

SUSTAINABLE PROCUREMENT ENVIRONMENT AND SOCIAL STANDARDS CENTRE OF EXCELLENCE (SPESSCE), AHMADU BELLO UNIVERSITY ZARIA

Short Course on:

DEVELOPMENT OF ENVIRONMENTAL & SOCIAL COMMITMENT PLAN
(ESCP)

4th – 7th April, 2022

Lecture theme: ESS 3: Resource Efficiency and Pollution
Prevention and Management

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WORLD BANK GROUP



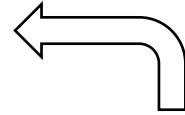
OUTLINE

- ☐ Today's lecture in the main theme
- ☐ The WB Operational Policies – 10 + 2
- ☐ Learning from the past – Towards the new ESSs
- ☐ The Ten Environmental and Social Standards
- ☐ **Tea Break**
- ☐ The 3rd ESS
- ☐ ESS 4
- ☐ Case Study

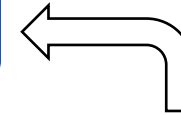
Lunch Break

Lecture theme in the course's context

To enhance sustainable capacity in the management of procurement, environmental and social standards in the public and private sectors



DEVELOPMENT OF ENVIRONMENTAL & SOCIAL COMMITMENT PLAN (ESCP)



ESS 3: Resource Efficiency and Pollution Prevention and Management

THE FUTURE – Learning from the past

- Changing nature of Bank business: Program lending and use of intermediaries
- Emphasis on outreach in and outside the Bank: Consultation and dissemination with affected groups and NGOs
- Harmonization with Borrowers: Review National EA System
- Enhanced Donor Coordination Developing synergies with other tools (e.g., environmental management systems)
- Moving into supervision and the compliance and enforcement sphere

2010 -2020 Vision

- More reliance on national level safeguards regulations and approval processes
- Expand the scope from impact assessment to risk assessment (sector, country)
- More reliance on due diligence, core values & ethics and a focus on developmental outcome objectives
- More meaningful integration of SPs and transparency

A new Approach and Common Objectives

Safeguards should be an integral part of the Sustainable Development Process to achieve the Sustainable Development Goals

The new objectives are to:

- Address a wider range of environmental and social risks than under the Safeguard Policies
- Renew efforts to work with Borrowers' institutions to build their national systems for managing E&S risk
- Increase effectiveness, efficiency and timeliness of environmental and social risk management
- Improve policy harmonization, coherence and alignment with development partners
- Enhance transparency through stakeholder engagement and information disclosure



A NEW RE-STRUCTURING OF THE ENVIRONMENT AND SOCIAL STANDARDS AMONG THE MDBs

The new MDB standards are now becoming compulsory (because they are denoted standards and not guidelines) and will replace previous environment and social safeguard policies of the Multi-Lateral Development Banks

The classification of projects is based equally on environment , social and climate change impacts and risks

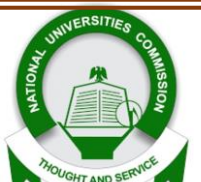
The new standards will integrate BOTH environmental and social issues

New standards were added namely : Labor and working condition; Community health and safety, and person with vulnerability , disability and Fragility, Conflict and Violence (FCV)

The new standards would apply not only to the Project but also to the associated facilities that may not financed by the Project

Pollution Management is no longer a stand alone guideline but is integrated into Resource Efficiency, Pollution Prevention and Management

There is now more reliance on the Borrower to be in the front seat to monitor, implement and report the environment and social requirements of the project ,and could use its own environmental and social standards provided it this is likely to address the risks and impacts of the project, and enable the project to achieve objectives materially consistent with the new MDB standards



THE WORLD BANK ESF BUILDS ON THE SAFEGUARD POLICIES

Standard	Building on	New Key Elements
ESS1: Assessment and Management of Environmental and Social Risks and Impacts	OP/BP4.01 (Environmental Assessment)	Integrates Environmental and Social Assessment; includes requirements related to non-discrimination and social inclusion; proportionality and adaptive management; use of the ESCP
ESS2: Labor and Working Conditions	OP/BP4.01 (Environmental Assessment) and EHS Guidelines	Prohibits child labor and forced labor, heightened focus on OHS, grievance mechanisms

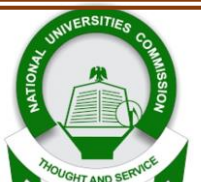
THE WORLD BANK ESF BUILDS ON THE SAFEGUARD POLICIES – Contd'

Standard	Building on	New Key Elements
ESS3: Resource Efficiency and Pollution Prevention and Management	OP4.09 (Pest Management) and EHS Guidelines	Promotes efficient management of energy, water, and other resources and materials; hazardous materials management; pesticides; GHG assessment mandate
ESS4: Community Health and Safety	OP/BP4.37 (Safety of Dams) and EHS Guidelines	Assess risks and impacts on communities; Design of safe and resilient infrastructure, equipment operation, products, services, road safety, hazardous materials; emergency preparedness

Standard	Building on	New Key Elements
ESS5: Land Acquisition, Restrictions on Land Use and Involuntary Resettlement	OP/BP4.12 (Involuntary Resettlement)	Greater clarity on treatment of state land, land titling, access to common resources, voluntary transactions, forced evictions
ESS6: Biodiversity Conservation and Sustainable Management of Living Natural Resources	OP/BP4.04 (Natural Habitats) and OP/BP4.36 (Forests)	Expanded requirement to assess and mitigate impacts on biodiversity including in primary supply chains; biodiversity offsets; management of living resources in additional sectors (e.g. agriculture)

THE WORLD BANK ESF BUILDS ON THE SAFEGUARD POLICIES – Cnt'd

Standard	Building on	New Key Elements
ESS7: Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities	OP/BP4.10 (Indigenous Peoples)	Clearer definitions of IP, requires FPIC in specified circumstances
ESS8: Cultural Heritage	OP/BP4.11 (Physical Cultural Resources)	Enhanced consultation with affected communities, intangible heritage
ESS9: Financial Intermediaries	OP/BP 4.01 (Environmental Assessment)	Establish E&S procedures commensurate with FI nature, risk level and impact
ESS10: Stakeholder Engagement and Information Disclosure	Consolidates WB engagement provisions	Meaningful consultation, access to information and grievance redress through the life of project



THE TEN ENVIRONMENTAL AND SOCIAL STANDARDS



ESS1

**Assessment and
Management of
Environmental and Social
Risks and Impacts**



ESS2

**Labor and
Working
Conditions**



ESS3

**Resource Efficiency
and Pollution
Prevention and
Management**



ESS4

**Community
Health and
Safety**



ESS5

**Land Acquisition,
Restrictions on Land Use
and Involuntary
Resettlement**

The Ten Environmental and Social Standards – Cont'd



ESS6

**Biodiversity
Conservation and
Sustainable Management
of Living Natural
Resources**



ESS7

**Indigenous Peoples/Sub-
Saharan African
Historically Underserved
Traditional Local
Communities**



ESS8

**Cultural
Heritage**



ESS9

**Financial
Intermediaries**



ESS10

**Stakeholder
Engagement and
Information Disclosure**

ESA Process and the World Bank Project Cycle

Project Stage	ESA Activity
Identification	<ul style="list-style-type: none">- Screen project proposal for E&S risks- Scope project requirements for EIA or other required assessments (RAP/IPP/LMP etc.)- Preliminary stakeholder analysis to identify stakeholder interest
Design and Preparation	<ul style="list-style-type: none">- Conduct ESIA, Social Assessment or other baseline studies for in-depth analysis- Prepare ESIA reports along with other key instruments- Disclose document and conduct stakeholder feedback sessions- Modify project design as relevant
Appraisal	<ul style="list-style-type: none">- Assess project readiness- Evaluate management and mitigation measures- Evaluate institutional arrangements and resources- Finalize ESCP / Clear all arrangements for quality and compliance

ESA Process and the World Bank Project Cycle – **Cont'd**

Project Stage	ESA Activity
Implementation	<ul style="list-style-type: none">- Implement agreed actions- Monitor key results, outcomes and compliance- Consult stakeholders on periodic basis as defined in the SEP- Issue monitoring reports- Adapt program mitigation and management measures
Completion	<ul style="list-style-type: none">- Ensure all agreed actions are completed- Assess project performance and results- Evaluate project and recommend actions for future projects

WHAT IS AN ESCP?

An **Environmental and Social Commitment Plan (ESCP)** sets out material measures and actions, to be carried out or caused to be carried out by the borrower, including the timeframes of the actions and measures, institutional, staffing, training, monitoring and reporting arrangements, grievance management and the environmental and social assessments and instruments to be prepared or updated, disclosed, consulted, adopted and implemented under the ESCP and the ESSs, all in a manner acceptable to the Bank.



ESS3: OVERVIEW OF RESOURCE EFFICIENCY AND POLLUTION PREVENTION & MANAGEMENT

ESS3: Resource Efficiency and Pollution Prevention and Management (Objectives, Scope and Requirements)

- ☐ The Environmental, Health, Safety and General Requirements
- ☐ Categories of Resource Efficiency (Energy, Water and Materials Uses)
- ☐ Pollution Prevention and Management
- ☐ Management of Air Pollution
- ☐ Management of hazardous and non-hazardous waste
- ☐ Management of chemicals and hazardous materials
- ☐ Management of Pesticides

ESS3: RESOURCE EFFICIENCY & POLLUTION PREVENTION AND MANAGEMENT

Objectives

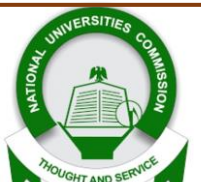
- ☐ To promote the sustainable use of resources, including energy, water and raw materials.
- ☐ To avoid or minimize adverse impacts on human health and the environment by avoiding or minimizing pollution from project activities.
- ☐ To avoid or minimize project-related emissions of short and long-lived climate pollutants.
- ☐ To avoid or minimize generation of hazardous and non-hazardous waste.
- ☐ To minimize and manage the risks and impacts associated with pesticide use.

Scope of application

- ☐ The applicability of this ESS is established during the environmental and social assessment described in ESS1

Requirements

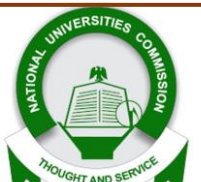
- ☐ Borrower will consider ambient conditions and apply technically and financially feasible resource efficiency and pollution prevention
- ☐ Resource efficiency will include energy use; water use; and raw materials use
- ☐ Pollution prevention and management that applies to the release of pollutants to air, water and land due to routine, nonroutine, and accidental circumstances, and with the potential for local, regional, and transboundary impacts. This includes management of air pollution; management of hazardous and non-hazardous waste; management of chemicals and hazardous waste; and management of pesticides;



RESOURCE EFFICIENCY – The WB Perspective

The Borrower will implement technically and financially feasible measures for improving efficient consumption of energy, water and raw materials, as well as other resources. Such measures will integrate the principles of cleaner production into product design and production processes to conserve raw materials, energy and water, as well as other resources. Where benchmarking data are available, the Borrower will make a comparison to establish the relative level of efficiency.

- ☐ What constitutes the efficient usage of resources, including energy, water and raw materials, is project-, context-, and country-specific but should be consistent with Good International Industry Practice (GIIP), in the first instance the Environmental, Health, and Safety Guidelines (EHSGs).
- ☐ The terms “cleaner production” and “resource efficiency” refer to the concept of integrating pollution reduction and/or raw material-, water-, and energy-conserving measures into the design of product and production processes, or adopting an alternative process
- ☐ Building benchmarks may refer to energy or water use per dwelling, inhabitant, or per guest night in a hotel, or energy use per unit area, in other building types, with corrections for climatic variations. When these benchmarks are available and used in accordance with or to supplement GIIP, they can be used to evaluate project performance on the resource efficiency or pollution intensity requirements of ESS3. If such benchmarks are not available, using a best-available-techniques approach may be appropriate to benchmark one engineering approach against another



TECHNICAL & FINANCIAL FEASIBILITY

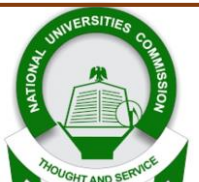
Technical feasibility is based on whether the proposed measures and actions can be implemented with commercially available skills, equipment, and materials, taking into consideration prevailing local factors such as climate, geography, demography, infrastructure, security, governance, capacity, and operational reliability.

☐ **Financial feasibility** is based on relevant financial considerations, including relative magnitude of the incremental cost of adopting such measures and actions compared to the project's investment, operating, and maintenance costs, and on whether this incremental cost could make the project nonviable for the Borrower.

THE ENVIRONMENTAL, HEALTH AND SAFETY GENERAL GUIDELINES (EHSGG)

The Environmental, Health, and Safety (EHS) General Guidelines are technical reference documents with general and industry-specific examples of Good International Industry Practice (GIIP)

- When one or more members of the World Bank Group are involved in a project, these EHS Guidelines are applied as required by their respective policies and standards
- The EHS Guidelines contain the performance levels and measures that are generally considered to be achievable in new facilities by existing technology at reasonable costs. Application of the EHS Guidelines to existing facilities may involve the establishment of site-specific targets, with an appropriate timetable for achieving them
- When host country regulations differ from the levels and measures presented in the EHS Guidelines, projects are expected to achieve whichever is more stringent. If less stringent levels or measures than those provided in these EHS Guidelines are appropriate, in view of specific project circumstances, a full and detailed justification for any proposed alternatives is needed as part of the site-specific environmental assessment. This justification should demonstrate that the choice for any alternate performance levels is protective of human health and the environment.



GENERAL EHS GUIDELINES:

1) Environmental

- 1.1 Air Emissions and Ambient Air Quality.
- 1.2 Energy Conservation.
- 1.3 Wastewater and Ambient Water Quality.
- 1.4 Water Conservation.
- 1.5 Hazardous Materials Management.
- 1.6 Waste Management.
- 1.7 Noise.
- 1.8 Contaminated Land.

2) Occupational Health and Safety

- 2.1 General Facility Design and Operation.
- 2.2 Communication and Training.
- 2.3 Physical Hazards.
- 2.4 Chemical Hazards.
- 2.5 Biological Hazards.
- 2.6 Radiological Hazards.
- 2.7 Personal Protective Equipment (PPE).
- 2.8 Special Hazard Environments.
- 2.9 Monitoring.

3) Community Health and Safety

- 3.1 Water Quality and Availability.
- 3.2 Structural Safety of Project Infrastructure.
- 3.3 Life and Fire Safety (L&FS).
- 3.4 Traffic Safety.
- 3.5 Transport of Hazardous Materials.
- 3.6 Disease Prevention.
- 3.7 Emergency Preparedness and Response



Table 4. Resource and Energy Consumption			
Parameter	Definition of Parameter	Unit	Industry Benchmark
Total Energy Consumption ⁽¹⁾	Total energy consumed by the process, including direct combustion, steam, electricity, etc.	MJ per metric ton of processed crude oil	2,300–3,300
Electric Power Consumption ⁽¹⁾	Total electricity consumed by the process	kWh per metric ton of processed crude oil	22–31

Fresh Make-up Water ⁽²⁾	The supply of raw filtered water that integrates drift and evaporation losses as well as blowdown	m ³ per metric ton of processed crude oil	0.07–0.66
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Notes:

1. Based on CONCAWE, EU refinery energy systems and efficiency, Report No. 3/12. (2012); CONCAWE, Oil Refining Report No. 1/13 (2013); U.S. Energy Information Administration (EIA), Short Term Energy Outlook (2013).
2. Based on EC JRC, "BREF Document for the Refining of Mineral Oil and Gas" (2015).

Table 5. Emission and Waste Generation		
Parameter	Unit	Industry Benchmark
Wastewater	m ³ /metric ton crude oil	0.1–1.5 ¹
Emissions CO ₂ ² NO _x ³ Particulate matter SO _x ⁴ VOC	Metric ton /million metric tons of processed crude oil	105,000–276,000 70–450 60–150 60–300 65–300
Solid waste		10–100

Notes:

1. Based on European Commission Joint Research Center (EC JRC), "Best Available Techniques Reference (BREF) Document for the Refining of Mineral Oil and Gas" (2015).
2. Not all GHGs, only total CO₂. Based on EC JRC, "BREF Document for the Refining of Mineral Oil and Gas" (2015).
3. NO+NO₂ expressed in NO₂ equivalent.
4. SO₂+SO₃ expressed in SO₂ equivalent.

Table 1. Air Emissions Levels for Petroleum Refining Facilities ^a

Pollutant	Units	Guideline Value
NO _x ^b	mg/Nm ³	300 100 for FCCU
SO _x ^c	mg/Nm ³	150 for SRU; 300 for FCCU 500
Particulate Matter (PM10) ^d	mg/Nm ³	25
Vanadium ^e	mg/Nm ³	5
Nickel	mg/Nm ³	1
H ₂ S ^e	mg/Nm ³	5

- a. Dry gas at 3 percent O₂.
- b. NO_x means NO+NO₂ expressed in NO₂ equivalent. Guideline value from European Commission Joint Research Center (EC JRC), "Best Available Techniques Reference (BREF) Document for the Refining of Mineral Oil and Gas" (2015).
- c. SO_x means SO₂ + SO₃ expressed in SO₂ equivalent.
- d. Guideline value from EC JRC, "BREF Document for the Refining of Mineral Oil and Gas" (2015). Particulate matter guideline value is also valid for FCCU.
- e. From G.S.R. 186(E) and 820(E), India Ministry of Environment and Forests Notification http://envfor.nic.in/legis/env_stand.htm.

Pollutant	Units	Guideline Value
pH	S.U.	6 – 9
BOD5	mg/L	30 ^b
COD	mg/L	125 ^c
Total Suspended Solids (TSS)	mg/L	30
Oil and Grease	mg/L	10
Chromium (total)	mg/L	0.5
Chromium (hexavalent)	mg/L	0.05
Copper	mg/L	0.5
Iron	mg/L	3
Cyanide Total Free	mg/L	1 0.1
Lead	mg/L	0.1
Nickel	mg/L	0.5
Mercury	mg/L	0.003 ^d
Arsenic	mg/L	0.1
Vanadium	mg/L	1
Phenol	mg/L	0.2
Benzene	mg/L	0.05 ^e
Benzo(a)pyrene	mg/L	0.05
Sulfides	mg/L	0.2
Total Nitrogen	mg/L	10 ^f
Total Phosphorus	mg/L	2
Temperature increase	°C	<3 ^g
Notes: a. Assumes an integrated petroleum refining facility. b. Guideline value from EC JRC, BREF (2015) Table 3.16; National legislations may have lower values such as China: 20 mg/L. c. Guideline value from EC JRC, BREF (2015); National legislations may have lower values such as China: 120 mg/L. d. EC JRC, BREF (2015) Table 3.16. e. Guideline value from EC JRC, BREF (2015). f. The effluent concentration of nitrogen (total) may be up to 40 mg/l in processes that include hydrogenation. g. At the edge of a scientifically established mixing zone, which takes into account ambient water quality, receiving water use, potential receptors, and assimilative capacity. EC JRC, BREF (2015) Table 3.16.		

BOD = Biological Oxygen Demand represents the amount of oxygen consumed by bacteria and other microorganisms while they decompose organic matter under aerobic (oxygen is present) conditions at a specified temperature.

COD = Chemical Oxygen Demand is the amount of dissolved oxygen that must be present in water to oxidize chemical organic materials, like petroleum.

CATEGORIES OF RESOURCES EFFICIENCY

Energy use

Water use

Raw materials use



ENERGY USE

- ☐ The efficient use of energy is an important way in which the Borrower can contribute to sustainable development. When the project is a potentially significant user of energy, in addition to applying the resource efficiency requirements of this ESS, the Borrower will adopt measures specified in the EHSGs to optimize energy usage, to the extent technically and financially feasible.
- ☐ Sectors that typically make significant use of energy include, for example, industrial production, resource extraction, water pumping, or transport. However, projects in other sectors may also be significant users of energy; these include waste management, agriculture, education, and health.

WATER USE

- ☐ Water “use” generally refers to withdrawals or applications, water “consumption” refers to water no longer available in the system due to evaporative or transpiration “losses” from use in agriculture, cooling or manufacturing processes, landscaping, or net consumption by people and livestock
- ☐ When a project is a significant user of water or contributes to depletion of water resources to the extent that third parties’ ability to access water is adversely affected, efforts should be made to reduce water use to a level at which these adverse impacts are avoided or at least mitigated. It is also important to consider impacts on water quality. Water quality can be affected by contaminated wastewater and refuse associated with projects involving construction, agriculture, and industry, among others.

WATER USE – Cont'd

- ☐ In case the project uses a potentially significant amount of water or will have potentially significant impacts on water quality, the Borrower will adopt measures, to the extent technically and financially feasible, that avoid or minimize water usage so that the project's water use does not have significant adverse impacts on communities, other users and the environment These measures include, but are not limited to:
 - ☐ The use of additional technically feasible water conservation measures within the Borrower's operations, the
 - ☐ The use of alternative water supplies,
 - ☐ Water consumption offsets to maintain total demand for water resources within the available supply, and
 - ☐ Evaluation of alternative project locations

WATER USE – Cont'd

- impacts on water quality include reducing or eliminating on-site and post-project runoff of polluted water, controlling sources of pollutants, and treating contaminated water before discharge into drainage systems or receiving waters, in a manner consistent with Good International Industrial Practice (GIIP) or other compatible good practices.
- Mitigation measures to reduce adverse impacts on water quality and availability (quantity and timing) for other uses include avoiding the impacts by re-siting the project, applying technical and policy resource efficiency measures to reduce system impacts such as reverse osmosis-based water recovery, dry cooling, minimizing evaporation/evapotranspiration, improving irrigation systems as well as irrigation scheduling, including use of recycled urban water, promoting soil-water conservation measures (such as conservation tillage and incorporation of crop residue where appropriate), and in terms of water quality, promoting rational use of fertilizers and better management of animal wastes.

WATER USE – Cont'd

For projects with a high-water demand that have potentially significant adverse impacts on communities, other users or the environment, the following will apply:

- ☐ A detailed water balance will be developed, maintained, monitored and reported periodically. A water balance supports management of water allocation among water users. It also supports river basin management planning because it provides information on water availability and demand and can indicate potential for water conservation
- ☐ Opportunities for improvement in water use efficiency. Various options exist to improve water use efficiency to avoid adverse impacts of water use. For example, agricultural water use efficiency can be improved through technologies and policies that incentivize maintaining net consumptive use (evapotranspiration) within specified limits, taking into account the implications for the overall watershed
- ☐ Specific water use (measured by volume of water used per unit production) will be assessed. Methods to support water balances include water accounting through remote sensing and in-situ sensors with appropriate analysis—to the extent technically and financially feasible, and in a manner proportionate to the project scope—to estimate water flows, fluxes, stocks, consumption, and services, and to communicate water-resources-related information to communities, users, and decision makers.

WATER USE – Cont'd

- ☐ Operations must be benchmarked to available industry standards of water use efficiency.
- ☐ The Borrower will assess, as part of the environmental and social assessment, the potential cumulative impacts of water use upon communities, other users and the environment and will identify and implement appropriate mitigation measures. With respect to water, the environmental and social assessment includes impacts on surface and groundwater, and impacts on water quality and quantity, including current and planned uses of water in the same hydraulic basin (including watersheds and groundwater). Appropriate mitigation measures should address short- and long-term cumulative impacts on communities, other users, ecosystem services, and the environment

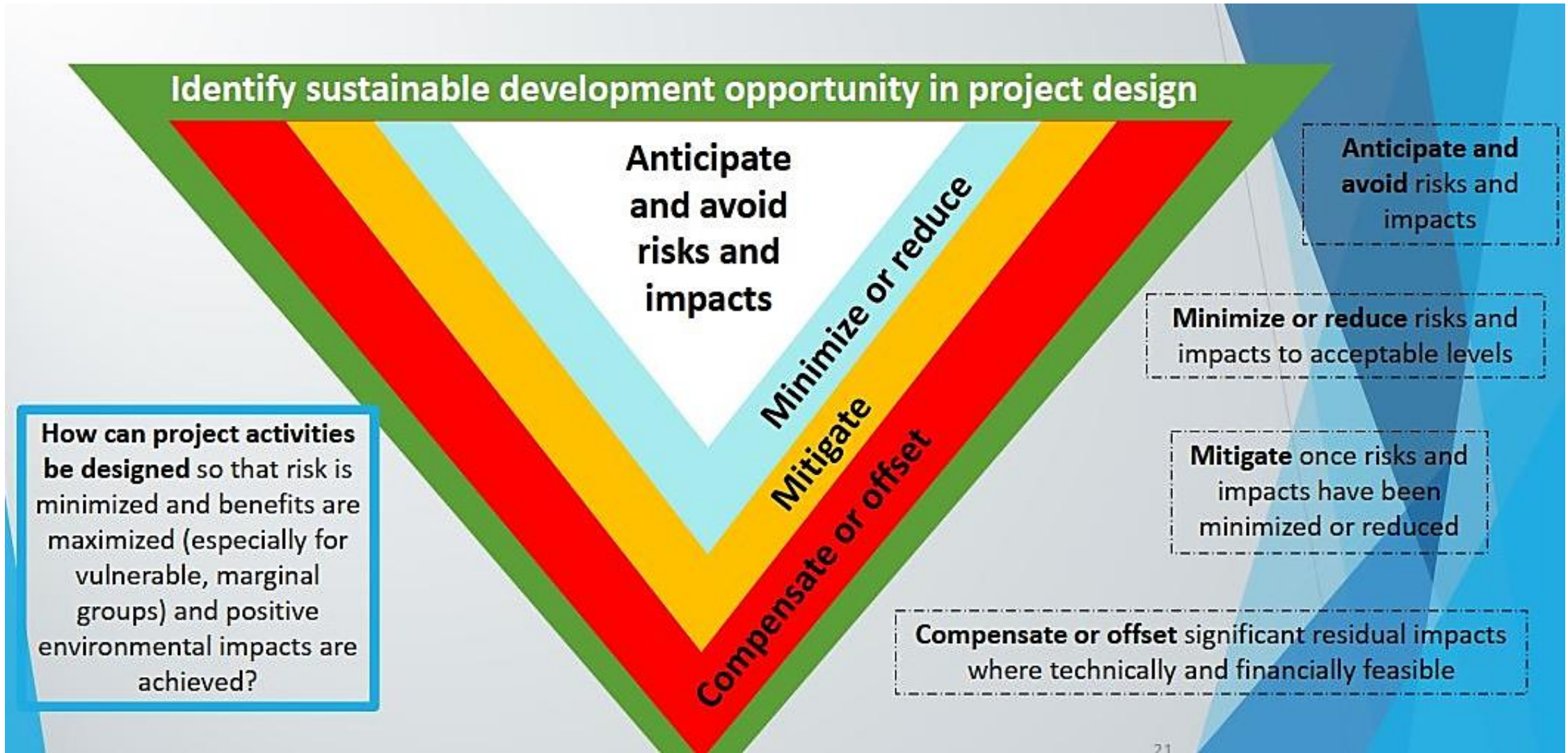
RAW MATERIALS USE

- ☐ When the project is a potentially significant user of raw materials, the Borrower will adopt measures specified in the EHSGs which are and other GIIP to support efficient use of raw materials, to the extent technically and financially feasible
- ☐ Efficiency in use of raw materials and, thereby, efficiency in costs and labor, can be achieved by eliminating and/or minimizing the quantity used in the project, selecting the most appropriate raw materials possible, and reducing and recycling wastes.
- ☐ Projects that usually make significant use of raw materials include road construction, housing and urban development, logging, mining, and chemical manufacture and processing. Measures to eliminate, substitute, or reduce raw material use in various phases of project development may be found in the General EHSGs, and in the Industry Sector Guidelines

POLLUTION PREVENTION AND MANAGEMENT

- ☐ The Borrower will avoid the release of pollutants or, when avoidance is not feasible, minimize and control the concentration and mass flow of their release using the performance levels and measures specified in national law or the EHSGs, whichever is most stringent. This applies to the release of pollutants to air, water and land due to routine, non-routine, and accidental circumstances, and with the potential for local, regional, and transboundary impacts.
- ☐ In some cases, end-of-pipe emission flows can be diluted to meet emission standards while maintaining the same aggregate emission of pollutants into the environment. Therefore, it may be useful to monitor both emission flows and emission loads.
- ☐ The Borrower will apply the **mitigation hierarchy** related to pollution prevention and management namely
 - ☐ Avoid the release of pollutants
 - ☐ If avoidance is not feasible, minimize the release of pollutants by controlling concentration and mass flows on the basis of the national standards or the EHSG which ever is more stringent
 - ☐ In case the pollutants exceed the national standards, the borrower will adopt the necessary mitigation measures so that pollutants to abide by the national standards or the EHSG within a specific time table and corrective actions

POLLUTION PREVENTION AND MANAGEMENT



POLLUTION PREVENTION AND MANAGEMENT - Assimilative Capacity

- ☐ To address potential adverse project impacts on human health and the environment, the Borrower will consider relevant factors, including, for example: (a) existing ambient conditions; (b) in areas already impacted by pollution, the remaining assimilative capacity of the environment; (c) existing and future land use; (d) the project's proximity to areas of importance to biodiversity; (e) the potential for cumulative impacts with uncertain and/or irreversible consequences; and (f) impacts of climate change.

- ☐ *The **assimilative capacity** of the environment refers to its capacity for absorbing an incremental load of pollutants while remaining below a threshold of unacceptable risk to human health and the environment*

- ☐ The assimilative capacity of receiving water bodies may depend on numerous factors, including, for example, the total volume of water, flow and flushing rates, temperature of received discharge, and the loading of pollutants from other effluent sources in the area or region. The assimilative capacity of soil may depend on the characteristics of both the received discharge and the soil, as well as the type of microbial, chemical, and physical reactions that take place in the soil layer, and climatic conditions

HISTORICAL POLLUTION

- ☐ Historical Pollution is defined as pollution from past activities affecting land and water resources for which no party has assumed or been assigned responsibility to address and carry out the required remediation
- ☐ The Borrower is responsible to identify the responsible party. If one or more third parties are responsible for the historical pollution, the Borrower will consider seeking recourse from such parties so that such pollution is appropriately remediated. The Borrower will implement adequate measures so that historical pollution at the site does not pose a significant risk to the health and safety of workers and communities
- ☐ In case the third party cannot be identified, and such pollution poses a significant risk to human health and the environment, the Borrower shall
- ☐ Conduct a health risk assessment in accordance with GIIP or in the first instance the EHSGs
- ☐ To address potential adverse project impacts on human health and the environment, the Borrower will consider the following relevant factors: (a) existing ambient conditions; (b) in areas already impacted by pollution, the remaining assimilative capacity of the environment; (c) existing and future land use; (d) the project's proximity to areas of importance to biodiversity; (e) the potential for cumulative impacts with uncertain and/or irreversible consequences; (f) impacts of climate change and (g) evaluation of project location alternatives.



TYPES OF POLLUTION PREVENTION AND MANAGEMENT

- ☐ Management of Air Pollution
- ☐ Management of hazardous and non-hazardous waste
- ☐ Management of chemicals and hazardous materials
- ☐ Management of Pesticides

MANAGEMENT OF AIR POLLUTION

- 'Air pollution' refers to the release of air pollutants (often associated with the combustion of fossil fuels), such as nitrogen oxides (NO_x), sulfur dioxide (SO₂), carbon monoxide (CO), particulate matter (PM), as well as other contaminants including GHGs.
- The options for reducing or preventing air pollution may include a combination of approaches such as: enhancing energy efficiency, process modification, selection of fuels or other materials with less polluting emissions, and application of emissions control techniques.
- Options for reducing GHG emissions may include alternative project locations; adoption of renewable or low carbon energy sources; alternatives to refrigerants with high global warming potential; more sustainable agricultural, forestry and livestock management practices; the reduction of fugitive emissions and gas flaring; carbon sequestration and storage; sustainable transport alternatives; and proper waste management practices
- Where the Borrower does not have the capacity to develop the estimate of GHG emissions, the Bank will provide assistance to the Borrower. The Bank can also provide technical assistance to the Borrower in the use of the methodologies established by the Bank so that Borrower competency is strengthened in this respect

EXAMPLES OF ENERGY EFFICIENCY AND RENEWABLE ENERGY SOURCES

□ Examples of energy-efficiency measures include cogeneration of heat and power; trigeneration of heat, power, and cooling; heat recovery; process changes; enhanced process control; leak elimination; insulation; and the use of more energy-efficient demand-side equipment (for example, electric motors, compressors, fans, pumps, heaters, and lighting fixtures).

□ Examples of renewable-energy sources include solar power or heat generation, hydro, wind, certain types of geothermal, and sustainable biomass. Biomass-based renewable energy systems can often be combined with pollution-control devices (for example, anaerobic digestion of liquid effluents) and can create useful energy from organic waste. This system can allow the carbon contained in the waste to be released into the atmosphere as carbon dioxide rather than as methane, a more potent GHG.

GHG EMISSIONS MONITORING AND REPORTING

- ☐ An effective monitoring plan defines the GHG emission source; processes and schedules for collecting emissions data
- ☐ The monitoring plan itself is a recordkeeping requirement only if the facility exceeds a certain threshold, or if it contains specific source categories that must report emissions.
- ☐ Setting up a successful monitoring plan involves a few important steps, including identifying sources of GHGs; determining the proper methods for monitoring; collecting the data; and selecting the procedures and methods for calculating and quality-checking the data from each measurement device or method.

GHG EMISSIONS MONITORING AND REPORTING – Cont'd

- ☐ A Monitoring Plan includes:
- ☐ Source identification of the sources that produce GHGs and describe what is included or excluded in the relevant industry source category
- ☐ Data Handling to outline data collection, calculation and data maintenance procedures. A large plant should consider using environmental management software that allows data analysis on a facility and corporate level. In any case, a facility must maintain the data in an organized, accessible and auditable form.
- ☐ GHG Report submittal for GHG emissions must be via the electronic greenhouse gas reporting tool (e-GGRT) available online at <https://ghgreporting.epa.gov/ghg/login.do>. A facility can stop monitoring and reporting GHG emissions to the EPA if its emissions are below 25,000mt/yr for five consecutive years, or under 15,000 mt/yr for three consecutive years.

MANAGEMENT OF HAZARDOUS WASTE AND NONHAZARDOUS WASTE

☐ Hazardous waste (to be defined by EHS&G): a hazardous waste is a waste with properties that make it dangerous or capable of having a harmful effect on human health or the environment. Hazardous waste is generated from many sources, ranging from industrial manufacturing process wastes to batteries and may come in many forms, including liquids, solids gases, and sludges.

☐ Hazardous waste characteristic include:

- Explosive
- Flammable Liquids/Solids
- Poisonous
- Toxic
- Ecotoxic
- Infectious Substances.

NON-HAZARDOUS WASTE

☐ All waste materials not specifically deemed hazardous under national laws are considered nonhazardous wastes.

☐ It includes paper, wood, plastics, glass, metals, chemicals and e-waste , as well as other materials generated by industrial, electrical commercial, agricultural, and municipal/ residential sources. Even though these wastes are not defined as hazardous, improper management of them poses significant risks to the environment and human health.

Therefore, the handling, transport, and disposal of on hazardous wastes is regulated by the government, largely at the state and local level.

MANAGEMENT OF HAZARDOUS WASTE

- ☐ In case of available national legislation, the Borrower will comply with existing requirements for management (including storage, transportation and disposal) of hazardous wastes including national legislation and applicable international conventions, including those relating to transboundary movement
- ☐ In case of non availability of national legislation, the Borrower will adopt GIMP alternatives for its environmentally sound and safe management and disposal.
- ☐ In case hazardous waste management is conducted by third parties, the Borrower will use contractors that are reputable and legitimate enterprises licensed by the relevant government regulatory agencies and, with respect to transportation and disposal, obtain chain of custody documentation to the final destination. The Borrower will ascertain whether licensed disposal sites are being operated to acceptable standards and where they are, the Borrower will use these sites. Otherwise, the Borrower will minimize waste sent to such sites and consider alternative disposal options, including the possibility of developing its own recovery or disposal facilities at the project site or elsewhere.

NON-HAZARDOUS WASTE MANAGEMENT

- ☐ The hierarchy ranks the various management strategies from most to least environmentally preferred. The hierarchy places emphasis on reducing, reusing, and recycling as key to sustainable materials management.

- ☐ It consists of:
 - ☐ Source reduction, also known as waste prevention, means reducing waste at the source, and is the most environmentally preferred strategy.
 - ☐ Recycling and composting are a series of activities that includes collecting used, reused, or unused items that would otherwise be considered waste; sorting and processing the recyclable products into raw materials; and remanufacturing the recycled raw materials into new products. Recycling also can include composting of food scraps, yard trimmings, and other organic materials.

NON-HAZARDOUS WASTE MANAGEMENT – Cont'd

- ☐ Energy recovery from waste is the conversion of non-recyclable waste materials into useable heat, electricity, or fuel through a variety of processes, including combustion, gasification, anaerobic digestion, and landfill gas (LFG) recovery. This process is often called waste-to-energy (WTE)
- ☐ Treatment and Disposal. Prior to disposal, treatment can help reduce the volume and toxicity of waste. Treatments can be physical (e.g., shredding), chemical (e.g., incineration), and biological (e.g., anaerobic digester). Landfills are the most common form of waste disposal and are an important component of an integrated waste management system. Modern landfills are well-engineered facilities located, designed, operated, and monitored to ensure compliance with state and national regulations

DEFINITION OF CHEMICALS AND HAZARDOUS MATERIALS

Any item or chemical which is a "health hazard" or "physical hazard", including the following:

- ☐ Chemicals that are carcinogens, toxic or highly toxic agents, reproductive toxins, irritants, corrosives, hepatotoxins, nephrotoxins, neurotoxins, agents that act on the hematopoietic system, and agents that damage the lungs, skin, eyes, or mucous membranes;
- ☐ Chemicals that are combustible liquids, compressed gases, explosives, flammable liquids, flammable solids, organic peroxides, oxidizers, unstable (reactive) or water reactive; and
- ☐ Chemicals that, in the course of normal handling, use or storage, may produce or release dusts, gases, fumes, vapors, mists or smoke having any of the above characteristics.
- ☐ Any item or chemical which, when being transported or moved, is a risk to public safety or is an environmental hazard
- ☐ These include chemicals with special characteristics which, in the opinion of the manufacturer, can cause harm to people, plants, or animals when released by spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing of in the environment (including the abandonment or discarding of barrels, containers, and other receptacles).

RELEVANT INTERNATIONAL CONVENTIONS ON HAZARDOUS WASTE

- ☐ The Stockholm Convention on Persistent Organic Pollutants;
- ☐ The Rotterdam Convention on the Prior Informed Consent for Certain Hazardous Chemicals and Pesticides in International Trade;
- ☐ The Montreal Protocol on Substances that Deplete the Ozone Layer,
- ☐ The Minamata Convention on Mercury (addresses the avoidance of mercury production, and measures regarding its intentional use in products and processes, unintentional release from industrial activity, and trade); and
- ☐ The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal
- ☐ The relevant international conventions are considered in the environmental and social assessment as they relate to the project, regardless of whether the Borrower is a Party to those conventions

MANAGEMENT OF CHEMICALS AND HAZARDOUS MATERIALS (OTHER THAN PESTICIDES)

- ☐ The Borrower will avoid the manufacture, trade and use of chemicals and hazardous materials subject to international bans, restrictions or phaseouts unless for an acceptable purpose as defined by the conventions or protocols or if an exemption has been obtained by the Borrower, consistent with Borrower government commitments under the applicable international agreements.
- ☐ The Borrower will minimize and control the release and use of hazardous materials. The production, transportation, handling, storage, and use of hazardous materials for project activities will be assessed through the environmental and social assessment. The Borrower will consider less hazardous substitutes where hazardous materials are intended to be used in manufacturing processes or other operations

DEFINITION OF PESTICIDES

☐ A pesticide is any substance used to kill, repel, or control certain forms of plant or animal life that are considered to be pests.

Pesticides include

- herbicides for destroying weeds and other unwanted vegetation,
- insecticides for controlling a wide variety of insects
- fungicides used to prevent the growth of molds and mildew, disinfectants for preventing the spread of bacteria, and compounds used to control mice and rats.

☐ Because of the widespread use of agricultural chemicals in food production, people are exposed to low levels of pesticide residues through their diets. Scientists do not yet have a clear understanding of the health effects of these pesticide residues.

RESTRICTION ON PESTICIDES

- ☐ The Borrower will not use any pesticides or pesticide products or formulations unless such use is in compliance with the EHSGs
- ☐ Restriction applies to the following pesticides. The Borrower will not use
 - Any pesticide products that contain active ingredients that are restricted under applicable international conventions or their protocols.
 - Any formulated pesticide products that meet the criteria of carcinogenicity, mutagenicity, or reproductive toxicity as set forth by relevant international agencies.
 - Pesticide formulations of products if: (a) the country lacks restrictions on their distribution, management and use; or (b) they are likely to be used by, or be accessible to, lay personnel, farmers, or others without training, equipment, and facilities to handle, store, and apply these products properly

CRITERIA FOR SELECTION OF PESTICIDES

- i. They will have negligible adverse human health effects;
- ii. They will be shown to be effective against the target species;
- iii. They will have minimal effect on nontarget species and the natural environment. Pesticides used in public health programs will be demonstrated to be safe for inhabitants and domestic animals in the treated areas, as well as for personnel applying them;
- iv. Their use will take into account the need to prevent the development of resistance in pests; and
- v. where registration is required, all pesticides will be registered or otherwise authorized for use on the crops and livestock, or for the use patterns, for which they are intended under the project.
- vi. All pesticides used will be manufactured, formulated, packaged, labeled, handled, stored, disposed of, and applied according to relevant international standards and codes of conduct, as well as the EHS

REQUIREMENT FOR THE USE OF PESTICIDES

- ☐ Preference given to Integrated Pest Management (IPM)
- ☐ IPM refers to a mix of farmer-driven, ecologically based pest control practices that seeks to reduce reliance on synthetic chemical pesticides. It involves:
 - Managing pests (keeping them below economically damaging levels) rather than seeking to eradicate them;
 - Integrating multiple methods (relying, to the extent possible, on nonchemical measures) to keep pest populations low; and
 - Selecting and applying pesticides, when they have to be used, in a way that minimizes adverse effects on beneficial organisms, humans, and the environment.
- ☐ For any project involving significant pest management issues or any project contemplating activities that may lead to significant pest and pesticide management issues, The Borrower shall prepare a Pest Management Plan (PMP)

Thank you

Comments?

Questions?



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SUSTAINABLE PROCUREMENT ENVIRONMENT AND SOCIAL STANDARDS CENTRE OF EXCELLENCE (SPESSCE), AHMADU BELLO UNIVERSITY ZARIA

Short Course on:

DEVELOPMENT OF ENVIRONMENTAL & SOCIAL COMMITMENT PLAN
(ESCP)

4th – 7th April, 2022

Lecture theme: ESS 4: Community Health and Safety

A. Bello
SPESSCE, ABU



WORLD BANK GROUP



ESS 4: COMMUNITY HEALTH AND SAFETY

Outline:

- ☐ Water Quality and Availability
- ☐ Structural Safety of Project Infrastructure
- ☐ Specific Requirements for New Buildings.
- ☐ Specific Requirements for Existing Buildings Hazards
- ☐ Traffic Safety
- ☐ Ecosystem Services
- ☐ Community Exposure to Health Issues
- ☐ Transport of Hazardous Materials
- ☐ Safety of Dams

ESS 4: COMMUNITY HEALTH AND SAFETY

Objectives

- ☐ To anticipate and avoid adverse impacts on the health and safety of project affected communities during the project life cycle from both routine and nonroutine circumstances.
- ☐ To promote quality and safety, and considerations
- ☐ Relating to climate change, in the design and construction of infrastructure, including dams.
- ☐ To avoid or minimize community exposure to project-related traffic and road safety risks, diseases and hazardous materials.
- ☐ To have in place effective measures to address
- ☐ Emergency events.
- ☐ To ensure that the safeguarding of personnel and property is carried out in a manner that avoids or minimizes risks to the project-affected communities

ESS 4: COMMUNITY HEALTH AND SAFETY – Cont'd

Scope of application

- ☐ The applicability of this ESS is established during the environmental and social assessment described in ESS1.
- ☐ This ESS addresses potential risks and impacts on communities that may be affected by project activities. Occupational health and safety (OHS) requirements for project workers are set out in ESS2, and measures to avoid or minimize impacts on human health and the environment due to existing or potential pollution are set out in ESS3.

Requirements

- ☐ The Borrower will evaluate the risks and impacts on the project related to community, health and safety including equipment , safety of services; traffic and road safety; ecosystem services; community exposure to health issues; management and safety of hazardous materials ;emergency preparedness from natural and man mad hazards

GENERAL REQUIREMENTS

- ☐ The Borrower will evaluate the risks and impacts of the project on the health and safety of the affected communities during the project life cycle, including those who, because of their particular circumstances, may be vulnerable.
- ☐ The Borrower will identify risks and impacts and propose mitigation measures in accordance with the mitigation hierarchy

WATER QUALITY

- ☐ Drinking water sources, whether public or private, should at all times be protected so that they meet or exceed applicable nationally acceptable standards or in their absence the current edition of WHO Guidelines for Drinking-Water Quality
- ☐ Where the project includes the delivery of water to the community or to users of facility infrastructure (such as hotel guests and hospital patients), where water may be used for drinking, cooking, washing, and bathing, water quality should comply with nationally acceptable standards or in their absence the current edition of WHO Drinking Water Guidelines.
- ☐ Water quality for more sensitive well-being-related demands such as water used in health care facilities or food production may require more stringent, industry-specific guidelines or standards, as applicable. Any dependency factors associated with the delivery of water to the local community should be planned for and managed to ensure the sustainability of the water supply by involving the community in its management to minimize the dependency in the long-term

WATER AVAILABILITY

- ☐ The potential effect of groundwater or surface water abstraction for project activities should be properly assessed through a combination of field testing and modeling techniques, accounting for seasonal variability and projected changes in demand in the project area.
- ☐ Project activities should not compromise the availability of water for personal hygiene needs and should take account of potential future increases in demand. The overall target should be the availability of 100 liters per person per day although lower levels may be used to meet basic health requirements

STRUCTURAL SAFETY ELEMENTS OF PROJECT INFRASTRUCTURE

☐ “Structural elements” are the physical parts of the project. They may include existing or new buildings, earthworks, bridges, retaining walls, drainage ditches, roadways, penstocks, water and irrigation channels, pylons, air conditioning units, power stations, electrical utility lighting, transmission and distribution poles (and their potential need for relocation), underground utilities, and dams. They would include other critical structures, for example, structures that are at risk for flooding.

Hazards posed to the public while accessing project facilities may include:

- ☐ Physical trauma associated with failure of building structures •
- ☐ Burns and smoke inhalation from fires
- ☐ Injuries suffered as a consequence of falls or contact with heavy equipment
- ☐ Respiratory distress from dust, fumes, or noxious odors
- ☐ Exposure to hazardous materials

Reduction of potential hazards is best accomplished during the design phase when the structural design, layout and site modifications can be adapted more easily

INFRASTRUCTURE FOR NEW BUILDINGS AND STRUCTURE IN HIGH RISKS LOCATIONS

- For new buildings and structures that will be accessed by members of the public, the Borrower will consider the incremental risks of the public's potential exposure to operational accidents or natural hazards, including extreme weather events. Where technically and financially feasible, the Borrower will also apply the concept of universal access (unimpeded access for people of all ages and abilities in different situations and under various circumstances) to the design and construction of such new buildings.
- When structural elements or components of a project are situated in high-risk locations, including those with risk of extreme weather or slow onset events, and their failure or malfunction may threaten the safety of communities, the Borrower will engage one or more independent experts with relevant and recognized experience in similar projects, separate from those responsible for the design and construction, to conduct a review as early as possible in project development and throughout the stages of project design, construction, operation, and decommissioning.

EXAMPLES OF UNIVERSAL ACCESS TO BUILDINGS AND HIGH RISKS LOCATIONS

- Examples of measures to support universal access in buildings or structures include sidewalks with ramps and drop curbs, clear and visible signs, tactile strips, audible announcement of signs, appropriate placement and height of equipment, easily identified emergency exits, raised toilet seats and handrails, and wide doors.
- Examples of high-risk locations include those where communities are vulnerable to failure or malfunction of structural elements of the project because of a heightened level of environmental risk, for example, from earthquakes, landslides, drought, floods, cyclones, wildfires, and storms.
- High-risk locations may also include areas of high social risk such as armed conflict or criminal activity, where functioning electricity for lighting, communications, or road infrastructure may be a structural element that is critical for community health and safety, particularly for women and children and other vulnerable groups.
- Slow onset changes because of climate change may include changing current patterns, sea level rise, increasing temperatures, and desertification. Where such situations are relevant to the project, appropriate experts are engaged based on the significance and type of risks, and the assessment that may be required.

SPECIFIC REQUIREMENTS FOR NEW BUILDINGS

- ☐ The nature and extent of life and fire safety systems required will depend on the building type, structure, construction, occupancy, and exposures. Sponsors should prepare a Life and Fire Safety Master Plan identifying major fire risks, applicable codes, standards and regulations, and mitigation measures.
- ☐ The Master Plan should be prepared by a suitably qualified professional, and adequately cover, but not be limited to, the following issues
 - ☐ Fire Prevention
 - ☐ Means of Egress that facilitate a safe evacuation by residents and/or occupants in case of fire
 - ☐ Detection & Alarm Systems
 - ☐ Compartmentalization that involves all measures to prevent or slow the spread of fire and smoke
 - ☐ Fire Suppression and Control
 - ☐ Emergency Response Plan
 - ☐ Operation and Maintenance

SPECIFIC REQUIREMENTS FOR EXISTING BUILDINGS

- ☐ All life and fire safety guideline requirements for new buildings apply to existing buildings programmed for renovation.
- ☐ A suitably qualified professional conducts a complete life and fire safety review of existing buildings slated for renovation. The findings and recommendations of the review are used as the basis to establish the scope of work of a Corrective Action Plan and a time frame for implementing the changes.
- ☐ If it becomes apparent that life and fire safety conditions are deficient in an existing building that is not part of the project or that has not been programmed for renovation, a life and fire safety review of the building may be conducted by a suitably qualified professional. The findings and recommendations of the review are used as the basis to establish the scope of work of a Corrective Action Plan and a time frame for implementing the changes.

SAFETY OF SERVICES

- ☐ Where the project involves provision of services to communities, the Borrower will establish and implement appropriate quality management systems to anticipate and minimize risks and impacts that such services may have on community health and safety. In such circumstances, the Borrower will also apply the concept of universal access, where technically and financially feasible.
- ☐ Management systems allow for timely identification of community health and safety risks and are designed to provide for compliance with national and internationally recognized environmental, health and safety standards. These systems should take into account project-related risks as well as external risks that may impact the project. In the event that such management systems are not in place at the start of the project identification, they could be developed as part of the project

EXAMPLES OF COMMUNITY RISKS

- ☐ Water or irrigation canals, such as drowning, flooding, or water-related diseases;
- ☐ Waste disposal, such as toxicity, waste dump collapse, or air pollution;
- ☐ Quarries or excavation works, such as rock falls or hazardous equipment;
- ☐ Water and sanitation services, such as contaminated water or spread of disease;
- ☐ Electricity supply, which may result in electric shock from electrical cabinets or cables;
- ☐ Service providers, may use their service for the purpose of financial, sexual, or other exploitation, particularly of vulnerable groups such as women, children, and the elderly

SAFETY OF SERVICES AND TRAFFIC ROAD AND SAFETY

- ☐ For safety of services: the Borrower will establish and implement appropriate quality management systems to anticipate and minimize risks and impacts that such services may have on community health and safety. In such circumstances, the Borrower will also apply the concept of universal access, where technically and financially feasible
- ☐ For Traffic Road and Services, the Borrower will:
- ☐ Identify, evaluate and monitor the potential traffic and road safety risks to workers, affected communities and road users throughout the project life cycle and, where appropriate, will develop measures and plans to address them.
- ☐ Incorporate technically and financially feasible road safety measures into the project design to prevent and mitigate potential road safety risks to road users and affected communities.

ROAD SAFETY ASSESSMENT

- A road safety assessment is conducted as part of the environmental and social assessment when the traffic and road safety issues are likely to be significant for the community or road users, for example, in projects that involve new roads, road improvements, traffic management, increasing traffic speed, bus rapid transport, and other forms of urban transport that may change the traffic mix.
- The assessment considers risks to pedestrians and to important aspects of community cohesion, for example, from bisecting communities or pedestrian routes, creating transport nodes, or affecting access to or traffic on a road. Both construction-related and operational risks are considered. The requirements for vulnerable groups, such as adequate lighting in public areas, suitable ablution facilities near transport, and adequate road crossing structures should all be taken into consideration in the assessment

ECOSYSTEM SERVICES

- ☐ Ecosystem services are defined as the direct and indirect contributions of ecosystems to human well being and have an impact on our survival and quality of life. Ecosystem services are therefore the benefits that people derive from ecosystems
- ☐ Ecosystem services are grouped into four broad categories:
 - ☐ Provisioning, such as the production of food and water;
 - ☐ Regulating, such as the control of climate and disease;
 - ☐ Supporting, such as nutrient cycles and oxygen production; and
 - ☐ cultural, such as spiritual and recreational benefits.
- ☐ With respect to this ESS, ecosystem services are limited to provisioning and regulating services. Whenever appropriate and feasible, the Borrower will identify the project's potential risks and impacts on ecosystem services that may be exacerbated by climate change.
- ☐ Adverse impacts will be avoided, and if they are unavoidable, the Borrower will implement appropriate mitigation measures.

COMMUNITY EXPOSURE TO HEALTH ISSUES

- ☐ Communicable diseases pose a significant public health threat worldwide.
 - ☐ Health hazards typically associated with large development projects are those relating to poor sanitation and living conditions, sexual transmission and vector-borne infections.
 - ☐ Communicable diseases of most concern during the construction phase due to labor mobility are sexually-transmitted diseases (STDs), such as HIV/AIDS.
- Recognizing that no single measure is likely to be effective in the long term, successful initiatives typically involve a combination of behavioral and environmental modifications.

MANAGEMENT AND SAFETY OF HAZARDOUS WASTE AND EMERGENCY PREPAREDNESS

- ☐ The Borrower will avoid or minimize the potential for community exposure to hazardous materials and substances that may be released by the project and will exercise special care to avoid or minimize their exposure by modifying, substituting, or eliminating the condition or material causing the potential hazards. This will also include decommissioning
- ☐ The Borrower will identify and implement measures to address emergency events. An emergency event is an unanticipated incident, arising from both natural and manmade hazards, typically in the form of fire, explosions, leaks or spills, which may occur for a variety of different reasons, including failure to implement operating procedures that are designed to prevent their occurrence, extreme weather or lack of early warning.
- ☐ As a result, the borrower will prepare a risk hazard assessment (RHA) as part of the ESIA and on the basis of the RHA, the borrower will prepare an Emergency Response Plan (ERP) in coordination with the relevant local authorities and the affected community

SECURITY OF PERSONNEL

- ☐ In case the Borrower will retain security personnel to provide security to safeguard personnel and property, the Borrower will be guided by the principle of proportionality i.e that an action should not be more severe than is necessary,, and by the Good International Industry Practice (standards)
- ☐ The Borrower will
- ☐ Not sanction any use of force by direct or contracted workers in providing security except when used for preventive and defensive purposes in proportion to the nature and extent of the threat
- ☐ Make reasonable inquiries to verify that the direct or contracted workers retained by the Borrower to provide security are not implicated in past abuses;
- ☐ Train them adequately (or determine that they are properly trained) in the use of force (and where applicable, firearms), and appropriate conduct toward workers and affected communities; and
- ☐ Require them to act within the applicable law and any requirements set out in the ESCP.
- ☐ Review all allegations of unlawful or abusive acts of security personnel,
- ☐ Take action (or urge appropriate parties to take action) to prevent recurrence and, where necessary, report unlawful and abusive acts to the relevant authorities
- ☐ All the above requirements should be included in the bidding document and contract

SECURITY RISK ASSESSMENT AND SECURITY MANAGEMENT PLAN

- ☐ The Borrower is responsible for the assessment of security risks for the project, including security risks to project workers, assets, and activities. This Security Risk Assessment (SRA) is typically part of the environmental and social impact assessment (ESIA) and includes a determination of the level of security required for the project. Where such risks are considered low, security arrangements might consist of simple measures, such as fencing or signs and security guards at night.
- ☐ Where security risks are considered more substantial, the Borrower and/or contractors might choose to engage private security providers or work with public security personnel to provide protection.
- ☐ In high-risk situations Depending on the severity and complexity of the security risk, the Borrower should prepare a stand-alone Security Management Plan (SMP) and/or ensure that key elements of the security assessment and arrangements are reflected in the Environmental and Social Commitment Plan (ESCP) for the Project. This includes mitigation measures to manage risks to the human security of project-affected communities and project workers that could arise from the use of security personnel. Mitigation measures that have security benefits or reduce security impacts may be closely linked to social investment or other social mitigation measures.

NEW LARGE AND SMALL DAMS

Large Dams are defined as:

- ☐ Dams with a height of 15 meters or greater from the lowest foundation to crest
- ☐ Dams between 5 meters and 15 meters impounding more than 3 million cubic meters
- ☐ Small dams regardless of size retention capacity that
- ☐ Could cause safety risks, such as an unusually ,large flood-handling requirement, location in a zone of high seismicity, foundations that are complex and difficult to prepare, retention of toxic materials, or potential for significant downstream impacts or
- ☐ Are expected to become large dams during their operating life.
- ☐ Dams include, for example, a water storage dam for a hydropower, water supply, irrigation, flood control, or multipurpose project, a tailings or a slimes dam, or an ash impoundment dam
- ☐ A tailings dam is typically an earth-fill embankment dam used to store byproducts of mining operations (gold, copper, uranium) after separating the ore from the gangue (the worthless rock or vein matter in which valuable metals or minerals occur.). Tailings can be liquid, solid, or a slurry of fine particles, and are usually highly toxic and potentially radioactive. Solid tailings are often used as part of the structure itself.

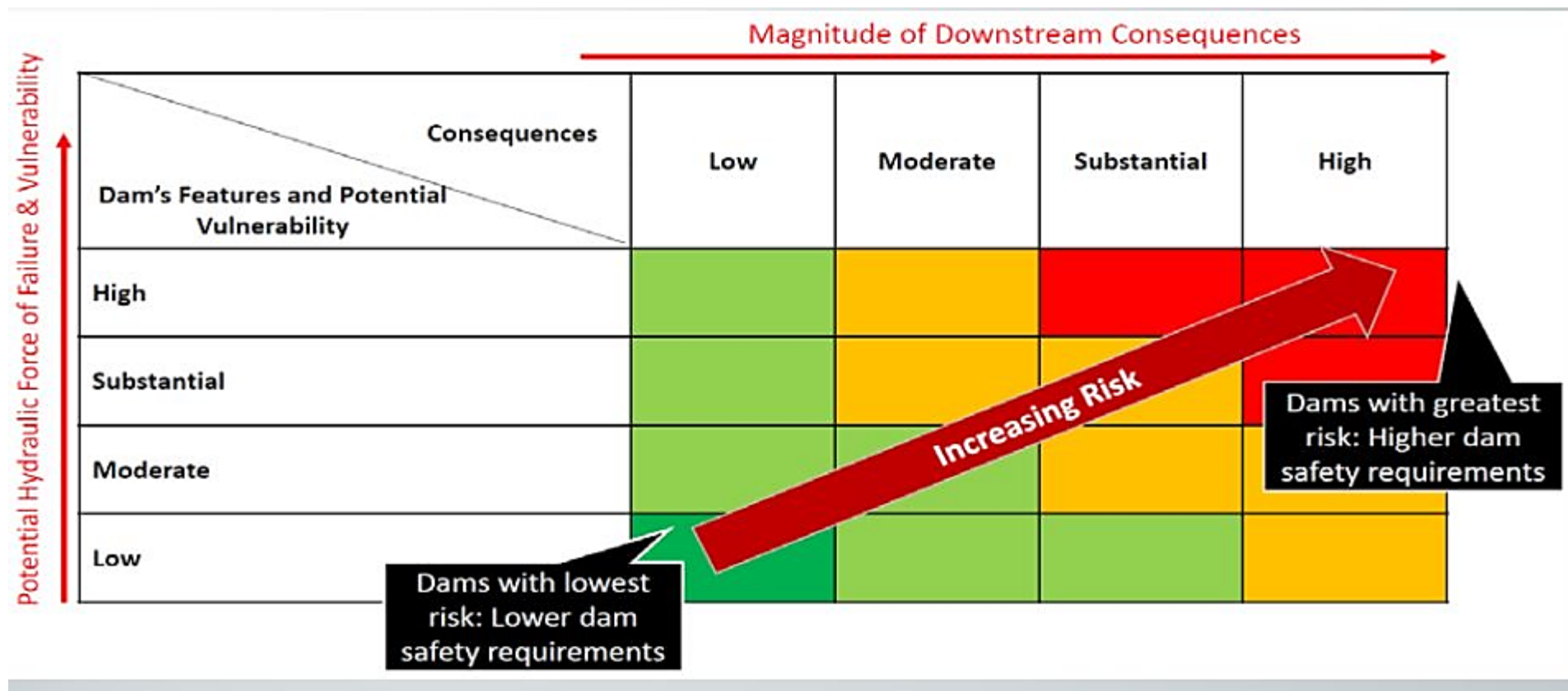
MAJOR MODIFICATIONS ON INTRODUCED IN ESS4 CONCERNING DAMS AND TYPES OF OPERATIONS

- ☐ These include:
- ☐ Lowering the threshold for large dams with a reservoir capacity greater than 3 million cubic meters from 10 meters to 5 meters in height;
- ☐ Including all other dams, regardless of size or retention capacity (referred to as small dams) that could cause safety risks; and,
- ☐ Explicitly introducing a proportional risk management approach to the application of the dam safety requirements, considering a dam's size, complexity, and potential risk
- ☐ The Three types of operations involving dams are:
- ☐ Construction of new dams or Dams Under Construction DUCs (This includes construction of a new dam and DUC financed by the borrower and/or other multilateral and bilateral financing agencies as an integral part of World Bank-funded projects under a co-financing or parallel financing agreement)
- ☐ Rehabilitation of existing dams; and
- ☐ Projects that rely or may rely on existing dams

REQUIREMENTS FOR NEW DAMS: INDEPENDENT PANEL OF EXPERTS

- ☐ A three members Panel must be established for the new Dams.
- ☐ The Panel consists of three or more experts, appointed by the Borrower and acceptable to the Bank, with expertise in the various technical fields relevant to the safety aspects of the particular dam would be assigned to review , design, and construction of the dam and the start of operations.
- ☐ The Panel will review and advise the Borrower on matters relative to dam safety and other critical aspects of the dam, its appurtenant structures, the catchment area, the area surrounding the reservoir, and downstream areas.
- ☐ The Borrower will normally extend the Panel's composition and terms of reference beyond dam safety, to cover such areas as project formulation; technical design; construction procedures; and for water storage dams, associated works such as power facilities, river diversion during construction, ship lifts (a machine for transporting boats between water at two different elevations, and is an alternative to the canal lock) and fish ladders (a series of pools arranged like steps by which fish can pass over a dam in going upstream)

TYPICAL RISK CATEGORIZATION DIAGRAM FOR NEW AND EXISTING DAMS



CASE STUDY ANALYSIS

<https://www.youtube.com/watch?v=I7PYj3vGu7I>

Case : Post-earth quake Reconstruction – An Industrial Park in Haiti
(New York Times)

Questions

- ☐ How can Resource efficiency be achieved in this project?
- ☐ What are the likely community health issues associated with the project?
- ☐ Do you think the community will be satisfied with their resettlement?

Thank you

Comments?

Questions?



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