be documented, for example the number of persons (how many men and women) attending each meeting;
(c) Do not assume one person or group speaks for everyone;
(d) Consider each person's opinion;
(e) Verify information and perspectives;
(f) Targeted efforts may be necessary to encourage the participation of certain groups, for example, it may be necessary to hold separate consultations for adults and youth (men and women;)

(g) Different community members may have different perceptions, needs and suggested solutions;

(h) Mediate and look for common ground, but do not limit discussions on differences;

(i) Ensure the process is open and transparent; and

(j) Community dialogue and co-operation should be encouraged as consultations form part of the community capacity building process.

Participatory appraisal techniques used by CLOs to conduct field visits and participatory consultations will vary by country, region, the nature of the requesting organisation and the type of sub-project requested. The three main techniques are the transect walk, community group meeting and focus group meeting.

2.3. Transect Walk

A transect walk is a tool for observing the physical features and distribution of resources, along a given path. It provides primary information on the social aspects of the area which may not be reported in surveys. The CLO visits the community, observes the environment and talks to people along the way. The participatory nature of this type of data collection or appraisal is characterised by the use of semi-structured interviews with open-ended questions administered to individuals. The specific aims of a visit are to:

(a) observe the environment; this may include obvious environmental hazards or issues affecting the community, as well as conversations around the impact of natural hazards on the community over time;

(b) talk to a sample of community households;

(c) collect general information;

(d) determine what problems exist;

(e) identify solutions;

(f) determine the views and needs of different groups;

(g) verify information; and

(h) introduce the BNTF Programme.

2.4. Community Meeting

The CLO should convene at least one public consultation with a wide cross-section of community members. However, more than one meeting may be required. The community consultations are used to identify and/or confirm the choice of the sub-project as the priority need in the community, identify any additional sub-project elements that would either enhance or threaten the sustainability and benefits of the sub-project,

and/or help the community to better address changing conditions including climate change risk, and to ensure that the community will support the implementation and maintenance of the sub-project, including the provision of labour and volunteer time. The community meeting(s) must be well publicised beforehand, held at convenient times and at easily accessible locations for adult women and men, young women and young men. The objectives of the meeting are to:

(a) obtain information from residents;

(b) determine how poverty affects different community members;

(c) obtain information with regard to natural and man-made hazards and the impact on the community e.g. flooding;

(d) obtain information on any mitigative measures already in place for risks already identified and the responsible agency;

(e) obtain information on the underlying causes of risk in the community, and what types of measures, particularly ones that could strengthen the proposed sub-project, might help to build community resilience to natural hazards;

(f) obtain environmental information that may affect the sub-project or any projected environment impacts associated with the sub-project. This takes advantage of the collective knowledge of the community about the history of the site. This might be of relevance, for example, on the siting of the sub-project or drainage needs;

(g) identify and prioritize problems collectively;

(h) identify possible solutions and linkages to other development initiatives taking place in the community;

(i) discuss contributions of different agencies/community members to the sub-project; and

(j) provide more detailed information about BNTF and how it operates.

2.5. Focus Group meetings

In focus group meetings, the audience is divided into representative groups (based on neighbourhood /age/income/sex). Through the use of semi-structured questionnaires or informal conversations, individuals feel free to express opinions on problems and how they can be mitigated. The facilitator/CLO is armed with key questions, but the conclusions emerge from the group's open discussions and lead to suggestions for action.

3.0 Tools

During the transect walk, community meeting or focus group meeting, the following participatory animation tools stimulate involvement by respondents/interviewees:

(a) Daily/Annual Calendars/ Seasonal Calendars (for males and females);

(b) Hazards Maps;

(c) Risk Maps;

(d) Venn Diagrams/Roti Diagramming;

(e) Community Resource Mapping/ Institution Maps;

(f) Prioritization Matrices/Decision-making matrices;

(g) Problem Tree/and Objective Trees;

(h) Voting for the Best Solution;

(i) Listing and Priority Ranking/Pairwise ranking;

(j) Community Maps (drawn by groups divided by age/sex);

(k) Gender Resource Maps;

(l) Wealth Ranking;

(m) Historical Profiles/Time and Trend Lines;

(n) Problem Ranking;

(o) Future Visioning;

(p) Force Field Analysis; and

(q) Mind Maps.

4.0 Templates

4.1. Assets Mapping Template

Main Issue/Problem to be addressed	Geographic Area of Community	Assets / Resources[1] Available	Organisations in the[2] Community	External Agencies/Organisations[3]

[1] The wide range of Community Assets/resources include:

(i) Human resources (elderly/youth/entrepreneurs/ community leaders/people with disabilities;)
(ii) Financial (and access to credit);
(iii) Social (networks, Gender Champion);
(iv) Natural resources;
(v) Economic infrastructure, tools and equipment;
(vi) Economic (activities and jobs);
(vii) Culture and identity (historical sites);
(viii) Image and perception;
(ix) Know-how and skills;
(x) Governance and democracy;
(xi) External relations;
(xii) Social infrastructure (halls/community centres/parks/schools/churches);
(xiii) Small businesses; and
(xiv) Community groups.

[2] The wide range of Community Organisations include:

(i) Small businesses;
(ii) Local/regional councils;
(iii) Local Associations and Institutions;
(iv) Specialist groups;
(v) Local service clubs;
(vi) Safe houses/Day care centres; and
(vii) Large corporations.

[3] The wide range of External Agencies include:

(i) Commercial/development banks and credit unions;
(ii) Large corporations;
(iii) Ministries;
(iv) International Financial Institutions; and
(v) Development foundations/Philanthropists.

4.2. Community Needs and Assets Assessment Template

The CNAA Template which follows identifies the information to be collected in the CNAA process for submission to the Oversight Entity (previously Project Steering Committee).

A. IDENTIFICATION

Name of village/district:_____

Name of nearby major town/city: _____

B. HISTORICAL PROFILE (*secondary data and primary data sources including transect walks, focus group meetings, semi-structured interviews, historical profiles/trend lines*)

1. Brief history of the community; significant events in the community's history (for example, how it got its name), major changes or shocks (natural disasters, closure/opening of factories, collapse/creation of markets, intra-community movements).
2. Interesting beliefs, customs and traditions.
3. History of a problem of concern to the community.
4. Description of how the community solved problems in the past and solves problems in the present.
5. Hazard assessment – what is the frequency, scope, severity and duration of the main hazards that affect the community? How is the community impacted by these events and how do people cope?

C. PHYSICAL PROFILE (*secondary data from statistical or surveys department and primary data sources including community asset mapping, transect maps, semi-structured interviews*)

1. Size, layout, topography and boundary of the community.
2. Distance from major town/city (km).
3. Indication of land use (agricultural plots, commercial/industrial businesses, residential, institutional, etc.).
4. Location of local water supply source or water wells.
5. Is there piped treated potable water to each household?
6. How is sewage collected, treated and disposed?
7. How is solid waste collected and disposed?
8. Is there electricity available to the community?

9. Is there potential for renewable on-site generation of electricity (e.g. solar, wind, biomass, hydroelectricity, etc.)?
10. Number of months of the year/times of day the community is accessible by road/air/sea/river
11. How often do public buses travel to the town/city?
12. Other means of transportation to city/town, and frequency/cost of service?
13. Accessibility to natural resources (wetland, lake, forest, coral reef, heritage site/artifacts, park, waterfall, beach, gullies and ghauts, unique flora and fauna, etc.)
14. Significant existing or previous environmental issues or natural hazards (floods/flood prone areas, landslides, wind damage, pollution/contamination, waste disposal- solid waste, sewage, chemical/hazardous material storage areas, etc.)
15. Other environmental problems affecting the community
16. Are there specific areas of the community that are most affected by natural hazards?
    (i) Which natural resources are most affected and how? (e.g. water, soil, trees, fuel for fire, fish stocks, etc).
    (ii) How do the natural resources help to mitigate the effects of hazards? Does the degradation of the natural resources exacerbate the impacts of hazards?
    (iii) Which physical assets are most affected by natural hazards and how (building, water supply, roads, power, etc)? How does this impact the community?
17. Does the community have any of the following plans: disaster preparedness and response plan; a hazard mitigation plan; early warning system?
18. Description of the standard of housing, public buildings/spaces, derelict buildings
19. Description of basic infrastructure/facilities/amenities in/near the locality (road, drainage, water and sanitation system, sewerage and waste disposal system, electricity, telephone, etc.)

D. ECONOMIC PROFILE (*secondary data from statistical department on poverty and unemployment; primary data including community resource maps, gender resource maps, wealth ranking*)

1. Main economic/productive activities in the area (industry, agriculture, tourism, services).
2. Is/are the main industry(ies) growing or shrinking? What are the factors contributing to this? Is the main industry sensitive to/affected by climate related hazards/changes?
3. What skills do women have? How do women earn a living?
4. What skills do men have? How do men earn a living?
5. How are livelihood activities affected by climate hazards? Which activities are the most/least affected?

6. Has the community set up a skills bank?
7. What other types of occupation or skill would women be interested in if they had a choice?
8. What other types of occupation or skill would men be interested in if they had a choice?
9. What opportunities are there for self-employment and apprenticeship attachments for at risk young men and women?
10. What is the level of unemployment (for women/men/disabled) in the community?
11. How do people (women and men) who are unemployed manage?
12. What economic activities are located near to the locality?
13. Is there access to markets?
14. Do men/women/youth travel significant distances to work?
15. Do people (men and women) migrate/go outside the community to work?
16. Do migrants maintain connections with the community?
17. Do migrants send remittances to assist with family upkeep?

E. SOCIAL PROFILE (*secondary data from statistical department on population; line ministry with remit for social services; Country Poverty Assessment; and primary data including key informant interviews, transect walk, focus group meetings, semi-structured interviews*)

1. Number of residents [seniors (65 years and over, adults, youth (15-24 years), children (14 years and under) disaggregated by sex].
2. Number of families/households (by sex of head of household).
3. Number of single heads of household (sex/age/disabled).
4. Number of households with access to piped water (or amount of time to get to water source).
5. Who has primary responsibility for collecting water (men, women, girls, boys).
6. Number of households with access to indoor/outdoor toilets.
7. Racial and ethnic origins and composition of the population of the community (Afro Caribbean, Indo Caribbean, indigenous, non-belongers, immigrant, others).
8. Increase/decrease in population and reasons.
9. Who is most affected by natural hazards? How (e.g. killed, injured, affected by illness post-impact (disease), displaced, traumatised)? How are the impacts different across groups – e.g. how are women, youth, elderly or disabled affected?
10. What are the major health issues (related to water availability and quality, garbage disposal, mosquitoes, dust, other)? How are these affected by climate hazards?

11. What are the major social problems facing the community (drugs, alcoholism, gang conflicts, crime, citizen security, unemployment/youth unemployment, teenage pregnancy, domestic/gender-based violence, road fatality, religious intolerance)?
12. What relationships/causal connections do community members see among the social issues (for example, unemployment/drug abuse; crime/domestic violence; poverty/community conflict)?
13. Does the community have the following infrastructure/social services:
    (a) Nursing/medical station/clinic;
    (b) Childcare centre;
    (c) Schools (elementary, primary, secondary);;
    (d) Library
    (e) Police station;
    (f) Women's shelter;
    (g) Children services;
    (h) Sport facilities;
    (i) Buildings for religious worship;
    (j) Public transportation services;
    (k) Community centre/youth-friendly space/adult education centre/Multipurpose Centre;
    (l) Emergency Shelters;
    (m) Open air/recreational spaces;
    (n) Piped potable water;
    (o) Sewage collection, treatment and/or disposal; and
    (p) Solid waste collection and/or disposal
14. Availability of community social services (school, health, security, etc.) in terms of distance from households, and cost of transportation, suitability of opening hours.
15. Is there a social services directory with access points identified/mapped?
16. Are the services adequately equipped and staffed?
17. Number of community organizations/groups and the services they provide -perceptions of effectiveness and relationships/links established between local and external groups.
18. Which of these relationship/groups are most effective at helping people to cope with natural hazards (pre- and post- impact)? How are community relationships and/or groups affected by natural hazards?
19. Who are the persons (men and women) regarded as leaders (having influence and authority)?
20. What do persons (women and men) like about their community?
21. What do persons (women and men) dislike about their community?
22. What is the extent of the sense of community and efficacy, that is, 'we' feeling or 'we can do it/make a difference' attitude?
23. What are the perceptions of community problems (by males/ females, youth, adults, elderly, differently able)?
24. Which months of the year/times of day are men and women available for community activities?

25. What services need to be provided to ensure participation (e.g. child care services for women/ single mothers, meals/refreshments; stipend to assist with transportation to/from site)?
26. Who (women/men/youth) can provide voluntary contributions for community projects?
27. Who (youth/women/men) will benefit most from paid work and skills training?

F. REPRODUCTIVE PROFILE (*primary data on unpaid household work from household interviews, activity/daily calendar*)

1. Average number of household members (sex/age/disability.)
2. Who (man/women/age) is responsible for reproductive, household tasks (which someone else can be paid to do)?
3. Who (men/women/age) is responsible for caring for the children/elderly/disabled/PLWHA?
4. Is the ability of primary caregiver to work outside the home limited by their responsibilities?
5. How is childcare provided for working caregivers (another family member-(paid or unpaid), older siblings of school age (male or female), neighbours, and daycare)?
6. What is the cost of daycare?
7. Is the quality and availability of childcare a major concern for working parents?
8. Is assistance available to care for the elderly/disabled/PLMHA?
9. What are these forms of assistance, the amount provided and the ease of access?
10. How do women spend their leisure time?
11. How do men spend their leisure time?

G. DECISION-MAKING & ACCESS/CONTROL (*primary data on unpaid household work from household interviews, activity/daily calendar*)

1. What is the representation of men and women on the elected village council?
2. Who are the key decision-makers/opinion leaders in the community?
3. Who (men/ women/ youth and socio-economic group (upper, middle, lower) has access to and control over the following resources/benefits in the community?

Resources/benefits	**Men**	**Group**	**Women**	**Group**	**Youth**	**Group**
Land use (land, forests, rivers, lakes, ponds)						
Community buildings						
Equipment						
Employment						
Education/training						
Money						
Credit						
Access to social services						
Other (specify)_____						

4. Who makes the major decisions at the level of the household (men/ women/elders/youth/ jointly)?
5. Who has access to and control over the following resources/benefits in the household?

Resources/benefits	**Men**	**Women**	**Youth**
Land use			
Equipment (including cars, trucks etc.)			
Hired labour			
Employment			
Education/training			
Money			
Credit			
Transportation services (ownership of car/bicycle/trucks etc.			
Time			
Leisure			
Membership in organisations/ social networks			
Access to social services			
Other (specify)_____			

6. Do men and women agree on who makes the major decisions at the level of the household?

H. DEVELOPMENT PROFILE

1. What is the community's vision for the future?
2. What is the community's awareness of issues, concerns, ideas about the community's development?
3. What do women describe as prioritised needs/challenges?
4. What do men describe as prioritised needs/challenges?
5. What is the impact of challenges on men?
6. What is the impact of challenges on women?
7. What needs to be done to solve the problem?
8. What initiatives have the community taken to solve the problem?
9. What capacity does the community have to solve the problem?
10. What do they need help with to solve the problem?
11. Are persons willing to become involved/ or what would motivate their involvement?
12. Who and what should be involved?
13. Is there an elected council/local government body?
14. What is the representation of men, women and youth on the council?
15. Who (men/women) are the key decision-makers/opinion leaders?

16. What is the relationship between the council and the community (harmonious, tense, adversarial)?
17. What other organisations are active in the community?
18. Are they registered bodies and do they partner with external agencies?
19. Who are the active members in these organisations and what socio-economic groups do they represent?
20. Are there specific community groups which are responsible for environmental issues and disaster risk reduction?

I. CLO's REPORT TO THE OVERSIGHT COMMITTEE

Brief (½ page) outline of the approach and methods used in the CNAA process and in the compilation of the sub-project proposal/outline. The participation of all segments of the community: men, women, youth, elderly, disabled, people living with HIV/AIDS, (PLWHA) etc., in identifying the sub-project is essential for the long-term success of the sub-project. Specify:

1. Sources of secondary data
2. Participatory tools used
3. Amount of time spent in the community/date(s) of visit(s)
4. Dates of community consultations/focus group meetings and number of persons in attendance disaggregated by sex/age
5. Name(s) of partner organisation(s) involved.

Provide a stakeholder analysis including the following:

1. groups, associations, institutions, individuals and their relationships within the community and their external linkages (*Venn Diagrams*)
2. sense of co-operation
3. social capital/relationships of trust, partnership and collaboration
4. community networks
5. participation by a representative cross-section of community members in community activities
6. motivation and commitment
7. leadership (by men/women/youth)
8. governance (structures, rules, roles, and procedures to aid democratic decision making (consensus)
9. Capacity of community organization(s) to identify and solve problems.

Identify the criteria for selection of sub-project

1. Why was the sub-project selected as the main priority in the community?
2. Name two other top priorities listed by the community and why the sub-project was considered a greater priority?
3. List any additional sub-project components that need to be considered to enhance the sustainability of the sub-project proposed (whether or not these can be addressed within the scope of the existing sub-project, or need to be raised with other funders/stakeholders)
4. What are the key challenges, related issues identified by the community members?
5. What are the impacts of natural hazards on the community?
6. What are the possible solutions identified by the community members?
7. Is there general consensus in the community on these challenges, issues and solutions?
8. Do you have a sense that you have heard from a broad cross-section of the community?
9. What are the dissenting views on the project?
10. In your opinion, what are the main challenges that may arise in the process of implementing the BNTF sub-project?
11. What measures could be put in place to address these challenges?
12. In your view, will the sub-project enhance the community's ability to organize to address the challenges facing them?
13. What, if any, additional support could BNTF provide to enhance this process?
14. What, if any support could BNTF provide to empower the most vulnerable groups?
15. What, if any support could BNTF provide to mainstream gender?

The executive summary of the CNAA (maximum length 2 pages) will be included in the submission to the Oversight Entity (OE). The CLO may be requested to provide additional background or supporting evidence.

J. OTHER MATTERS

The CLO should be aware that the community may require multiple interventions to significantly impact poverty, and so should consider the possibility of an integrated community Sub-Project involving a number of interrelated activities, for example the rehabilitation of a road to a market place, combined with renovation of the market place and an associated upgrade of its water supply system. Climate risks may diminish the intended outcomes of the sub-project, and therefore the CNAA should be used to highlight specific activities that could be integrated into the sub-project to ensure that the project is able to deliver its

intended outcomes. An integrated community sub-project should be outlined but may require a broader group of funders depending on the magnitude and scale of the identified sub-activities.

It is the responsibility of the CLO to ensure that all segments of the community, especially those who have historically been marginalized (women, youth, unemployed, elderly, PLWHA, elderly women and men, ethnic minorities, disabled etc.), are also involved in the subsequent stages including sub-project design, project implementation and operation, decision-making, and skills training. Broad participation will ensure that ownership is widely shared and that the results of the sub-project are more sustainable. Community involvement may take the form of participation on decision-making bodies; contributions of labour (manual labour for construction, cooking food for participants or providing day care services the children of labourers).

Additionally, as part of the participatory community development approach, other community actions can be considered:

1. Facilitating the strengthening of community groups thus creating new institutional arrangements at the community level to be able to manage and sustain development prospects, as well as define and implement solutions that can help to promote community capacity to cope with climate related hazards.
2. Assisting the community with project design and proposal writing, and determining appropriate engagement modality with prospective funding agencies.
3. Ensuring that the requisite support and resources necessary to aid the community's action plan is available prior to the research and becomes a reality within a short period of time.

APPENDIX 4. ENVIRONMENTAL SCREENING CHECKLIST

SCREENING CHECKLIST SUMMARY

BASIC PROJECT INFORMATION **Date:** dd / mm / yyyy

1) Name of Sub-project:				
2) Purpose of Sub-project				
3) Is the Sub-project:	[ ] *an expansion of an existing project* [ ] *a new project*		[ ] *a replacement of an existing facility in a different location* [ ] *a replacement of an existing facility in the same location*	
4) Description of Sub- project:				
5) Location of sub-project: (Also provide map):	*(Street)*			
	(Town and Parish/District)			
6) Physical dimensions and scale of the sub-project:	a) Site area to be developed: ____ hectares;	b) Building height(s) proposed: _____m;	c) Footprint of proposed building: _____m^2	d) Length of proposed pipeline, road, drain, etc.: _____m
7) Names of adjoining property(s)/owner(s)				
8) Addresses of adjoining property owners:				
9) Uses of adjoining properties (industrial, commercial, residential, institutional, agricultural, etc.)				

CHECKLIST ISSUES SUMMARY PARAGRAPH *(to be completed after completion of the Environmental Screening Checklist for the sub-project)*

1) Are there major issues identified with the sub-project? If yes, list them.	
2) Are there minor issues identified? If yes, list them.	
3) Will there be any additional minor or major issues in the future as a result of climate change risk that need to be considered now?	
4) Is more EIA required before moving the project forward for financing?	

5) Will a CVRA be required before moving the project forward for financing?	
6) Attach any other additional information as may be needed to clarify your sub-project.	

PREPARER'S NAME: _____PREPARER'S ADDRESS:_____

Telephone	Fax	Email

PREPARER'S SIGNATURE: TITLE:

REPRESENTING:

ENVIRONMENTAL SCREENING CHECKLIST

Depending on the response to the questions below, there may be a need to modify the sub-project design to reduce impacts, undertake additional site-specific investigations, put mitigation measures in place, carry out further detailed investigations, prepare a detailed ESMP or undertake an ESIA. The response to each question will indicate either that an adverse environmental impact is unlikely, or that there is potential for an adverse environmental impact. For the latter, the user is referred to the specified environmental guideline in Appendix 4 for more information and guidance. The number of the environmental guideline to be referred to is specified in the subject heading. An **Unknown** response indicates the need to collect additional information so that a definitive response can be given. A NA (Not Applicable) response is used if the question is deemed to be irrelevant for the sub-project under consideration.

Issue	**Refer to specified environmental guideline**		**Impact Unlikely**	
1) CONSIDERATIONS OF NATURAL AND MANMADE HAZARDS (GUIDELINE #1)				
a) Is the site vulnerable to major natural hazards such as:				
i. Landslides	☐ Yes	☐ Unknown	☐ No	☐ NA
ii. Flooding	☐ Yes	☐ Unknown	☐ No	☐ NA
iii. Storm surge	☐ Yes	☐ Unknown	☐ No	☐ NA
iv. Severe wind damage (associated with hurricanes, tropical storms or other weather systems)	☐ Yes	☐ Unknown	☐ No	☐ NA
v. Coastal erosion	☐ Yes	☐ Unknown	☐ No	☐ NA
vi. Volcanic eruptions	☐ Yes	☐ Unknown	☐ No	☐ NA
vii. Earthquakes	☐ Yes	☐ Unknown	☐ No	☐ NA
viii. Tsunamis	☐ Yes	☐ Unknown	☐ No	☐ NA
ix. Sea level rise	☐ Yes	☐ Unknown	☐ No	☐ NA
x. Drought; Fire	☐ Yes	☐ Unknown	☐ No	☐ NA
xi. Other (specify):_____	☐ Yes	☐ Unknown	☐ No	☐ NA
b) Are any of these natural hazards likely to increase under climate change?	☐ Yes	☐ Unknown	☐ No	☐ NA
i. Landslides	☐ Yes	☐ Unknown	☐ No	☐ NA
ii. Flooding	☐ Yes	☐ Unknown	☐ No	☐ NA
iii. Storm surge	☐ Yes	☐ Unknown	☐ No	☐ NA
iv. Severe wind damage (associated with hurricanes, tropical storms or other weather systems)	☐ Yes	☐ Unknown	☐ No	☐ NA
v. Coastal erosion	☐ Yes	☐ Unknown	☐ No	☐ NA
vi. Sea level rise	☐ Yes	☐ Unknown	☐ No	☐ NA
vii. Drought	☐ Yes	☐ Unknown	☐ No	☐ NA
viii. Other (specify):_____				
c) Is the site vulnerable to major human induced hazards such as:				
i. Fire	☐ Yes	☐ Unknown	☐ No	☐ NA
ii. Explosion	☐ Yes	☐ Unknown	☐ No	☐ NA
iii. Chemical or oil spill	☐ Yes	☐ Unknown	☐ No	☐ NA
iv. Other (specify):_____				
d) Is there an emergency response plan (including evacuation plan) for the completed facility?	☐ Yes	☐ Unknown	☐ No	☐ NA

Issue		Refer to specified environmental guideline		Impact Unlikely	
For Rural Roads					
e)	Is the road gradient likely to be very steep?	□ Yes	□ Unknown	□ No	□ NA
f)	Is there any past record of landslides, or land slippage along the route/right-of-way?	□ Yes	□ Unknown	□ No	□ NA
g)	Is there any possibility of increased landslides with changing rainfall patterns under climate change?				
h)	Is there any past record of flooding along the route/right-of-way?				
i)	Is there any possibility of increased flooding with changing rainfall patterns or more intense hurricanes and tropical storms under climate change?				
2)	**PRESERVATION OF CULTURAL PROPERTY (GUIDELINE #2)**				
a)	Is the sub-project site within or adjacent to any areas of historical, religious, traditional, or cultural significance?	□ Yes	□ Unknown	□ No	□ NA
b)	Will the sub-project operation disturb any traditional activity on adjoining or nearby properties?	□ Yes	□ Unknown	□ No	□ NA
c)	Will the sub-project expose areas of historical significance to looters?	□ Yes	□ Unknown	□ No	□ NA
3)	**PRESERVATION OF LAND USE/IMPACT OF ADJOINING USES (GUIDELINE #3)**				
a)	Is the project area zoned for the intended use?	□ No	□ Unknown	□ Yes	□ NA
b)	Will the sub-project affect existing land uses around the site during operation (for instance, will run off from the sub-project affect nearby farmland)?	□ Yes	□ Unknown	□ No	□ NA
c)	Will nearby activities in surrounding areas adversely affect the sub-project (for instance, noise, run-off, air/exhaust emissions from surrounding land uses)?	□ Yes	□ Unknown	□ No	□ NA
For Rural Roads					
d)	Will the new road significantly increase access to areas/resources that were once largely inaccessible to the general public?	□ Yes	□ Unknown	□ No	□ NA
e)	Is this increased access likely to place pressure on local natural resources and wildlife?	□ Yes	□ Unknown	□ No	□ NA
f)	Is the new road likely to cause an increased demand for new permanent residences and businesses in the community?	□ Yes	□ Unknown	□ No	□ NA
g)	Is the presence of the new road likely to cause an influx of visitors/tourists into the community?	□ Yes	□ Unknown	□ No	□ NA
h)	Will the new road affect community cohesion?	□ Yes	□ Unknown	□ No	□ NA
i)	Will the new road pose a safety risk to children in schools, day care centres and in nearby homes (for example, potential for increases in car accidents in areas where children play)?	□ Yes	□ Unknown	□ No	□ NA
j)	Will the new road result in the use of vehicles with excess tonnage?	□ Yes	□ Unknown	□ No	□ NA
For Footpaths		□ Yes	□ Unknown	□ No	□ NA
k)	Is the right-of-way selected for the footpath likely to have significant vegetation overhang that may hamper drying after rain events?				
l)	Is there a strong likelihood that heavy vehicles may attempt to operate on the footpath?	□ Yes	□ Unknown	□ No	□ NA
m)	Will the footpath increase access to previously private portions of residential property?	□ Yes	□ Unknown	□ No	□ NA

Issue	Refer to specified environmental guideline		Impact Unlikely	
For water supplies				
m) Will the new system divert the flow of water from existing springs, etc. currently used by local residents?	☐ Yes	☐ Unknown	☐ No	☐ NA
n) If yes, is the diversion likely to have an adverse impact on local users (e.g., loss of irrigation water for farmers in dry season)?	☐ Yes	☐ Unknown	☐ No	☐ NA
o) Are water users already experiencing seasonal shortages as a result of drought conditions and is this likely to worsen in the future with projected climate change?				
4) PRESERVATION OF SPECIES AND NATURAL SPACES (GUIDELINE #4)				
a) Is the sub-project site part of a protected or environmentally sensitive area?	☐ Yes	☐ Unknown	☐ No	☐ NA
b) Does the sub-project encroach on tropical rain forests, wetlands, mangrove forests, coral reefs, coastal zone or other vulnerable areas?	☐ Yes	☐ Unknown	☐ No	☐ NA
c) Does the sub-project involve significant removal of vegetation cover?	☐ Yes	☐ Unknown	☐ No	☐ NA
d) Will the project require sourcing of significant quantities of aggregate material?	☐ Yes	☐ Unknown	☐ No	☐ NA
For linear developments:				
e) Is the sub-project right-of-way/route/corridor likely to bisect or cross a protected area or environmentally sensitive area?	☐ Yes	☐ Unknown	☐ No	☐ NA
f) Is the sub-project's right-of-way/route/corridor likely to affect:				
- the habitats of fish?	☐ Yes	☐ Unknown	☐ No	☐ NA
- habitats of wildlife species including endangered species?	☐ Yes	☐ Unknown	☐ No	☐ NA
- wildlife or livestock movement /crossing patterns ?	☐ Yes	☐ Unknown	☐ No	☐ NA
5) COMMUNITY AND GENDER ISSUES (GUIDELINE #5)				
a) Will the amenity, values, safety or lifestyle of the women/ men/ youth/ elderly/ differently-able members of community be adversely affected?	☐ Yes	☐ Unknown	☐ No	☐ NA
b) Will residents, businesses or important community facilities require relocation?	☐ Yes	☐ Unknown	☐ No	☐ NA
c) Will the new road affect community cohesion?	☐ Yes	☐ Unknown	☐ No	☐ NA
d) Will the project affect the livelihood of women/men negatively?	☐ Yes	☐ Unknown	☐ No	☐ NA
e) Have only males been consulted in project design and operation?	☐ Yes	☐ Unknown	☐ No	☐ NA
f) Is the location accessible by the common means of public transportation used in that area?	☐ No	☐ Unknown	☐ Yes	☐ NA
g) Will there be equal opportunities for access to jobs in the project construction and operational phases?	☐ No	☐ Unknown	☐ Yes	☐ NA
6) BUILDING ISSUES (GUIDELINE #6)				
a) Will the absence of essential services in the community, such as electricity, water, access, drainage and/or proper sewage disposal, be a problem for the facility in question?	☐ Yes	☐ Unknown	☐ No	☐ NA
b) Will the additional demand for services by the new facility adversely affect the availability of existing services to the community?	☐ Yes	☐ Unknown	☐ No	☐ NA

Issue	Refer to specified environmental guideline		Impact Unlikely	
c) Will the renovation activities at an existing building expose building users, occupants, neighbours or workers to hazardous building materials such as PCBs, asbestos, mold, lead paint, rat/bat issues, etc.?	☐ Yes	☐ Unknown	☐ No	☐ NA
d) Will the project result in any unsafe physical working conditions such as poor sanitation, excavation, working for height, and working with heavy equipment, etc.?	☐ Yes	☐ Unknown	☐ No	☐ NA
e) Will the building be susceptible to wind damage as a result of hurricanes or tropical storms?	☐ Yes	☐ Unknown	☐ No	☐ NA
For drains				
f) Will the seasonal flow create conditions of stagnant water?	☐ Yes	☐ Unknown	☐ No	☐ NA
g) Is the new drain likely to change the normal flow of water run-off in the community?	☐ Yes			
h) Will the new drain be large enough to handle water run-off from extreme precipitation events as a result of projected climate change?		☐ Unknown	☐ No	☐ NA
7) CONSTRUCTION ISSUES (GUIDELINE #7)				
a) Will the construction work generate significant amounts of dust, odour or noxious gases that are likely to disturb local residents (reproductive and informal activities) and businesses?	☐ Yes	☐ Unknown	☐ No	☐ NA
b) Will the construction work cause a noise nuisance due to the operation of heavy machinery and other on-site activities?	☐ Yes	☐ Unknown	☐ No	☐ NA
c) Will the construction work produce significant amounts of runoff, change drainage patterns and/or erosion?	☐ Yes	☐ Unknown	☐ No	☐ NA
d) Will the construction work disrupt traffic (pedestrian and vehicular)?	☐ Yes	☐ Unknown	☐ No	☐ NA
e) Will the construction of the sub-project affect access to existing land uses (for example, will the movement and location of heavy equipment, trenching, etc. for rural roads, large drains, interfere with access to private property)?	☐ Yes	☐ Unknown	☐ No	☐ NA
8) WASTE MANAGEMENT – SOLID, HAZARDOUS AND SEWAGE (GUIDELINE #8) a) Is there a plan to compost, recycle, reuse and reduce and/or properly dispose of wastes generated?	☐ No	☐ Unknown	☐ Yes	☐ NA
b) Will the project generate sewage and/or include a waste water treatment solution?	☐ Yes	☐ Unknown	☐ No	☐ NA
c) Will this waste water treatment facility likely to be affected by backflow as a result of increased flooding due to projected climate change?				
d) Will construction and/or operation of the project cause significant changes to the receiving environment's water resources and/or area drainage patterns (on-site or off-site, short term or long term)?	☐ Yes	☐ Unknown	☐ No	☐ NA
e) Could these changes be exacerbated by climate change (i.e., water resources may be more stressed as a result of drought conditions, drainage patterns may be disrupted by increased run-off>				
f) Is the proposed site within the catchment area for regular collection and disposal of municipal solid waste?	☐ No	☐ Unknown	☐ Yes	☐ NA
g) Will the project involve the buildup or accumulation of waste from project activities?	☐ Yes	☐ Unknown	☐ No	☐ NA
h) Will the project involve the use of hazardous materials e.g. chemicals, pesticides, poisonous gases?	☐ Yes	☐ Unknown	☐ No	☐ NA

Issue	Refer to specified environmental guideline		Impact Unlikely	
i) Will the facility operation generate special waste streams that require special handling (e.g. biomedical waste, waste oils)?	☐ Yes	☐ Unknown	☐ No	☐ NA
j) Will the project be located in a polluted or contaminated area or close to a waste dump site?	☐ Yes	☐ Unknown	☐ No	☐ NA
For Water Supplies k) Is there a plan for management and disposal of hazardous material/waste generated by the facility (e.g. chlorine, diesel, generator oil, used oil)?	☐ No	☐ Unknown	☐ Yes	☐ NA
l) Is there a plan for accidental spills management?	☐ No	☐ Unknown	☐ Yes	☐ NA
For Pre-Schools and Day Care Centres m) Is there a plan for disposing of diapers and other soiled material?	☐ No	☐ Unknown	☐ Yes	☐ NA
For drains n) Is the drain located in an area where there is a strong likelihood that it will become a repository for litter and other solid wastes?	☐ Yes	☐ Unknown	☐ No	☐ NA
o) Is the drain sub-project intended to transport grey wastewater and sewage from homes?	☐ Yes	☐ Unknown	☐ No	☐ NA
p) Is the drain likely to negatively impact existing users of the receiving water body (e.g. at locations where the water may be used for washing, fishing, bathing)?	☐ Yes	☐ Unknown	☐ No	☐ NA
q) Is there a potential for contamination of soil around the existing drain?	☐ Yes	☐ Unknown	☐ No	☐ NA
9) LOCATION CONSIDERATIONS (GUIDELINE #9) a) Is the location suitable for appropriate site landscaping or possible future expansion?	☐ No	☐ Unknown	☐ Yes	☐ NA
b) Is the location suitable for installation of solar heated water?	☐ No	☐ Unknown	☐ Yes	☐ NA
c) Is the location suitable for use of renewable energy technologies (solar, wind)?	☐ No	☐ Unknown	☐ Yes	☐ NA
d) Is the location suitable for installation of rainwater harvesting?	☐ No	☐ Unknown	☐ Yes	☐ NA
e) Is the location suitable for treated wastewater or grey water re-use?	☐ No	☐ Unknown	☐ Yes	☐ NA
f) Is the location easily accessible for differently-able (physically challenged) individuals?	☐ No	☐ Unknown	☐ Yes	☐ NA
g) Is the location suitable for easy and safe access for the majority of female/ male users?	☐ No	☐ Unknown	☐ Yes	☐ NA
h) Can the facility be easily made safe and secure for female/ male users?	☐ No	☐ Unknown	☐ Yes	☐ NA
For Pre-Schools, Day Care Centres and Elementary Schools i) Is the location central enough to serve the community without requiring users to travel long distances?	☐ No	☐ Unknown	☐ Yes	☐ NA
j) Is the location safe enough so that older students may walk to and from school without needing to cross busy roads, etc.?	☐ No	☐ Unknown	☐ Yes	☐ NA
k) Is the lot large enough to provide recreational space for a playground that can accommodate slides, swings, etc.?	☐ No	☐ Unknown	☐ Yes	☐ NA
l) Is the lot large enough to provide space for a school garden?	☐ No	☐ Unknown	☐ Yes	☐ NA
m) Is the proposed day care centre site generally flat and free from deep drains, metal grills, embankments, or other natural land forms that pose risks to very young children?	☐ No	☐ Unknown	☐ Yes	☐ NA

Issue	Refer to specified environmental guideline		Impact Unlikely	
n) Will the proposed site be secured by fencing to provide protection against hazards such as heavy vehicle traffic?	☐ No	☐ Unknown	☐ Yes	☐ NA
o) Will there be an appropriate separation distance/buffer between the proposed day care centre and polluting industries?	☐ No	☐ Unknown	☐ Yes	☐ NA
For water supply systems				
p) Are there obvious signs of pollution including garbage, or other human, animal or agricultural wastes near or at the source of water supply?	☐ Yes	☐ Unknown	☐ No	☐ NA
q) Are drought conditions likely to be worsened by projected climate change thereby limiting seasonal water availability?				
r) Is the proposed water supply system located where it could be susceptible to damage from wind (tanks) or erosion due to extreme run off (pipes)?				
10) PUBLIC AND OCCUPATIONAL HEALTH AND SAFETY (GUIDELINE #10)				
a) Will construction workers be provided with hard hats and boots, and be required to wear them?	☐ No	☐ Unknown	☐ Yes	☐ NA
b) Will visitors to the sub-project construction site be provided with hard hats?	☐ No	☐ Unknown	☐ Yes	☐ NA
c) Will the site be secured during construction to prevent unimpeded public access and protect area users?	☐ No	☐ Unknown	☐ Yes	☐ NA
d) Will precautions be put in place during construction to protect area users (e.g. barriers, lighting, signage)?	☐ No	☐ Unknown	☐ Yes	☐ NA
e) Are construction workers trained and equipped with the required Personal Protective equipment (PPE) to undertake the tasks assigned to them?	☐ No	☐ Unknown	☐ Yes	☐ NA
f) Does the Contractor convene regular health and safety meetings with workers?	☐ No	☐ Unknown	☐ Yes	☐ NA
g) Are there separate washroom facilities, adequate restroom/eating areas and i a first aid kit on site, and are these freely accessible to workers when needed?	☐ No	☐ Unknown	☐ Yes	☐ NA
h) Is there an emergency response plan in the event of an accident on site?	☐ No	☐ Unknown	☐ Yes	☐ NA
For drains				
Are the existing unimproved drains being used for:				
i) Bathing	☐ Yes	☐ Unknown	☐ No	☐ NA
j) Washing clothes	☐ Yes	☐ Unknown	☐ No	☐ NA
k) Playing of young children	☐ Yes	☐ Unknown	☐ No	☐ NA
l) Fishing	☐ Yes	☐ Unknown	☐ No	☐ NA
m) Other (specify)	☐ Yes	☐ Unknown	☐ No	☐ NA
n) Is the proposed drain large enough such that swift water flow may pose a drowning hazard during heavy rains, tropical storms or hurricanes?	☐ No	☐ Unknown	☐ Yes	☐ NA

APPENDIX 5. ENVIRONMENTAL GUIDELINES

Contents

Introduction

These Guidelines are to be read in conjunction with Appendix 4, the *Environmental Screening Checklist*. Depending on the responses to questions in the *Environmental Screening Checklist*, the user is referred to these guidelines (as numbered below) for further information and guidance.

Guideline #1 – Natural Hazards

Sub-projects to be constructed must be able to withstand the effects of hazardous events (e.g. volcanic eruptions, hurricanes and storms, flooding, earthquakes, etc.). If hazardous events are a cause for concern the project should not proceed until these issues are adequately addressed. Where hazard maps are available, they should be consulted. Further, the potential impact of natural hazards on the sub-project must be assessed both for current conditions, as well as projected conditions under climate change. The best available data should be used to make reasonable assumptions around how impacts such as changes in precipitation and temperature, as well as drought, floods, storms and sea level rise may affect the sub-project in the future, and the degree of increased risk as a result of climate change and increasing vulnerability of those affected.

Available hazard information to inform design

Natural hazards

For sub-projects located in communities that are prone to natural hazards such as flooding and landslides, the IA should consult the local community and relevant government agencies including those responsible for i) public works, ii) disaster/emergency management, iii) physical planning and iv) environmental management for information on the impact of historical events in the area, and advice on the suitability of the selected site for the proposed use. This should be done after the Community Liaison Officer's (CLO) initial site visit. The community and/or agency(s) may recommend changes to the sub-project design to improve the resilience of the project to known hazards, as well as future potential risk, or that it not be sited there at all.

Tsunamis are usually triggered by underwater earthquakes, and there may be very limited warning time between an earthquake and the arrival of the first tsunami wave. Work in the region is still in its infancy, and site-specific information on tsunamis risk and severity is virtually non-existent. At this time, the same precautions that apply for storm surge should be used, and evacuation plans in coastal areas should specifically include a tsunami response.

Although Montserrat is the BNTF country most vulnerable to volcanic eruption at this time, other countries also have volcanic activity that must be monitored, and this information should inform site selection. The agency responsible for disaster/emergency management will advise if there are possible concerns.

For road or path development, the CLO should consult with local residents as well as public agencies to determine if there is any history of landslides/slippage along the proposed right-of-way. Road construction, depending on design specifications (gradient, drainage, etc.), can weaken existing embankments if best industry practices are not applied. Once weakened, the embankment may erode over time or may collapse suddenly during a tropical storm or hurricane or other intense rainfall event, resulting in life threatening washouts or mudslides. For a road or path, the agency may recommend changes to the proposed route to reduce vulnerability to known hazards.

The IA should verify with the Design Consultant that suitable hazard mitigation measures are incorporated

into the sub-project design, including all appropriate recommendations received from the relevant government agencies and community.

Manmade hazards

Building usage will determine the risk for fire, explosion, spill or other manmade hazards. This may be the building that is being constructed under the sub-project, or uses in the vicinity of the sub-project. Buildings in close proximity to chemical or fuel storage sites and industrial plant, will be at a greater risk. Of the BNTF focus sectors, the greatest risk in relation to manmade hazards will be faced at water treatment sites where chemicals and/or fuel may be stored. School laboratories may also pose some level of risk. Mitigation measures will include how materials are handled and stored, and location of and ease of access to information on their handling and of PPE required.

Climate change impacts

The region is vulnerable to the impacts of climate change. In most BNTF countries, hurricanes and other cyclonic activity are expected to increase in severity, resulting in stronger winds and more intense rainfall events, which in turn will result in more extreme flooding events. Sea level is expected to rise, exacerbating the impact of storm surge in coastal areas. Also projected is an increase in drought conditions for the Caribbean which will have an impact on water security for communities. A number of countries have developed climate change adaptation policies and plans, and these should be referred to and complied with in the selection of sites and in the design of proposed facilities to better mitigate climate change impacts.

Guideline #2 – Preservation of Cultural Property

The chosen sub-project site or route should always be examined during the site visit to determine whether it is within or traverses areas of heritage or historical significance. In instances where a new or improved road allows access to historical sites of interest, visitors from the rest of the country as well as foreign tourists may now travel unimpeded to the area. There may also be concerns of security regarding possible looting of historical sites as they become better known and more easily accessible. Agencies with responsibility for heritage conservation should be consulted for further information. The local community should be consulted by the IA to indicate whether the chosen site is of religious, heritage, architectural, traditional, or cultural importance to them. If so, construction should only proceed if these values will not be negatively impacted. Otherwise, the IA should request that the Design Consultant undertake an EIA or consider an alternative site or route.

During constructions artefacts may be uncovered. Construction should be halted and agencies with responsibility for heritage conservation consulted as to how best to proceed.

Guideline #3 – Preservation of Land Use/Impact of Adjoining Uses

The location and design of the sub-project should not have significant adverse impacts on nearby properties and residents. The IA should avoid siting sub-projects in areas that will interfere with or threaten the survival of local commercial activities such as farming and fishing. For example, run-off from a sub-project should not adversely affect nearby existing farmlands. Conversely, the building sub-project should not be adversely affected by the activities of near-by establishments. For instance, day care centres should be located away from major roads where the air quality is likely to be poor and noise levels are likely to be high.

Roads

While a new rural road may provide the benefit of easier and faster travel to a community, it can also pose safety risks to some members of the community particularly small children. Local children accustomed to free play and free movement may have to compete for space with vehicles, especially when such roads run adjacent to school yards, day care centres, and neighbourhood play areas. Increases in vehicular traffic will result in increased emissions from exhaust and dust from both paved and, especially unpaved portions of the road.

Another potential impact of rural roads is the increased danger they pose to livestock and wildlife. In many rural areas livestock are allowed to graze and roam with a large degree of freedom. Constructing a new road and the associated increase in vehicle volume, size and speed may lead to accidents resulting in the death of valuable livestock and injury to drivers.

The construction of a new road not only improves access for local residents and landowners but may also improve the attractiveness of the area to individuals living elsewhere. New roads may encourage new families to move into the community. In instances where the road allows access to historical or natural sites of interest such as forts and waterfalls, visitors from the rest of the country as well as foreign tourists, may now travel unimpeded to the area.

Rural road sub-projects can significantly increase accessibility to previously remote and inaccessible areas. Increased access can result in more intensive natural resource exploitation and damage to sensitive ecosystems and habitat resources. When developing sites containing commercially viable species and sites that contain species of traditional value, consideration of the importance of these resources to the community should be guided by consultations with the local community. It is not unusual to see increased squatting or illegal cultivation in critical watershed areas with the development of new farm roads in nearby farm areas. Increased quarry development is another activity which is sometimes associated with new access roads in rural communities. Should the IA and community representatives view these as potential issues of concern, then the CLO should facilitate more extensive dialogue within the community to ensure that community stakeholders have a full understanding of the potential implications of the project. Authorities with responsibility for development control and for the conservation of natural resources should be engaged so that they are aware of the potential implications, should the project proceed, so that they may step up their monitoring activities accordingly.

Footpaths

If improperly sited or designed, footpaths could become slippery and pose a falling/tripping hazard to pedestrians. This is especially true in cases where:

- drainage in the footpath right-of-way allows water to be retained on the footpath, resulting in ponding; and
- the location of the footpath is such that excessive shading from vegetation overhead hampers the drying process after rain events.

If these issues are a concern then consultations should be held with the Design Consultant and the local community, as necessary, to discuss the location and design of the footpath.

Local residents may attempt to use footpaths as roadways, depending on their width and gradient. This could create a conflict in use while posing a significant risk of injury to pedestrians. If the footpath is intended solely for pedestrian use, then it should be designed with physical barriers, such as centre posts or an elevated solid medium, etc., that prevents vehicular traffic.

The right-of-way for footpaths should be selected in close consultation with the local community to ensure that it does not encroach on, or run too close to portions of residential properties where privacy is

paramount. Right-of-ways that are likely to compromise residential privacy may face significant public opposition. A footpath right-of-way can potentially interrupt or restrict certain existing land uses, for example, play areas used by local children. To avoid this, where possible, through consultations with both adults and children in the community, the right-of-way of the footpath should be aligned to avoid conflict with existing valued land uses.

Water supply

A supply of safe drinking water is important to ensure the health and safety of a community. Potable water supplies should conform to national and international standards for safe drinking water. Every effort should be made to protect sources of water supply from contamination. Groundwater and surface water can be contaminated in many ways, impacting human health and the environment. Contaminants can seep into groundwater, wash into surface water, or get deposited by rain or wind. Increased flooding due to climate change can increase the risk of contamination of water supplies. Contaminated water may carry chemicals or pathogens that can harm the local environment or human health. Bacteria and viruses may be found in sewage sludge, septic tanks, manure and runoff from agricultural operations. These contaminants are usually associated with surface water runoff. Chemical contaminants may come from run off from agricultural areas and waste dump sites.

If the water supply is from a surface source, such as a river or lake, the local community must be made aware of the location of the water source, so as to protect the headwaters from contamination caused by the dumping of wastes, run-off from farm operations, or leakage from nearby septic systems.

Water supply sub-projects could potentially affect the existing availability of water to a community by altering the flow of water from springs, etc. By channeling water into treatment systems and pipes, existing free flow available to local downstream uses for livestock or irrigation, for example, may be drastically reduced or eliminated. This can have a significant adverse impact on local residents. If these issues are of concern the IA should consult with the local water authority and the community on alternative sources of water, and/or alternative methods of providing water for existing downstream users. If the community demonstrates that the water diversion is likely to cause long-term or permanent hardship, then an alternative source of water should be sought. The water source may also be affected by projected changes in the rainfall patterns as a result of climate change. Past experience of drought as well as future projections should be considered.

Guideline #4 – Preservation of Species and Natural Spaces

Sub-projects should avoid destroying the habitat of significant species of vegetation and wildlife and significant natural spaces. Whether or not a species or a natural space is significant can be defined by the rarity of the species or its importance to the country and the local community. For example, the Saint Vincent parrot is an endemic, rare and endangered species, and any negative impact to its habitat could further harm the species and result in its extinction.

Some natural spaces may be considered environmentally sensitive, and should be avoided simply because of the high number of different species present (i.e. the area biodiversity), or because of the high sensitivity of the area to human activity. Examples of such areas include sea grass beds, mangrove swamps, coral reefs and freshwater recharge areas. These natural resources may also be a critical mitigation strategy against climate related natural hazards, and hence ensuring their preservation may also reduce climate impacts on the project. The IA should not proceed with developing a project at a site that encroaches upon, removes in whole or in a large part, or discharges any effluent that would adversely affect, any protected or environmentally sensitive area, natural space or area containing endangered species.

Another important consideration for these sub-projects is that of reducing unnecessary damage and

destruction of vegetation. In cases where the sub-project will result in clearing of land and cutting of trees, a plan should be developed for replanting as many trees as possible at the sub-project's site or along the infrastructure corridor.

Where the only suitable approach involves encroachment on, or locating adjacent to a small part or on the edge of a protected or environmentally sensitive area, or an area with endangered species, then the IA should hold discussions with the relevant regulatory body (agencies responsible for forestry, fisheries or environment) to review the appropriateness of the site for the proposed sub-project.

Some projects require significant quantities of non-renewable materials, in particular, aggregate. These may be in short supply locally, or may be extracted unsustainably or illegally, e.g. illegal removal of beach sand. It should be ensured that materials sources are acceptable.

Drainage and other linear projects

Care should also be taken to control pollutants in drains from reaching sensitive areas. Large drains may sometimes discharge into creeks, stream, rivers or the ocean. These drains, in addition to the water they transport, are a conduit for grey wastewater and sewage from households, sediments, pesticides and other contaminated runoff to the receiving water body. These drains can also become flooded during high rainfall events or with increased sea levels. For this reason, the water quality at the discharge point/outfall could be significantly altered, affecting fish and other aquatic species in its immediate vicinity. This deterioration in water quality could prevent community members from making use of traditional bathing, fishing or washing areas.

The IA and Design Consultant should consult closely with the local community, Ministries responsible for environment, agriculture and fisheries, and other relevant stakeholders such as environmental NGOs to ensure that an appropriate discharge point is selected. An EIA should be undertaken to assess the impact of the sub-project, in the case of large drains, on the receiving environment.

Linear sub-projects can fragment wildlife communities and migration corridors, farms, and unique environmental features such as wetlands. While it may not be possible to totally eliminate landscape fragmentation in constructing linear facilities, steps can be taken to avoid or to reduce certain effects or to mitigate the impact of others. Where possible, a new alignment should follow existing undeveloped road/ rights-of-way that are already in use within the community. Mitigation measures which may be used to reduce negative impacts on important ecosystems such as wetlands or mangroves may include the construction of bridges and/or the placement of culverts that will allow the free flow of water to continue to nourish a fragmented wetland, for example.

Guideline #5 – Community and Gender Issues

In keeping with the CDB's goals, all sub-projects should be free of gender discrimination. The community as a whole, both males and females, must be consulted and involved in the planning and design of the sub-project and the input and feedback provided by both should be considered. Both males and females should be given equal employment opportunities in the project construction and operation phases.

The IA should undertake extensive consultations with the men and women of the community to ensure that the sub-project will be beneficial to the community as a whole and that it will meet all their needs. It should also ensure that information is collected on the differential impacts of climate change on men and women.

The site chosen should be as conveniently accessible as possible to most of the community members that the facility is to serve, by the means of public transportation that are commonly used by the community. For example, if the community is dependent on buses as the primary means of transportation, locating a

health care centre outside of the bus route could create problems of access, especially for the elderly and for women who may not own a vehicle or are unable to operate one.

The construction of a new project or road could also have direct negative impacts on local residents. The preferred site or route could involve the displacement of homes, farms, businesses, recreational facilities, etc. Such potential displacements could result in conflict and public opposition to the sub-project.

Guideline #6 – Building Issues

Services

If the sub-project requires the construction of a new building, the location must have access to essential services such as drinking water, roads, drainage, electricity and septic systems:

(a) It should be possible for the sub-project to be connected to an existing drinking water system or to have accessible well water, so that it has sufficient water of a safe and acceptable quality for the users of the building sub-project. The demand resulting from connection of the sub-project to existing supplies should not adversely affect the availability of water to existing users. Further, the possibility of lower groundwater tables and/or increased flooding under climate change may compromise existing water sources and this should be taken into account.

(b) It should have a septic system or sufficient land where the installation of an appropriate septic system is possible. If the proposed sub-project site lacks such essential services or if significant costs or other constraints may delay or prevent easy access to these services, then the IA should consider alternative sites. Increased risk of waterlogging of land due to more intense storms and rainfall events, associated with climate change, will also need to be considered in the design of any septic system

(c) The construction of buildings and paved outdoor areas increases the volume of storm water runoff that comes from a site. An integrated drainage system which collects storm water from all on-site areas and channels it to dedicated discharge points should be an integral part of sub-project design. The design should avoid ponding and stagnant water in open areas. Stagnant water can attract insects such as mosquitoes that are prone to spreading diseases. If such mitigation is not possible an alternative site should be considered.

The agencies responsible for physical planning, health, public works, water and/or wastewater services should confirm the suitability of the site with respect to these various issues. Water and sanitation sub-projects should be designed to meet national and international standards for potable water and for the safe discharge of treated sewage to the environment.

Building design should also take account of possible wind damage from hurricanes. Projected climate change data should inform the maximum wind speed for which the building will be designed.

Working conditions

Construction is a risky occupation, and contractors are responsible for providing safe working conditions for workers. This includes provision of:

(a) appropriate sanitary conveniences (drinking water, toilets),

(b) equipment (such as ladders, scaffolds, mechanical equipment) that is in good working condition and equipped with appropriate safety features,

(c) shoring for excavations as necessary,

(d) PPE as required for assigned tasks, and

(e) Training as required to safely execute assigned tasks, in accordance with prescribed procedures.

It is highly recommended that construction of buildings use guidelines for "green building" standards, which reduce the carbon footprint, energy consumption, and reuse and recycle water, among other measures. The Leadership in Energy and Environmental Design guidelines may be consulted.

Demolition and renovation

If the sub-project involves the demolition, renovation or repair of an existing building, care must be taken to avoid exposure of occupants and construction workers to hazardous building materials, mold and rat/bat waste:

(a) Some older buildings may contain asbestos, a hazardous substance once used for insulation, piping, roofing and other construction materials. Asbestos can become airborne as it deteriorates, or during its removal. Inhalation of airborne asbestos is associated with severe respiratory illnesses.
(b) Many older buildings contain electrical equipment and fixtures that contain polychlorinated biphenyls (PCBs). Exposure to PCBs has been associated with adverse health risks ranging from skin irritation on direct contact to infertility, and neurobehavioral and developmental delay in children.
(c) Lead paint used in older buildings can be toxic if ingested.
(d) For older buildings that have been damaged by water either from flooding or leaking roofs, there is the potential for the growth of mold spores. Should mold spores become airborne they can cause respiratory problems.
(e) Rat and bat droppings may carry disease. Dust containing these can cause respiratory complications.

When any of the foregoing materials are likely to be encountered, relevant agencies including those responsible for environmental/public health, environment, solid and hazardous waste management should be consulted to obtain protocols to be instituted for safe removal, handing and disposal in accordance with national and best practice. These agencies should supervise the entire removal and disposal operation in the interest of the health and safety of all persons handling the materials as well as those who may be located in close proximity to any aspect of the operation. In particular, workers should be properly advised as to the handling risks of the specific material, the need for their adherence to the protocols to be applied, and they should be appropriately equipped to safely undertake the required tasks.

Drains

The construction of a new drain could potentially alter existing drainage patterns within a community by diverting water from areas that previously received runoff, while increasing runoff to other areas. This in and of itself is not necessarily an adverse environmental impact, if the intent of the drain design is to redirect existing runoff to alleviate flooding or other problems. However, a flawed drain design could also cause flooding or ponding in low-lying areas or adjacent areas. Drains, be they large or small, may be subject to seasonal flow patterns. During periods of low flow water may remain stagnant in the drains. Stagnant water can attract insects, such as mosquitoes which are known for infecting humans with diseases such as dengue fever. This problem can be further exacerbated if solid wastes such as beverage containers, plastic wrappings, tires, etc., food remains, are carelessly discarded in the drain.

The IA should consult with local government agencies such as the agencies responsible for physical planning and works, and community stakeholders on the proposed route for new large drains.

Guideline #7–Construction Issues

The construction of a sub-project has the potential to affect the receiving environment particularly soil, water and air (including noise), and interfere with traffic and access to neighbouring properties. If it is likely that the construction activity will significantly impact its surroundings, then an Environmental and Social Management Plan (ESMP) should be developed to mitigate the potential impacts. For small and relatively simple projects, this should be done by the IA and/or the Consultant, and imposed on the Contractor via the construction contract. For larger projects, a requirement to develop an ESMP should be imposed on the Contractor. The ESMP developed by the Contractor should be approved by the IA/Consultant in advance of commencement of construction works. Relevant Consultant and Contractor roles should be enshrined in their Contracts.

Soil

Activities such as de-vegetation and earth movements for land clearance and road construction can lead to serious soil erosion/sedimentation and land slips. Excavation on slopes can cause landslides. Construction waste, spoil and aggregate heaps can generate dust and sediment. Soil erosion can result in the loss of soils for agriculture. Sediment is often transported to nearby streams and gullies. The resultant sediment can destroy fish habitat in streams and coastal areas.

The following mitigation measures can be employed to control soil erosion and contamination:

(a) Undertake site-specific analysis to determine the potential for slope instability, especially on sites that are steeply sloping. Site specific analysis should also be undertaken to confirm that there is adequate soil bearing capacity for the placement of substantial building foundations.
(b) Abide by existing regulations or guidelines governing land clearance, blasting, or earthwork with respect to slope stability or erosion.
(c) Avoid clear-cutting trees and other vegetation to the greatest extent possible.
(d) Implement sediment control measures to prevent sediment runoff to surface water, e.g. cutoff drains, sediment traps and construction berms, to divert runoff away from the site area and to remove sediments from site runoff.
(e) Maximise the separation distance between construction staging areas and any nearby water bodies.

Air emissions

Construction activities such as grading, excavation and the movement of heavy machinery can generate a significant amount of dust. Apart from nuisance impacts associated with soiling clothing, vehicles, homes, etc., increased dust levels can aggravate the medical condition of individuals with respiratory illnesses such as asthma.

The following are mitigation measures that can be employed to avoid degradation of air quality:

- Abide by any existing regulations pertaining to air emissions.
- Minimize wind-blown dust during the construction phase by, for example, regular watering, especially during dry conditions.
- Avoid clear-cutting of trees and other vegetation to the greatest extent possible.
- Limit the quantity and height of piles of loose aggregate, sand and spoil at construction sites and cover with tarpaulins.
- Warn residents in the nearby locale.
- Cover construction materials that are being transported or stored to limit dust, particularly when

working in residential areas.

Noise

The operation of heavy construction machinery is a major source of noise nuisance. Noise can be mitigated through the construction of temporary barriers, by placing restrictions on the hours and on the locations where equipment can operate and by ensuring that all heavy machinery is equipped with appropriate mufflers.

Access

The staging of construction activities, the operation and location of heavy equipment and the relocation or removal of crossings/foot bridges can all alter access to homes and small businesses. If the interruption to access is likely to be permanent, alternate access should be provided. If the disruption is temporary as a result of construction, the Contractor should implement a plan to provide appropriate alternate access, taking the health and safety of the public into consideration.

Guideline #8 – Waste Management Issues – Solid, Hazardous, and Sewage

Beginning with the Community Liaison Officer's community/site visit, the IA should take steps, through observations and community and government agency consultations to verify the uses of fresh and marine waters within or adjacent to the proposed site. Water bodies should be protected to prevent any potential contamination that may be caused by the construction and/or operation of the subproject. To avoid the potential for water contamination, there should be no direct discharges of sewage to any water body.

Construction waste

Waste generated during construction can affect the environment or human health, or carry diseases which can be passed on through human contact with contaminated material or other environmental media or vectors such as contaminated soil, water, air, rodents, insects, etc. Construction waste must therefore be properly managed by the Contractor. This requires:

(a) installation of temporary toilet facilities for workers, unless the Contractor can demonstrate that facilities are available for use in close proximity. There should be 1 toilet for every 20 workers.

(b) provision of receptacles for collection of food waste generated by workers. This should be removed from the site intermittently and properly transported and disposed of.

(c) separation of construction wastes into streams that can be reused and those that require disposal. Reuse options (e.g. for plastics, paper packaging, aluminum, copper, used oil) will vary from country to country. In some countries, material that can be used for backfilling at other locations is in demand, and the contractor may be permitted by planning authorities to dispose of certain construction wastes (e.g. rubble, spoil material) in this way.

(d) handling of hazardous building waste as described in Guideline #6.

The Contractor should be required to ensure that workers do use the facilities made available for waste management, and follow protocols for waste management.

Operational waste

Waste materials produced during the operation of completed facilities must be also carefully managed. If

not, these wastes can cause disease, injury, and/or environmental damage within the local community.

Plans for any facilities should include sufficient toilet/washroom facilities to ensure that a hygienic environment is maintained. Regular sanitary wastes should be disposed of in a well-designed septic or municipal system. A septic system should be located in an area with a low water table that is well removed from water wells and/or sources of surface water. Site septic systems that do not include on-site treatment and therefore require frequent emptying of holding tanks for transportation to remote disposal facilities are not usually sustainable, as the servicing cost to the facility operator is likely to be high. If this is the only feasible option, the capacity of the facility manager to sustain it must be carefully considered, and all other options ruled out before such a project is pursued.

Solid and hazardous wastes should be properly stored and collected, for disposal at approved disposal facilities. They should not be stored on site for long periods. They should not be dumped, buried or burned indiscriminately. Hazardous materials and wastes should be managed according to prescribed procedures for the specific waste. MSDS for hazardous materials should be referred to for guidance. MSDS sheets should be retained in a location that is easily accessible to persons who may be required to handle the material. All such persons should be trained in the handling of these materials.

Composting of biodegradeable waste on site is an effective means of significantly reducing the volume of waste to be disposed of, and produces a potentially useful soil conditioner. However, there must be an interest in sustaining the composting activity and in the use of the resulting compost by the property manager if it is to succeed.

The composition and quantity of wastes generated by the operation of new facilities will vary with the type of operation. Some of these are discussed below.

Day care centres

Day care centres produce waste materials that must be carefully managed. Waste materials produced at day care centres include the following:

(a) Sewage, vomit;
(b) Solid waste (compostables, recyclables, diapers);
(c) Hazardous waste (waste oil from back-up generators, leftover paint, etc.)

These wastes must be disposed of in a sanitary manner to prevent the spread of diseases. There should be a plan to dispose of the diapers that will be generated by the facility. The design should consider means to reduce, reuse and recycle whenever possible to reduce the load of waste that requires transportation to a landfill.

Drains

Littering and dumping can pose additional problems for drainage sub-projects. Litter, especially large solid objects dumped into a large drain, can cause blockage, leading to severe water diversion and flooding during heavy rainfall events. Such flooding could damage homes, businesses, farmland and threaten human safety.

The IA should ensure that, for large drains, the Design Consultant select routing options that create a good buffer between residences/businesses and drains to the greatest extent possible. The Community Liaison Officer (CLO) should also work with the local community to educate its members on the benefits of maintaining a litter free drainage system. Where practical and cost effective, the Design Consultant should assess the feasibility of using buried pipes, or covered drains or culverts to mitigate these potential problems.

Guideline #9 – Location Considerations

Access

When considering a site for a sub-project it is important that the site is sufficiently large and suitably located to accommodate the needs of all the potential users. For instance, people using wheelchairs may require features such as ramps and dedicated parking spots. Individuals with physical disabilities may also have difficulty accessing a facility such as a school that is located in an area with a steep climb.

Land space

The site should provide sufficient space for appropriate landscaping both from an aesthetic and utility standpoint. If expansion is likely to be required in the foreseeable future, the available land space should also accommodate that if possible.

Flood risk

When considering a site for a sub-project it is important that the site not be susceptible to flooding, either from extreme rainfall or too close to the shoreline that it is vulnerable to storm surge.

Environmental enhancements (resource conservation)

The careful selection of a sub-project site can maximize opportunities for environmental enhancements, such as harnessing of renewable energies (solar, wind, etc.) to reduce the carbon footprint of the facility, or using the power of the sun for heating of water. The site location can be chosen to maximize the use of sunlight for natural indoor lighting and wind patterns for natural ventilation, reducing the dependence on electricity for lighting and air conditioning.

Opportunities for water harvesting should also be considered. At a minimum these sources can be used for sanitation systems or for irrigation that would reduce demand for treated potable water. Captured storm water and treated grey water may also find use in irrigation systems.

Schools

Schools should be located away from potentially dangerous natural features, such as steep embankments, large drains, gullies, etc., as well as away from busy roadways and polluting industries. It is advisable that a security fence around the facility be included in its design.

Day care centres

The centre should be accessible by the means of transportation that are commonly used by the community. Also, as day care “drop off” and “pick up” are primarily the responsibility of women, many of whom do not own or have access to private transportation, it is important that the centre is located within a reasonable walking distance for the majority of the care givers who are likely to use it. If the location is inaccessible, the proposed project site should be reconsidered as it may fail to satisfy the needs of the community.

Sites selected for day care centres should also be large enough to include outdoor recreational space, such as a free play area, swing sets, slides, etc.

Elementary schools

The site for an elementary school should be accessible to most of the community members that the facility will serve, as conveniently as possible. The school should be accessible by the means of transportation that are commonly used by the community. Furthermore, many of the students may walk to and from school unsupervised and a key objective of the school location should be to minimise the walking distances for the majority of students.

Outdoor recreation and other activities are an integral part of an elementary school's curriculum and the school location should be large enough to accommodate a recreational space, playing field or possibly a garden for the students to cultivate.

Guideline #10 – Public and Occupational Health and Safety

Occupational Health and Safety

The Contractor is required to have a plan in place to protect the safety of his workers and the public. Workers must be skilled in the work areas assigned, and aware of the risks of handling the required materials and equipment, and should have an awareness of potentially hazardous work conditions (e.g. when working in trench excavations for pipe laying). They are to be equipped with the Personal Protective Equipment (PPE) appropriate to the tasks assigned (e.g. boot, hard hats, high visibility vests, gloves, goggles, harnesses, dust masks, etc.).

A First aid kit is to be kept stocked and on site, to be accessible to workers in the event of an emergency. The Contractor should convene regular health and safety meetings with his workers, and after an accident or near miss. Records of accidents and near misses are to be maintained, and reported to the relevant authorities. The Contractor should have an emergency response plan in place, in the event that there is an accident on site. Contact information of emergency response agencies as well as key project staff (Consultant, IA) should be clearly posted on site.

Public Health and Safety

The contractor is required to protect the public, including users of a facility that is being renovated, and pedestrians and vehicular traffic operating in the vicinity of the works. Protection measures include erection of hoarding to enclose and secure active work areas, barriers and signage to alert persons in the vicinity to the area conditions, traffic and pedestrian management around the site (e.g. flag persons, and lighting for security as well as to ensure that unsecured works are sufficiently visible to the public after the operations shut down at night, etc. A Complaints Log should be maintained by the Contractor, freely accessible to the PMC and the Design Consultant. The log should document the details of complaints (date, name and contact information of person lodging the complaint, detail of complaint) and the responses (date(s) and details of action taken).

Public Health and Safety on Drainage Projects

In some BMCs, people may routinely bathe, wash clothes, fish, etc., in drainage ditches to which household grey wastewater and sewage are discharged. This poses a significant health risk. The occurrence of these practices may indicate the need for public education on hygiene and sanitation for the community as part of the sub-project, or indicate the potential need for other types of infrastructure such as community toilets and bathrooms.

During periods of heavy rainfall, tropical storms or hurricanes, when the water levels are high and the flow

is swift, large drains can pose a drowning hazard, especially to young children. The IA should consult with the Design Consultant to ensure that the design for large drains includes appropriate safety features to reduce such hazards. This could involve, for example, routing large drains away from day care centres and elementary schools.

Emergency Response Plan for the Operational Phase

All facilities should have an emergency response plan. Any operational facility that is manned or used by the public is required to have an evacuation plan as part of its emergency response plan. One of the requirements of the PMC should be to develop and/or maintain such a plan in advance of works completion. Support of the fire service is often available, to develop evacuation plans for public institutions.

APPENDIX 6. SUB-PROJECT PROFILE FORM AND APPRAISAL GUIDANCE

COUNTRY-APPRAISED SUB-PROJECTS
in the [*INSERT NAME OF COUNTRY*] [*INSERT NAME OF SECTOR*] PORTFOLIO

SUB-PROJECT PROFILE FORM AND APPRAISAL GUIDANCE
[*replicate template below for each of the Sub-Projects comprising this Sector Portfolio]*

Sub-Project Name/Title and Location:
Project Start and End Dates:
Total Estimated Cost (USD):

CDB/BNTF 10 Funding	Govt. Counterpart Funding	Community Contribution	Total
[*also state contingency amounts*]			

1. **Description of the sub-project:** *The problem to be addressed and what will be done to address it.* [*2 to 4 short paragraphs*]
2. **Executing Agency:**
3. **Name of requesting Organization/Beneficiaries:**
4. **Community group/Contact person:**
5. **Land and/or building owned by:**

6. **Expected Outcome:** [*click hyperlink to select relevant BNTF standard Outcome statement*]

7. **CMDG Objectives [***click hyperlink to select relevant one*] **and PRAP Targets and Allocation[2]:**

8. **Output Indicators** [*click hyperlink to select relevant BNTF standard Output indicators]*

9. **Rationale:** [*Why is the Sub-Project necessary and why is this intervention the best response to the problem identified in number 1 above? Outline the arguments in favour of the sub-project. What is the level of Poverty (high, etc.) and the vulnerability context? How does this Sub-Project complement another poverty-focused intervention (BNTF funded or other)*]*?*

10. **Community/Communities and Groups of Persons to directly benefit**: [*In a maximum of 4 short paragraphs: names of communities; estimated numbers and characteristics of households and beneficiaries disaggregated by age, sex, income (where known); ethnicity; persons with disabilities; poverty and vulnerability context (quantitative and qualitative data) and sex and age of heads of households. Number of beneficiaries (m/f).*

[2] PRAP target should be as stated in PRAP (and CPP) Resource Allocation Table (allocation for the sub-project must be consistent with the Allocation in the Table)

11. **Implementation:**
    a) **Status of sub-project design: are design consultants necessary or already been involved?** Yes/No [*state name of consultant where applicable*]
    b) **Estimate of length of construction/skills training period:** [*X*] months
    c) **Proposed mode of construction/skills training or other execution:** [*contractor, facilitator, other*]
    d) **Describe capacity of existing agency (if by Direct Labour):**
    e) **Proposed commencement date(s) for construction and/or skills training:**

12. **Maintenance:**

    a) **Type of maintenance envisaged and Agency (ies) responsible**: [preventative, etc.]

    b) **Estimated annual recurrent costs for maintenance**:

Maintenance Cost (USD)

ITEM	DESCRIPTION	ANNUAL COST
1	Utilities (electricity, water, gas, phone)	
2	Consumables (cleaning material, landscaping, etc.)	
3	Repairs	
	Total	

13. **Environmental Impact Assessments: [***Results of the Environment Screening or Environmental and Social Impact Assessment (ESIA). What are the environment management and climate change adaptation activities supporting or being supported by the sub-project? What are the design considerations that need to be amended to ensure that the project is designed with climate risk in mind? Is there an Environmental and Social Management Plan (ESMP) and who/which agency is responsible for managing and implementing it?*]

14. **Social Impact Assessments**: [*What is the overall expected social benefit(s)? What is the existing community residents' overall socio-economic status and how is it expected to change (e.g. health, sanitation benefits; access to higher/quality education; increased knowledge; improved transportation; enhanced access to safe water; improved social relations). What are the social risks being faced by the community, and how will the proposed sub-project mitigate these risks. Elaborate on some of the sources of social risk identified in the following categories:* ***Health*** *- Illnesses (HIV/AIDS, chronic non-communicable diseases, epidemics, teenage pregnancy), Injury (esp. seniors, young adult males, females);* ***Life Cycle*** *(birth, childhood, youth, middle-age, old age and death) and what key challenges are faced by community members at each stage of life?* ***Social*** *- poverty or socio-economic status (unemployment/ under-employment), living conditions, indigenous people, war, civil strife and social upheaval, citizen security (eg domestic violence, child neglect and abuse, substance abuse and addiction, gangs, TIP/THB/OR), discrimination, default on commitment to social programmes etc.;* ***Political****-discrimination on grounds of political affiliation, ethnicity etc. Outline measures or strategies (preventive, coping, mitigation) that were adopted within the community for the management of social risk. Indicate shortcomings of strategies and recommendations to address these.*]

15. **Economic Assessment and Value for Money:** [*Is there any anticipated overall economic development for the beneficiary community/communities and/or organisation? Are there any anticipated improvements in agriculture (including forestry and fishing), agribusiness (including craft and agro-*

processing, entrepreneurial skills, and new sources of revenue among men and women as a result of the intervention? What is the intended impact on the main revenues, finances and costs of the organization, community group(s)? How will value for money be ensured? What are the expected benefits to justify the cost? Are marginalized groups (e.g. persons with disabilities) to be involved and how? Any citizen security objectives?]

16. **Gender Assessment:** [*How will both men and women benefit equally during and following the sub-project (for example, ratio of boys to girls in accessing quality education, ratio of females to male gaining access to employment)? What are the predominant gender roles in the community/communities? Are there any major constraints facing women/men, female and male youth (for example time constraints or constraints to participation in key decision-making) and how can the sub-project help to address these? Refer to CDB Country Gender Assessment where available.*]

17. **Institutional Assessment: [***Who/which agency is responsible for managing the sub-project? What is the capacity in terms of human (male/female), skills, and financial resources? What are the national and local level institutions representing and/or supporting the target or beneficiary population, and in what ways. Availability of expertise in fields of gender, environmental management, maintenance, etc. Are there mechanisms in place for evaluation of beneficiaries and tracer studies of trainees?*] *Memorandum of Understanding (MoU)?*

18. **Sustainability Assessment: [***How will durability, maintenance and other issues relating to sustainability be guaranteed? What other sub-project activities did the community identify that can help to ensure that the overall objectives/impact of the project are delivered? Which of these activities can be addressed by the sub-project being assessed, and which are outside of the scope of the sub-projects? How will those outside of the scope of the sub-project be addressed? What is the exit strategy?*]

19. **Estimate Employment Generation (number of persons employed and/or person-weeks): [***Job creation and sustainable employment as a result of the sub-project. Will anyone (m/f) groups undertake activities that may create new/increased income? Estimated full or part-time employment (m/f). Will anyone save cash (ratio of men to women)?*]

Sub-Project Profile Prepared by:	**Approved by (PM):**
Date:	**Date:**
Received by (AO):	**Data Entry in MIS by (AO/CLO):**
Date:	**Date:**

Date submitted to BNTF Oversight Entity (OE):

Decision date by BNTF OE:

Recommended Changes from Executing Agency:

APPENDIX 7. TERMS OF REFERENCE FOR CVRA

Terms of Reference
Climate Vulnerability and Risk Assessment for Sub Projects

1. INTRODUCTION

Background
[insert short para on the sub-project being considered]

Country Context
[Describe the context for climate risk, its current and project impacts]

2. OBJECTIVES OF THE CLIMATE VULNERABILITY AND RISK ASSESSMENT

The objective of this work is to undertake a climate vulnerability and risk assessment (CVRA) which would identify and evaluate the effects of potential climate change on the proposed sub-project, and to identify resilience measures that could be included in the design and site plan. The key question the CVRA seeks to answer is: ***Is the investment and its site at risk due to current and changing climate conditions?***

3. SCOPE OF WORK

The consultant should begin with a consultation with key community stakeholders who may be knowledgeable of existing vulnerabilities given the previous occurrence of extreme weather or climate related events. The consultant should also review any existing community/national level assessment relevant to the project community. Consultation with stakeholders can validate and/or expand on the information in any available studies. The consultant should undertake the following tasks:

(a) Based on the CNAA and the information provided by the project proponent characterize the relevant infrastructure and surrounding area. This would include

(i) Description of the physical and environmental characteristics of the site and surrounding area ;

(ii) Relevant features of the proposed infrastructure;

(iii) Hazard susceptibility of the area. Refer to the CNAA to obtain information on the susceptibility of the area, for example, to flooding (inland and coastal), hurricanes, landslides and/or earthquakes. Gather any additional information on historical events and impacts in the affected communities/sites.

(b) Identify relevant climate variables and climate scenarios, based on best available secondary information[3] as locally specific as possible, for an appropriate time scale (2025 to 2050), and establish a baseline scenario of an appropriate historical period.

(c) Identify the vulnerabilities of the proposed sub-project to the projected climate change, showing how climate risks could impair or enhance performance or sustainability. The

[3] Secondary sources of data include Belize's Second National Communications to the UNFCCC, the World Bank's Climate Change Knowledge Portal; CARIBSAVE Climate Risk Atlas for Belize; UNDP Country Climate Risk Profiles; State of the Belize Coastal Zone, 2003 – 2013; Caribbean Community Climate Change Centre, Various Reports.

key climate risks to be addressed should be identified based on the exposure (occurrence of the climate related hazards) and the vulnerabilities of the components. This step would include learning from past weather and climate impacts.

(d) The climate risk assessment in (c) would be used to identify resilience measures to address the impacts of the identified hazards such as expected wind gusts conditions for climate change scenarios that incorporate increase intensity of hurricanes (category 4 and 5 hurricanes), flooding conditions, erosion susceptibility, etc. Both structural measures, such as modification of design (e.g., enhancing roof designs to withstand higher wind gusts) and non-structural measures (e.g., emergency management procedures or training) should be included.

(e) The additional costs, if any, of adaptation measures should be estimated and clearly explained. The costs and benefits of the adaptation measures should be included in the economic evaluation of the sub-project.

4. REPORTING

The consultant will produce and deliver, to the satisfaction of the commissioning organization, as per agreed schedule, a Climate Risk and Vulnerability Assessment for the proposed sub-project to be designed under the CDB supported investment project. A draft should be presented for review, followed by a final version that incorporates all comments on the draft. All data collected and created throughout the duration of the study, should be submitted in digital form (all shape files and corresponding metadata, etc).

5. QUALIFICATIONS AND EXPERIENCE

Climate Change Specialist
The Specialist will take the lead in conducting the climate vulnerability and adaptation assessment. He/she will be responsible *inter-alia* for: identifying the climate change parameters to be assessed; collection of relevant local historical climate data and climate change projections; identify the probabilities of specific climate change occurrences; conduct field investigations with local stakeholders to identify existing vulnerabilities (such as areas prone to flooding); and, in consultation with the engineer, contribute to the identification of adaptation options, including their costs and benefits and prioritization. At least three years' work experience in the area of climate change impacts, adaptation and mitigation is required.

Civil, Structural, Water or Coastal Engineer
The Specialist will lead the characterization and technical assessment of the investment (buildings/health facility/water infrastructure, etc., and related infrastructure). He/she will review engineering designs, conduct interviews with relevant organizations and stakeholders and undertake site visits to inform the assessment. In addition, he/she will lead in the engineering analysis that will link the climate change impacts with the design considerations. The specialist will assist in the preparation of cost estimates for capital and recurrent costs related to the adaptation options proposed. The candidate must be a registered/licensed professional engineer with at least seven years' experience in building construction.

6. ESTIMATED DURATION: 10 days

APPENDIX 8. IA CONSULTANT MONITORING SHEET

IA CONSULTANT MONITORING SHEET	
1.	Ensure that the Design Consultant is familiar with the screening checklist and any commitments made for the mitigation of potential environmental impacts as well as climate risks.
2.	Ensure that the Design Consultant has filed all necessary EIA documents, as required, with the responsible local authorities and with the IA prior to the start of construction of the sub-project. This includes where necessary, Environmental Permit applications.
3.	Ensure that all local laws and requirements pertaining to construction are met, for example compliance with building code, health, labour and electrical standards, and planning approvals or environmental permits obtained.
4.	Ensure that, if required, the Design Consultant prepares, submits and receives approval for its ESMP from the responsible local authorities, prior to the start of construction of the sub project. The Design Consultant is to monitor and report on Contractor compliance with the ESMP thereafter.
5.	Ensure that the Design Consultant adheres to its TOR requirements pertaining to environmental monitoring, community consultations, etc. during the construction phase.
6.	Ensure that the Design Consultant meets its TOR that should include, among other things, clear procedures for environmental reporting during project construction, including persons and agencies to be contacted, reporting schedule (weekly, monthly, etc.) and types of reports (verbal, specialized forms, formal reports, etc.).
7.	Ensure that at the conclusion of the contract, the Design Consultant signs off that all environmental requirements and commitments have been met.

APPENDIX 9. STANDARD CONTRACT WORDING

These sample covenants are intended to provide an indication only of the types of clauses that can be used in contracts. Legal advice should be sought before adapting these covenants or elements of them for use.

To limit the environmental impact of construction activities, the Contractor shall undertake the following actions:
1. Prepare/Comply with *(select one based on contract size)* the sub-project Environmental and Social Management Plan (ESMP), prior to the onset of construction, for mitigating environmental impacts.
2. Minimize the level of dust pollution, especially in dry conditions by watering the site as necessary, providing cover for material haulage trucks, washing or sweeping dirt-covered roads in the immediate vicinity of the site, and implementing any other appropriate dust suppression measures.
3. Minimize noise pollution on sensitive receptors such as homes, seniors' residences/homes for the aged, hospitals, daycare centres, schools, etc. by (a) ensuring that all heavy equipment used at the site are equipped with appropriate mufflers; (b) erecting appropriate noise barriers; and (3) restricting the hours of routine construction activities in residential areas, near hospitals, and other residential care facilities, to between 8:00 am and 8:00 pm, or according to local or specific ordinances.
4. Minimize vibration impacts by providing reasonable prior notice to residents and businesses that are likely to be affected by blasting or piling, for example. Further, blasting must be limited to daytime hours.
5. Minimize the clear cutting of trees and re-vegetate cleared areas, in particular slopes, to the greatest extent possible.
6. Prevent habitat disruption or destruction by avoiding conflict with nesting and breeding patterns, etc.
7. Stop construction, secure the site to prevent damage, and notify the Supervising Engineer and responsible local authority should the Contractor discover any archaeological sites, remains, artefacts, etc. by chance find. Construction work should only be resumed after authorization is granted by the responsible local authority.
8. Avoid contamination from stored fuel, grease, waste oils and other petroleum wastes by maintaining at least a 10 m buffer between the storage area for these products and water courses, gullies, etc.
9. Mitigate soil erosion by watering loose dry soil, revegetating cleared areas as quickly as possible, implementing slope stabilization measures, designing proper on-site drainage, etc.
10. Prevent siltation and sedimentation of drains, creeks, canals, etc., by maintaining a buffer/setback of at least 10 m from the edge of slope and installing sediment traps, silt screens, straw devices, etc.
11. Provide appropriate facilities such as toilets and potable water to ensure sanitary conditions are maintained at the construction site.
12. Collect and dispose of construction wastes in an appropriate manner. Material unsuitable for backfill shall be disposed of in a landfill or designated areas as agreed with the Supervising Engineer.
13. Employ proper storage methods for raw materials and wastes by locating them at least 10m from ghauts, gullies, streams and watercourses to avoid runoff into waterways, especially during rainy conditions.

14. Protect the health and safety of all workers, the general public, as well as occupants in buildings under renovation or expansion, by implementing all appropriate requirements of national health and safety legislation and advice from authorities.
15. Utilize best management practices for the removal, storage and disposal of hazardous building materials such as polychlorinated biphenyls (PCBs), asbestos, mold, rat/bat droppings, etc.
16. Implement traffic control procedures to prevent traffic hazard or unnecessary inconveniences to surrounding residents.
17. Ensure that the surrounding community is given reasonable prior notice, and suitable alternative access should construction activities necessitate a loss of existing access to homes, businesses, community facilities, etc.
18. Implement appropriate site security measures to prevent trespassing.
19. Remove all construction tools, equipment; machinery and wastes (liquid or solid) from the project site on the completion of construction works.

APPENDIX 10: CONSULTANT ENVIRONMENTAL CHECKLIST

The following checklist should be used by the Consultant when site inspections are conducted. Any "No" recorded represents a potential breach of regulation or indicates that improvements are needed. Details of nonconformity (NC) should be recorded in "Remarks". Any NC should be reported with reference to the checklist as coded. The responsible personnel should identify the root cause of NC and adopt appropriate corrective and preventive actions (CPA) for mitigation. Confirmation of the effectiveness of the CPA should be verified by Design consultant within an agreed time.
All significant findings are to be included in the Design consultant's monthly reports provided to the IA.

Construction stage / status during inspection: _____

Inspection Date: _____ **Inspection Time:** _____

Inspected by: _____ **Weather:** _____

Inspection Items	Implemented?		NA	Remarks (specify location, good practices, problem observed, possible cause of nonconformity and/or proposed corrective/preventative actions)
	Yes	No		
1. Management				
1.1. Is the Site Supervisor nominated?				
1.2. Is a Complaints Register being maintained?				
1.3. Is site security adequate?				
1.4. Is there a site specific ESMP?				
1.5. If yes, does it address all tasks and hazards?				
1.6. Are health and safety meetings regularly convened with contractor staff?				
1.7. Is a supervisor present during performance of potentially hazardous activities?				
1.8. Are certified drawings on site?				
1.9. Are insurances in place?				
2. First Aid				
2.1. Is there a stocked and accessible First Aid Kit on site?				
2.2. Are emergency contact details available?				
2.3. Is emergency communication available?				

Inspection Items	Implemented?		NA	Remarks (specify location, good practices, problem observed, possible cause of nonconformity and/or proposed corrective/preventative actions)
	Yes	No		
3. PPE				
3.1. Are workers equipped with PPE?				
3.2. Is PPE in good condition?				
3.3. Do workers wear dust masks when ambient air quality is not optimal?				
3.4. Are earmuffs worn during periods of excessive noise?				
4. **Working at heights**				
4.1. Are scaffolds and other work platforms complete and in good condition?				
4.2. Is fall protection equipment provided to all employees working above 2m?				
4.3. Is there edge protection at all edges where there is a risk that employees may fall off?				
5. Traffic/pedestrian movement				
5.1. Is access to adjacent properties properly addressed?				
5.2. Is pedestrian safety properly addressed?				
5.3. Is traffic management on and around the site adequate?				
6. Vehicles and Plant				
6.1. Are warning devices fitted and in working order (flashing lights, reversing alarm, warning signage)?				
7. Fire Hazards				
7.1. Is there firefighting equipment available, accessible, adequate and maintained?				
8. Excavations, trenches and equipment				
8.1. Is topsoil reserved for reuse?				
8.2. Are excavations isolated to prevent accidental access?				
8.3. Are excavations exceeding 1.5m shored or benched?				
8.4. Is there safe means of access to and from excavations?				

Inspection Items	Implemented?		NA	Remarks (specify location, good practices, problem observed, possible cause of nonconformity and/or proposed corrective/preventative actions)
	Yes	No		
8.5. Is there adequate protection to personnel in the excavation from falling material?				
8.6. Is excavated material placed a sufficient distance away from the excavation edge?				
8.7. Are slopes stabilised quickly, e.g. using seeding, mulching and bio engineering techniques?				
8.8. Are ladders and scaffolds adequately checked and in good working order?				
8.9. Are walkways cleared of trip and fall obstacles?				
8.10. Are adequate safety signs posted on site?				
9. Air Pollution/Dust Control				
9.1. Is the construction site watered to minimize dust generated?				
9.2. Are stockpiles of dusty materials (size with more than 20 bags cement) covered or watered?				
9.3. Is cement debagging undertaken in sheltered areas?				
9.4. Is concrete mixing undertaken in concrete mixing bays?				
9.5. Are all vehicles carrying dusty loads covered/watered over prior to leaving the site?				
9.6. Are demolition work areas watered?				
9.7. Are dusty roads paved and/or sprayed with water?				
9.8. Is dust controlled during percussive drilling or rock breaking?				
9.9. Are plant and equipment well maintained? (if any black smoke is observed, indicate plant/equipment and location)				
9.10. Are there enclosures around the main dust-generating activities (e.g. grout mixing)?				
9.11. Is hoarding (not <2.4m) provided along boundaries and properly maintained (if any damage / opening observed, indicate location)?				

Inspection Items	Implemented?		NA	Remarks (specify location, good practices, problem observed, possible cause of nonconformity and/or proposed corrective/preventative actions)
	Yes	No		
9.12. Are speed control measures applied (e.g. speed limit sign)?				
9.13. Others (specify)				
10. Water Pollution, Erosion and Sedimentation Control				
10.1. Do workers have adequate/ separate sanitary facilities (septic tanks, chemical toilets or other facilities)?				
10.2. Do male and female workers use sanitary facilities provided?				
10.3. Are chemicals/hazardous materials such as fuel stored on site?				
10.4. Are they properly labeled and stored?				
10.5. Are chemical spill containment and response facilities and first aid facilities accessible to workers?				
10.6. Are workers trained to respond to spills of materials they use?				
10.7. Is wastewater generated on site?				
10.8. Is any wastewater discharged to the storm drains?				
10.9. Is the wastewater being treated?				
10.10. Are wastewater treatment systems being used and properly maintained on site?				
10.11. Are precautions taken when working close to water course?				
10.12. Are adequate precautions in place for fuel and oil dispensing (e.g. spillage trays)?				
10.13. Are vehicles and plant serviced on site?				
10.14. Are measures provided to properly direct surface drainage to silt removal facilities (e.g. by provision of earth bunds / U-channels)?				
10.15. Are existing drains adequately cleaned or new drainage system constructed?				
10.16. Is water adequately re-channeled to control water flow?				

Inspection Items	Implemented?		NA	Remarks (specify location, good practices, problem observed, possible cause of nonconformity and/or proposed corrective/preventative actions)
	Yes	No		
10.17. Are drainage channels and manholes free of silt and sediment?				
10.18. Are control measures such as silt fencing, vegetative barriers in place in place to prevent contamination of water courses?				
10.19. Are sedimentation traps/ponds free of silt and sediment?				
10.20. Are all manholes on-site covered and sealed?				
10.21. Are measures in place to prevent washing out of aggregate stockpiles?				
10.22. Are vehicles and plant cleaned before leaving the site?				
10.23. Are wheel washing facilities well maintained to prevent overflow, flooding sediment?				
10.24. Is sand and silt settled out in wheel washing bay and removed?				
10.25. Is the public road/area around the site entrance and site hoarding kept clean and free of muddy water?				
10.26. Others (specify)				
11. Noise Control				
11.1. Is the work only taking place between 7 am and 7 pm, week days?				
11.2. Has work outside of these hours been approved by the project manager?				
11.3. Are conditions of approval of work outside these hours being complied with?				
11.4. Do air compressors and generators operate with doors closed?				
11.5. Is idle plant/equipment turned off or throttled down?				
11.6. Are any noise mitigation measures adopted (e.g. use of noise barrier / enclosure)?				
11.7. Were residents of the neighbouring community advised in advance of potentially noisy conditions?				

Inspection Items	Implemented?		NA	Remarks (specify location, good practices, problem observed, possible cause of nonconformity and/or proposed corrective/preventative actions)
	Yes	No		
11.8. Others (specify)				
12. Waste Management				
12.1. Is the site kept clean and tidy (e.g. litter free, good housekeeping)?				
12.2. Are inert and non-inert wastes contained separately?				
12.3. Are separated labelled containers/ approved areas provided for facilitating recycling and waste segregation e.g. waste oils, green waste?				
12.4. Are fuel tanks and drums of toxic and hazardous materials stored within a diked area or trailer and away from any watercourse, ditch or storm drain?				
12.5. Are construction wastes / recyclable wastes and general refuse removed off site regularly?				
12.6. Is construction waste or rubble disposed of at an approved landfill regularly (at least once monthly)?				
12.7. Are construction wastes collected and disposed of properly?				
12.8. Are workers using the bins for waste disposal?				
12.9. Are chemical wastes, if any, collected and disposed of properly?				
12.10. Are chemical wastes properly stored and labelled?				
12.11. Are oil drums and plant/equipment provided with drip trays?				
12.12. Are drip trays free of oil and water?				
12.13. Is there any oil spillage? Is the contaminated soil cleaned up immediately?				
12.14. Is litter, foam or other objectionable matters in nearby drain cleaned?				
12.15. Are asbestos wastes or mold/rat/bat contaminated materials present on site?				

Inspection Items	Implemented?		NA	Remarks (specify location, good practices, problem observed, possible cause of nonconformity and/or proposed corrective/preventative actions)
	Yes	No		
12.16. Are asbestos wastes or mold/rat/bat contaminated materials handled in accordance with national guidelines/best practice?				
12.17. Others (specify)				
13. Storage of Chemicals and Dangerous Goods (DG)				
13.1. Are chemicals/hazardous materials such as fuel, pesticides, stored on site?				
13.2. Are there MSDS available for Chemicals and DG in use?				
13.3. What types and quantities of DG are stored?				
13.4. Are they properly labeled and stored?				
13.5. Are adequate safety controls in place as outlined in the MSDS?				
13.6. Are proper measures in place to control oil spillage during maintenance or to control other chemicals spillage (e.g. drip trays)?				
13.7. Are spill kits / sand / saw dust used for absorbing chemical spillage readily accessible?				
13.8. Are workers trained to respond to spills of materials they use?				
13.9. Others (specify)				
14. Protection of Flora, Fauna and Historical Heritage				
14.1. Are disturbance to terrestrial flora minimised (e.g. plants to be preserved)?				
14.2. Are disturbance to terrestrial fauna minimised (if rare species identified)?				
14.3. Does any historical heritage exist on site?				
14.4. If historical heritage exists on site, have appropriate measures been taken to preserve it?				

Inspection Items	Implemented?		NA	Remarks (specify location, good practices, problem observed, possible cause of nonconformity and/or proposed corrective/preventative actions)
	Yes	No		
14.5. Others (specify)				
15. Resource Conservation				
15.1. Is water recycled wherever possible for dust suppression?				
15.2. Is water pipe leakage and wastage prevented?				
15.3. Are diesel-powered plant and equipment shut off while not in use to reduce excessive use?				
15.4. Are energy conservation practices adopted?				
15.5. Are aggregate materials obtained from an approved source?				
15.6. Is the source of aggregate material verified?				
15.7. Are materials stored in good condition to prevent deterioration and wastage (e.g. covered, separated)?				
15.8. Others (specify)				
16. Emergency Preparedness and Response				
16.1. Is the site adequately lit?				
16.2. Are fire extinguishers / fighting facilities properly maintained and not expired?				
16.3. Are fire escapes not blocked / obstructed?				
16.4. Have there been any accidents on site?				

Inspection Items	Implemented?		NA	Remarks (specify location, good practices, problem observed, possible cause of nonconformity and/or proposed corrective/preventative actions)
	Yes	No		
16.5. Are accidents and incidents (including sexual harassment) reported to the relevant authority, and reviewed with corrective & preventive actions identified, actioned and recorded?				
16.6. Others (specify)				

Signature of Site Inspector _____ Date _____

Reviewed by Design Consultant _____ Date _____

Improvement Request:

Project		Site Location	
Inspection Date		Inspected by	

NC Reference	
Description of NC	
Root cause of NC	
CPA required	
CPA Target completion date	
Verified by Design Consultant (Signature, Date)	

NC Reference	
Description of NC	
Root cause of NC	
CPA required	
CPA Target completion date	
Verified by Design Consultant (Signature, Date)	

NC Reference	
Description of NC	
Root cause of NC	
CPA required	
CPA Target completion date	
Verified by Design Consultant (Signature, Date)	

APPENDIX 11. IA SITE VISIT CHECKLIST

Site Name:
Inspection Report #:
Date:
Completed By:

Item # & Description	Status	Comments
1. Environmental Permits	**Secured/Outstanding**	
A. Planning and zoning permits		
B. Construction permits		
C. Building permits		
2. EIA Documentation	**Approved/Outstanding**	
A. ESMP		
B. EIA, if required		
3. Site Conditions/Management	**Good/Inadequate**	
A. Dust Control		
B. Odour Control		
C. Noise Control		
D. Wastewater Management		
E. Surface Runoff Control		
F. Solid waste/Litter Management		
G. Fuel and/or Oil Storage		
H. Chemical/ Hazardous Material Storage		
I. Spoil Storage/Disposal		
J. Erosion Control		
K. Integrity of fencing/Security		
L. Protection of wetlands, streams, nesting areas, special vegetation, animal		
M. Labour/Health and safety standards		
4. Offsite Environmental Effects	**Significant/Negligible**	
A. Dust		
B. Odour		
C. Noise		
D. Wastewater Discharge		
E. Site Runoff Resulting in Erosion/ Flooding		
F. Solid Waste/Litter		
G. Fuel and/or Oil Spillage		
H. Traffic Congestion		
I. Mud on Public Roads		
5. Record Keeping	**Available/Unavailable**	
A. Environmental Monitoring		
B. Documentation of Public Complaints and Responses		

Item # & Description	Status	Comments
C. Correspondence with Local Environmental Agencies		
D. Staff Safety Induction and Environmental Awareness Training		

Additional Comments/Issues: