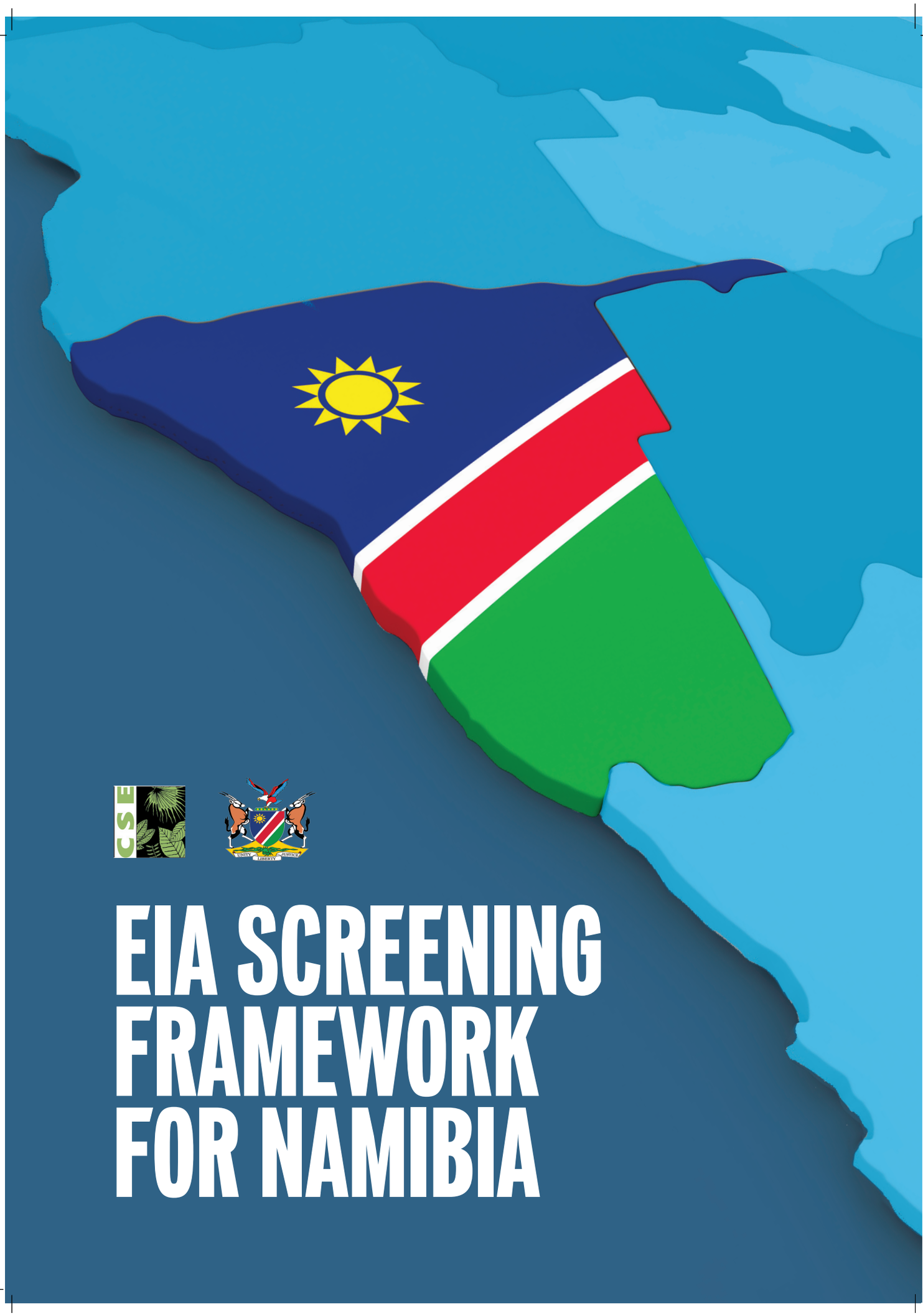

EIA SCREENING FRAMEWORK FOR NAMIBIA

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Centre for Science and Environment

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ABBREVIATIONS

EIA—Environmental Impact Assessment
ESMP—Environmental and Social Management Plan
EMA—Environmental Management Act
ECC—Environmental Clearance Certificate
EC—Environmental Commissioner
EAP—Environmental Assessment Practitioner
IFC—International Finance Corporation
WHO—World Health Organization
KLD—Kilo litre per day
BOD—Biological oxygen demand
COD—Chemical oxygen demand
HAPs—Hazardous air pollutants

I. Background

Before setting up of any development project, it is mandatory, globally, for the proponent or developer to obtain an Environmental Clearance. For a decade, Environmental Impact Assessment (EIA) has been used as a legal instrument to assess the environmental and social impact prior to the giving a green nod to any proposed activity. But do all projects need a detailed assessment? It is well known that not all projects require an EIA—some can be cleared merely on the basis of a small investigation or a sound Environmental and Social Management Plan (ESMP).

In most countries, the decision on whether a proposed project or activity is subjected to EIA or not is done through the process of project categorization. Usually, categorization is based on the grouping projects or activities according to project type, size and potential impacts. In some countries, however, categorization is done by simply directly listing projects or activity based on its impact from generic global experience. As a result, most projects, including low-impact projects, are unnecessarily subjected to EIA.

Screening is an effective tool used to assess whether a project requires a detailed environmental assessment. If screening is not deemed to be needed, a preliminary assessment, scoping report or environmental and social management plan may be sufficient for granting Environmental Clearance. This is usually done by using environmental and social indicators to quickly understand the potential stresses introduced by the proposed activity on the environment.

An appropriately designed screening tool not only improves decision making but also helps prevent time and resource wastage from assessing projects with insignificant environmental impacts. Avoiding unnecessary EIAs reduces the burden on the developer and inculcates in them environmental awareness and a pro-active approach towards producing quality EIAs and EMPs.

II. Why screening?

The goal of screening is to assess:

- Whether a proposal should be subject to an Environmental Impact Assessment (EIA);
- If the project is subjected to EIA, what level of investigation is required;
- Whether any specific study is needed instead of EIA; and
- Whether the project application can be cleared with ESMP in the same state.

Scope of the framework

This framework is specific to screening and its overall objective is to improve the efficacy of the EIA process and arrive at a sound judgement. The scope of this framework is as follows:

- It attempts to guide the regulatory agencies/competent authority on how to undertake screening as a process that will enhance the efficacy of the environmental clearance process.
- It helps the competent authority to develop a rationale for screening in order to decide the requirement of assessment and ensure that it makes the process legally sound.
- It will help the competent authority to assess if the application is subjected to a detailed assessment or a specific study.

This framework is not a straight-jacketed solution for screening. Rather, it needs to be updated and altered as per each country or region based on periodic review.

III. Screening criteria in different countries

An analysis of screening provisions adopted by different countries reveals that most of the countries have screening criteria *(see Annexure).*

Namibia

Namibia has a list of activities that cannot be undertaken without an Environmental Clearance Certificate. On submission of application for a listed or non-listed activity, the Environmental Commissioner (EC) screens whether EIA is required. The legislation that lays down the applicable procedure doesn't specially mention the term 'screening' but it implies it. The EC, after receiving the application, consults the relevant organ of state, takes into account their comments, and assesses the impact of the proposed activity, as well as its nature and extent. Then it ensures that the proposed activity adheres to the country's principles of environmental management. Thereafter, the EC decides on the need for EIA and communicates it to the applicant. The regulations do not specify any thresholds or criteria based on a rationale to help the EC determine on the need for EIA objectively. The EC decides on a case-to-case basis—the decisions are not backed by any rational framework and can, therefore, be subject to objections.

Tanzania

Tanzania has the screening criteria embedded in the environmental management act and regulations. A few indicators provide straight knock-out criteria but the indicators are mainly subjective. They are qualitative but not quantitative. Therefore, the screening decision will depend on the perception of the competent authority. But perceptions may vary from person to person. Hence, it can be easily challenged. Also, significant indicators laid out in the screening criteria can only be evaluated after the steps for data collection and assessment have been completed. Hence, the need to develop a rationale or scientific framework to back the decision taken by the competent authority arises.

Ghana

As per Ghana's regulations, all projects, irrespective of type or scale, will be subjected to screening. The applicant should submit a report to the authority, indicating details of the proposed project, such as location, size, land use and technology, as well

as a clear commitment to avoid adverse environmental effects and steps necessary for its reduction. With these parameters taken into consideration, the competent authority must determine the need for EIA.

However, the regulations are silent about the basis on which the competent authority takes such decisions on. It appears that the screening decision depends on the perception of the competent authority based on the information provided by the developer. Such a decision is not backed by any rational framework and, hence, can be subjected to objections.

Kenya

Kenya's Environmental Management and Co-ordination Act says that upon submission of the application for the environmental clearance license, the proponent should submit a project report. It should state the nature, location and design of the project; activities that will be undertaken during the project construction, operation and decommissioning phases; materials to be used, products and by-products, including waste to be generated by the project and methods of disposal; potential environmental impacts of the project and mitigation measures to be taken during and after implementation of the project; a plan to ensure the health and safety of the workers and neighbouring communities, etc.

The competent authority assesses this report. If it finds that there is no significant impact of the project, it grants the environmental license. If the authority feels that the intended project is likely to cause negative impacts or that the project report does not disclose sufficient mitigation measures, it directs the proponent to undertake an EIA study. There are no parameters or respective thresholds laid down by the competent authority upon which it can base the screening decision. Need for EIA is decided by the competent authority on project to project basis. Such decision is not backed by any rational framework. Hence, it can be subjected to objections. Moreover, the report is like a social and environmental management plan and does not mention the important indicators relating to the stress on the natural resources and the pollution potential of the project.

Nigeria

Nigeria's Environmental Assessment Act, 1992 specifies a mandatory list and an exclusion list of projects. Projects falling in the mandatory list have to undertake environmental

assessment as per the Act and submit it to the environmental agency. Excluded projects are those that the President feels will have minimum environmental effect and are to be carried out during national emergency or are in the interest of public health and safety. This implies that such projects will not require an environmental assessment.

Projects not falling under these two lists have to submit a screening report at the time of application. A screening report is prepared by the project proponent. Details of this report are laid out in their legislation. This screening report is similar to a short EIA or a preliminary environmental assessment which is assessed by the competent authority and shared in the public domain before a final decision is taken for the requirement of a detailed EIA.

Based on this report the competent authority takes any of the following decisions:

- Permit the project;
- Refer to the project to council for further referral;
- Reject the project;
- Recommend further mitigation measures; or
- Refer the report to the public and take into consideration their comments.

The Act lacks a concrete basis for the screening decision taken by the competent authority. It categorically mentions that the decision is based on the 'opinion' of the competent authority. However, there is lack of rationality behind such opinions/decision. Therefore, there is a need for a proper screening framework.

India

The government has done the first level of project screening by categorizing projects into Categories A and B. For Category A projects, it is mandatory to undertake EIA. Category B projects are further screened into B1 and B2. Category B1 projects are subjected to EIA and Category B2 projects are cleared on the basis of a sound Environmental and Social Management Plan. This decision is based on the discretion of the competent authority. There is no separate criterion specified for screening the B category projects into B1 and B2 available in the public domain.'

The aforementioned analysis shows that countries have listed activities for which EIA is required but even within the listed activities, the competent authority decides which project is

subjected to EIA. Further, there are no set indicators for screening. Most of the countries assess the need for EIA on a subjective, case-to-case basis. The policies mandating EIA in most of the countries generally set broad parameters to assess the need for EIA. Such parameters are generic in nature and do not take into account the requirement of the project and the stress the project will have on the environment. The indicators are qualitative in nature—the need, however, is for them to be quantitative as well.

It is true that with some indicators, the competent authority can take a call directly. But the majority require certain thought and perception, which may vary from project to project, region to region and person to person. Therefore, screening should be done on the basis of merit, wherein the indicators should be set in advance with appropriate scientific rationale.

Due to the absence of scientific and rational screening criteria, many low-risk projects get subjected to EIA when they do not require a detailed assessment and can be cleared merely on the basis of a sound Environmental and Social Management Plan or a good environmental charter. This may lead to uncertainty and delay in the process, reducing the efficacy of the environmental clearance process. Therefore, well-devised screening criteria will benefit all the stakeholders.

IV. Process of issuing Environmental Clearance Certificate in Namibia

Namibia's Environment Management Act (EMA), 2007 is an umbrella act to promote sustainable use of natural resources and management of environment. The EMA lays down the provisions related to the EIA, such as the procedure for identifying competent authorities, application for Environmental Clearance Certificate, registration of application and determining whether an assessment is required, procedure where assessment is required, duration of Environmental Clearance Certificate and suspension or cancellation of Environmental Clearance Certificate.

In order to streamline the assessment process, under Section 56 of EMA, 2007, the minister has enacted Environment Impact Assessment Regulation in 2012 and categorized projects through government notice for which Environment Clearance Certificate is a pre-requisite (see Box: *Procedure for carrying out environmental impact assessment* and flow chart: *Procedure for carrying out Environmental Impact Assessment*). The process of carrying out EIA is enumerated in the Act and Regulations but for the convenience of the range of stakeholders, the process is detailed in the forms of steps and flowchart.

Procedure for carrying out Environmental Impact Assessment (EIA)

Step 1: Appointment of Environmental Assessment Practitioner (EAP)
The proponent first has to designate an Environmental Assessment Practitioner (hereinafter referred to as EAP) to manage the assessment process. He or she should be aware about assessment, act, policy and guidelines. Further, the regulation stipulates that EAP shall have access to information of the proponent regarding the application, whether or not the information is favourable to the proponent;

Problem: The EAP is referred to as a consultant. Both the act and regulation do not elaborate whether EAP is an organization or comprises individual consultants.

Step 2: Determining if proposed activity is listed
Before submitting an application for an Environmental Clearance Certificate (ECC), the proponent must determine that the activity for which the application is made is a listed one (see *Annexure*). The proponent shall also consult the Environmental Commissioner and the competent authority and refers to guidelines, if any.

Listed activities are exhaustive and categorized into eleven headings, including: (a) Energy generation, transmission and storage activities (b) Waste management, treatment, handling and disposal activities (c) Mining and quarrying activities (d) Forestry activities (e) Land use and development activities (f) Tourism development activities (g) Agriculture and aquaculture activities (h) Water resource developments (i) Hazardous substance treatment, handling and storage (j) Infrastructure (k) Other activities

The listed activities also include small projects that may be cleared by submitting EMP. The listed activities for which EIA are required do not have a threshold value. For example, for 'Generation of electricity', no threshold capacity is given. This means that large and small power projects follow the screening process, and thereafter the Environment Commissioner decides on the requirement for assessment (EIA). A similar process is applicable for construction of wastewater treatment plants. Also there is no clarity on whether wastewater treatment plants or thermal power plants also require separate clearance or combined clearance.

Step 3:
If a project is in the listed activity, the application for the Environment Clearance Certificate (ECC) is made on an application form, which herein is referred as Form 1, appended to the said regulation.

Step 4: Process after submission of application
After submitting the application to the competent authority (organ of state or minister) in Form 1, the proponent must: (a) Conduct a public consultation process (b) Maintain a register of all interested and affected parties (c) Consider all objections and representations received from interested and affected parties (d) Identify potential impacts (e) Determine if any further investigation is required (f) Determine whether and to what extent the potential effects can be mitigated (g) Prepare scoping report.

The scoping report contains (a) Potential impact of project (b) Magnitude of impacts (c) Mitigated or not or require further investigation. The said scoping report is shared with interested and affected parties for comments.

Step 5 :
After Step 4 is complete, the project proponent should approach the competent authority and submit the

following documents: (a) Scoping report (b) Management plan (c) Copies of any objections and comments received in connection to the scoping report (d) Copies of the minutes of any meetings held by the proponent with interested and affected parties (e) Any responses by the EAP to those representations, objections, comments and views.

Step 6:
On receipt of an application as mentioned in Step 5, the competent authority forwards the application to the Environmental Commissioner for the Environmental Clearance Certificate.

Step 7: Consideration of scoping report and detailed assessment (screening process)
On receipt of an application, the Environmental Commissioner acknowledges within three days receipt of the application and registers it in the assessment register. Within fourteen days of receipt of application, the EC considers the scoping report and decides:

(a) Whether to accept the scoping report;
(b) Whether to reject the scoping report (if it does not comply with the Act, regulations and guidelines); or
(c) Whether the application requires a detailed assessment.

Note: If scoping report is rejected, there is a provision in the said regulation for reconsideration after it has been amended and resubmitted by the proponent.

Step 8:

a. If a detailed assessment is not required, then, after receiving a prescribed fee and conditions, the Environment Commissioner issues within seven days the Environment Clearance Certificate (ECC) and notifies in writing the proponent and the competent authority of the decision.
b. If the Environmental Commissioner decides that the proposed activity requires an assessment, the EC determines the scope, procedures and methods for assessment and notifies in writing the proponent to prepare an assessment report. He also notifies in writing the competent authority.
c. After receiving the Terms of Reference (ToR) from the EC, the proponent instructs the EAP to prepare assessment report in twenty-one days. On the completion of the assessment report, the proponent submits the report to the EC.

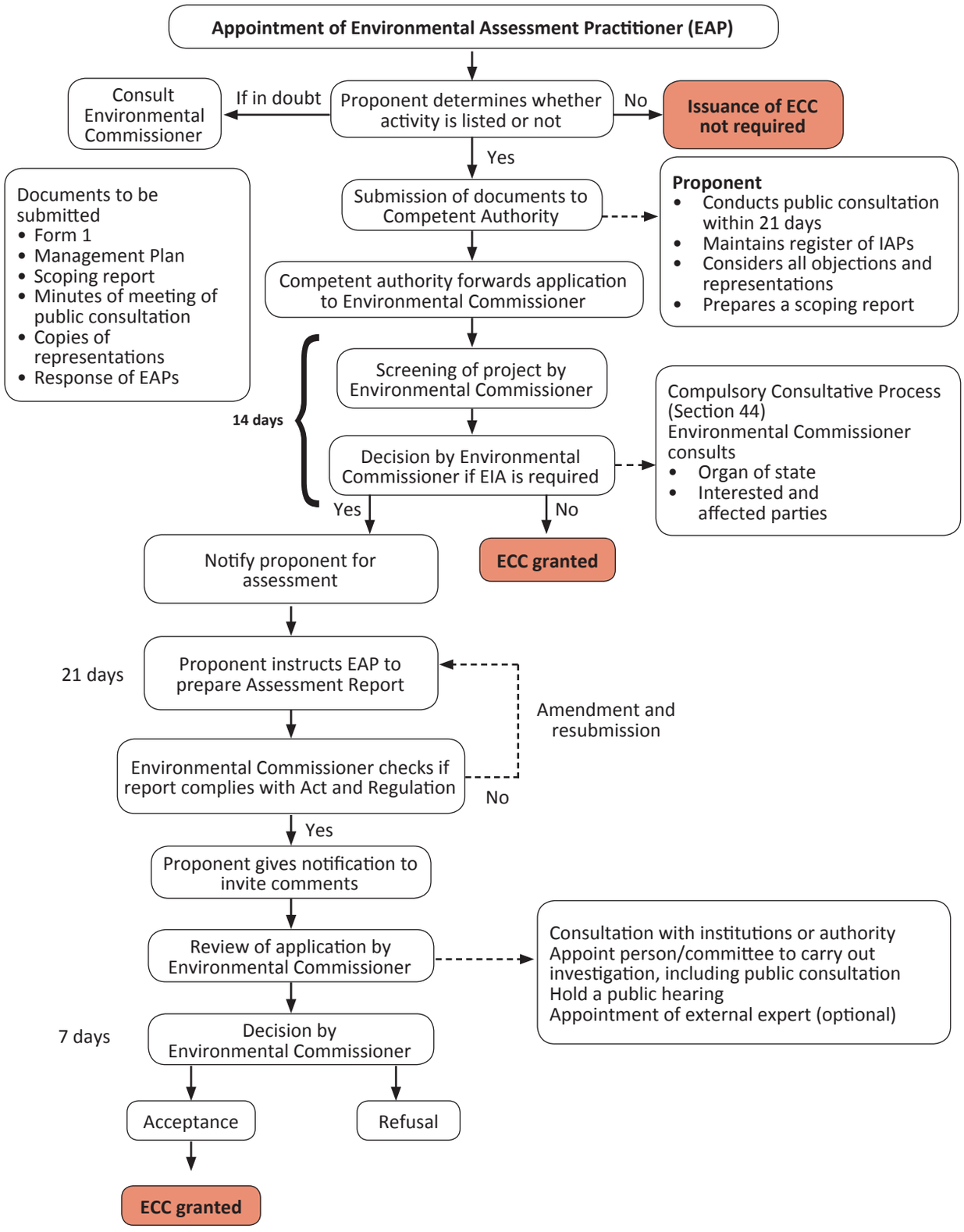
Step 9:
Upon submission of the assessment report, the EC notifies for inspection the office of the Environmental Commissioner and invites written submissions within the stipulated time at the cost of proponent.

After the closing date, the EC reviews the application and may take any of the following actions considered appropriate for the review:

a. Consult any person, institution or authority on any matter concerning the application, assessment or submission received in relation to the application;
b. Carry out or appoint a person or committee of persons to carry out an investigation, including a process of public consultation; or
c. Hold a public hearing.

Step 10:
After reviewing the assessment report, the EC may (a) Issue an Environmental Clearance Certificate to the proponent on payment of the prescribed fee; (b) Refuse the application, citing reasons for the refusal.

Flow chart: Procedure for carrying out Environmental Impact Assessment



V. Screening framework for Namibia

The framework for screening is primarily based on evaluating a broad domain of activities, size of project, stress and risk on natural resources and pollution potential due to discharge of emissions and effluents and its likely impact on environment.

Following this framework, a screening tool needs to be devised specifying threshold limits and benchmarks, accounting for national and local factors like availability of land and water, socioeconomic setting, assimilative capacity of an area, etc.

For a proposed project to go through a screening process a knock-out criteria has been suggested. The proposed project's information will be assessed at two levels—A and B—and two different scenarios will arise:

a) If the proposed project does not clear the first level, it is subjected to detailed assessment.

b) If the project clears the first level, the second level scoring will determine if the project needs to undertake a detailed assessment or a specific study, or can be cleared on the basis of a pre-assessment, scoping report or environmental and social management plan.

A. Level 1

Level 1 screening is the first step to determine whether a proposed project requires an EIA. This can be done based on the following indicators:

(i) Does the area (project site) fall under international conventions or trans-boundary treaties related to environment? (Yes/No)

(ii) Is the proposed project being introduced for the first time in the country? (Yes/No)

(iii) Is there risk to the ecosystem due to the introduction of a new species? For instance, are alien plants or animals or genetically modified species being introduced? (Yes/No)

(iv) Does the area where the project is being introduced have ecological sensitivity? (Yes/No)

Questions for screening criteria	Response	Support response with reason/s	Remark
Is the proposed project coming up in a park?	☐ Yes ☐ No		
Will the activity result in loss or damage to wildlife or valuable habitats or ecosystem services?	☐ Yes ☐ No		
Will the activity result in loss or damage to rare or endangered or threatened or endemic flora or fauna?	☐ Yes ☐ No		
Will the activity disturb wildlife migration, feeding or breeding?	☐ Yes ☐ No		

Guiding note
If the answer to (i), (ii) or (iii) is 'Yes', the project is subjected to a detailed assessment (EIA). If the answer is 'Yes' for (iv), i.e. ecological sensitivity, then the project is subjected to a specific study (for example, biodiversity assessment). Otherwise, the project shall be screened through Level 2 of the screening process.

B. Level 2

If proposed project does not qualify Level 1 screening, the competent authority should consider Level 2 screening to determine whether EIA or specific studies are required. This can be done by determining the stress on natural resources and evaluating the pollution potential of discharge, effluents and emissions.

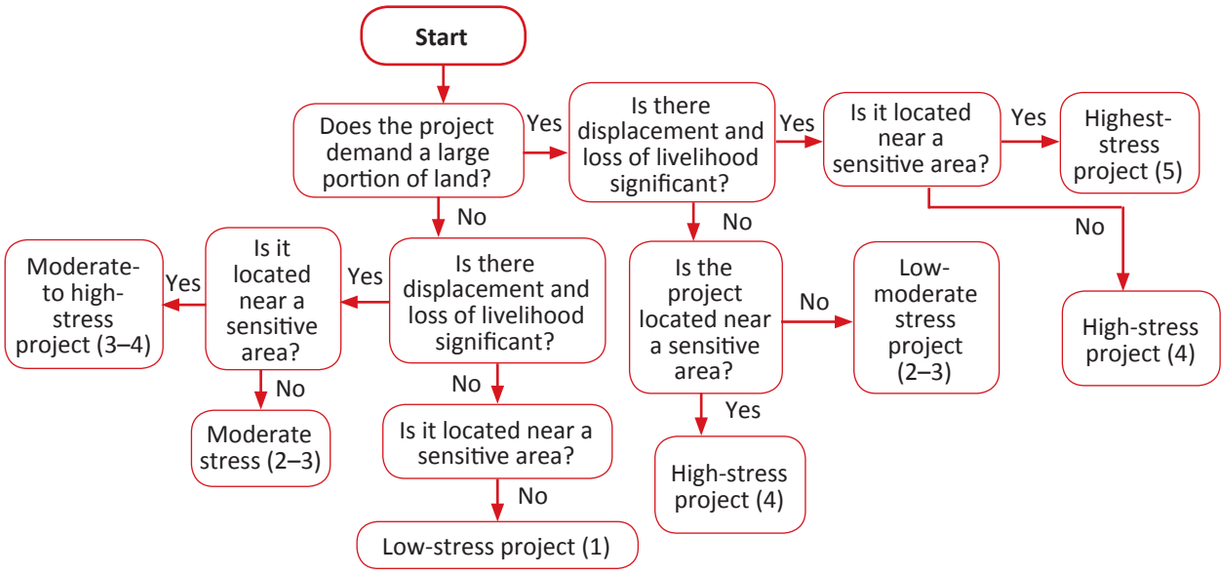
STRESS ON LAND

The three factors that determine stress on land resources are:

- Extent of land required (in terms of size and area);
- Sensitivity of the area; and
- Scale of displacement and loss of livelihood.

Figure 1: Environmental stress on land combines the aforementioned three factors in a series of questions with 'yes' or 'no' answers, along with the outcomes with various scales.

Figure 1: Environmental stress on land



Degree of stress can be identified on a scale of 1–5 as stated below:

- If all three factors are affirmative, stress is the highest;
- If two factors are affirmative, stress is high;
- If one factor is affirmative, stress is moderate; and
- If none of the factors is affirmative, the project impact is low.

Noting for competent authority:

- The noting will enable the reviewer to set threshold limits, standards and benchmarks according to the international, national and local conditions. If the proposed project crosses the set limit, the indicator can be considered as a high stress factor and vice versa.
- These thresholds should be in line with the existing acts, regulations and guidelines of the host country.
- In case no standard has been specified, a benchmark should be formulated by the relevant competent authority based on local conditions.
- Where local standards are not available, acceptable international standards should be used, e.g. International Finance Corporation (IFC), World Health Organization (WHO), or standards and guidelines of others countries that incorporate best practices.

Disclaimer: The threshold values given below are only for the understanding; the competent authority may change the scale and allocate marks accordingly.

Stress depends on the following factors:

(a) Extent of land required

Portion of land (hectares)	Stress
≤ 500	Low to moderate
≥ 500	High

(b) Scale of displacement and loss of livelihood

Displacement (no. of families)	Stress
≤ 20	Low to moderate
≥ 20	High

Note: In case the families belong to vulnerable/ indigenous groups then greater than 5 families being displaced is high risk.

Loss of livelihood (no. of persons)	Stress
≤ 50	Low to moderate
≥ 50	High stress

The reviewer must see the two indicators (land and displacement and loss of livelihood) in correlation (see figure below).

(c) Sensitivity of the area

Namibia's state-run protected areas cover about 17 per cent of the country's land surface comprising over twenty national and game parks, nature reserves and parts of coastal deserts. This makes it a sensitive area. In such a case, a setback distance from the boundary of protected areas is used to determine the stress level.

Setback distance	Stress
0–2 km	High
≥ 2 km	Low to medium

Along with the protected area, nearness to other sensitive areas like school, colleges, hospitals, archaeological sites or religious sites should also be considered to determine level of stress. Therefore, the stress will be assessed based on the setback distance from the boundary of such sensitive areas as follows:

Sensitive area (school, colleges, hospitals, archaeological sites or religious sites)	
Setback distance	**Stress**
≤ 100 metres	High
> 100 metres	Low to medium

The competent authority should see the setback distance in consideration with the pollution potential of the proposed projects and accordingly marks should be allocated to each indicator.

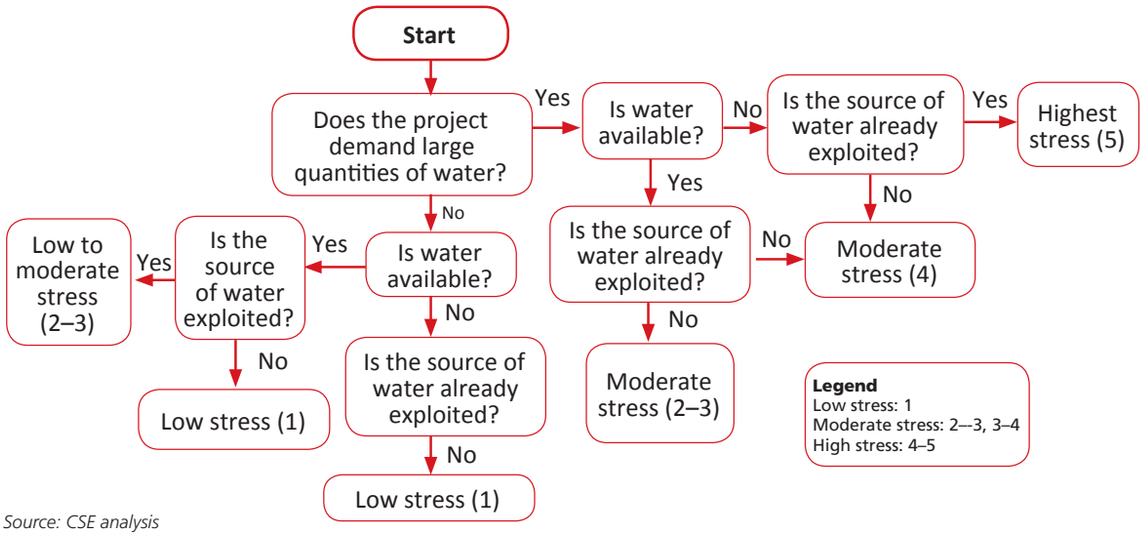
STRESS ON WATER RESOURCES

The three factors that determine stress on water resources are:

- Quantity of water withdrawn from natural sources
- Availability of the source of water
- Impact on waterbodies (under- or overexploited)

The logical structure evolved out of these factors is given in *Figure 2: Environmental stress on water*.

Figure 2: Environmental stress on water



Source: CSE analysis

Noting for competent authority:

- The noting will enable the reviewer to set threshold limits, standards and benchmarks according to international, national and local conditions. If the proposed project crosses the set limit, the indicator can be considered a high-stress factor and vice versa.
- These thresholds should be in line with the existing acts, regulations and guidelines of the host country.
- In case no standard has been specified, a benchmark should be formulated by the relevant competent authority based on local conditions.
- Where local standards are not available, acceptable international standards should be used, e.g. International Finance Corporation (IFC), World Health Organization (WHO) or standards and guidelines of others countries which incorporate best practices.

Disclaimer: The threshold values given below are only for understanding. The competent authority may change the scale and allocate marks accordingly.

Stress depends on the following factors:

(a) Quantity of water required from natural resources

If the project demands more than 50 kilolitres per day, it is high impact.

Quantity of water (kilolitre per day [KLD])	Stress
≤ 50	Low to moderate
≥ 50	High

Note: This is in case of groundwater and surface water.

(b) Availability of source of water

Depending on the availability of the source of water and its use pattern, except seawater, the reviewer should evaluate the stress level. Since seawater is abundant and is used freely, it falls under low-stress category.

Source of water	Stress
Seawater or allocated by the government	Low
Surface water and groundwater	Medium to high

(c) Dependence on natural sources

Under this case, the reviewer will decide if the source of water is over- or underexploited and accordingly the reviewer should determine the stress.

Determining overall stress on environmental resources (land and water)

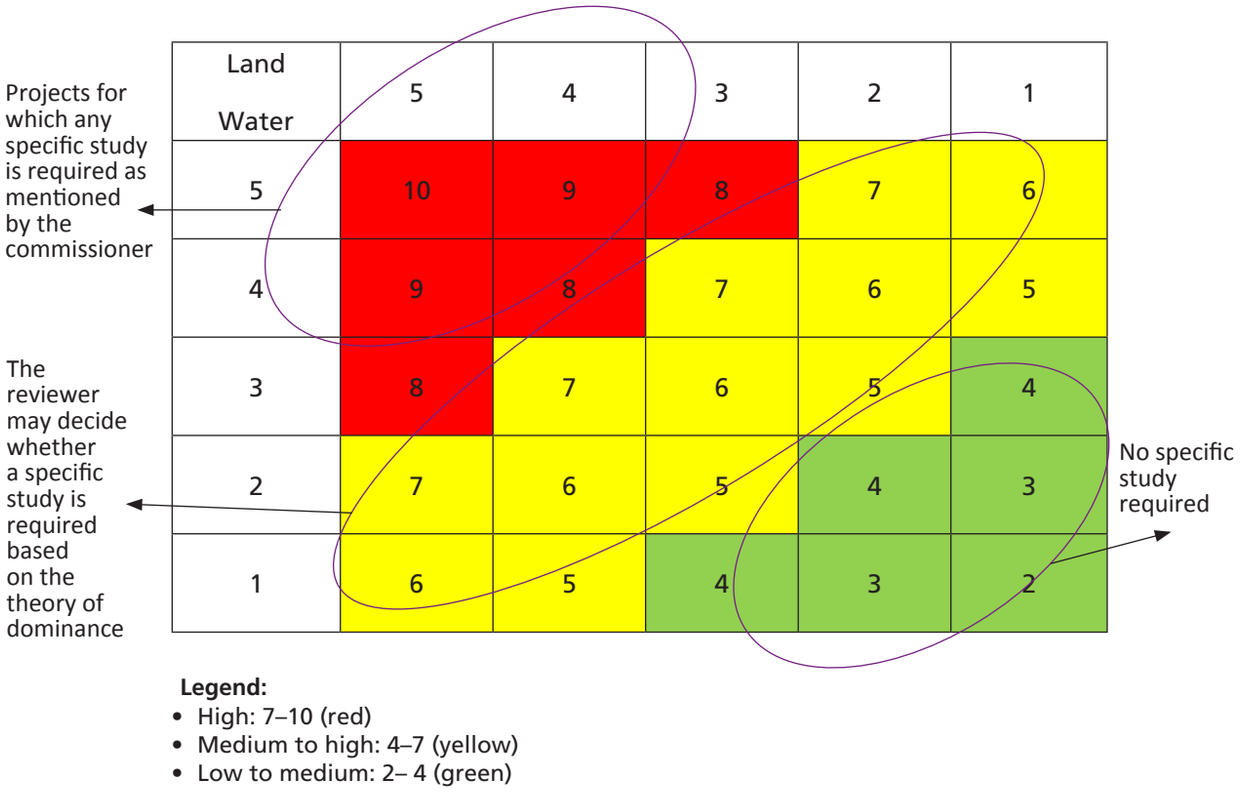
Cumulative stress of the two natural resources—land and water—can be seen by creating a matrix of the low-to-high scales of both of resources.

A cumulative score of 10, i.e. the combination 5–5, means the highest stress on natural resources. Since 4 is also considered as high stress, a cumulative score of 8 is also high. All combinations adding up to a score of 8–10 are, therefore, marked red.

A cumulative score of 5–7 is considered medium to high, i.e. tending towards high stress subject to other factors like size, magnitude, nature and pollution potential of the project.

Projects with low environmental stress have a cumulative score of 2–4.

Figure 3. Matrix of environmental stress on natural resources



Legend:

- High: 7–10 (red)
- Medium to high: 4–7 (yellow)
- Low to medium: 2– 4 (green)

Pollution potential with respect to water, air pollutants and solid and hazardous waste

This portion discusses the impact of discharge of wastewater, emission of air pollutants, and solid waste collection, treatment and disposal on the environment.

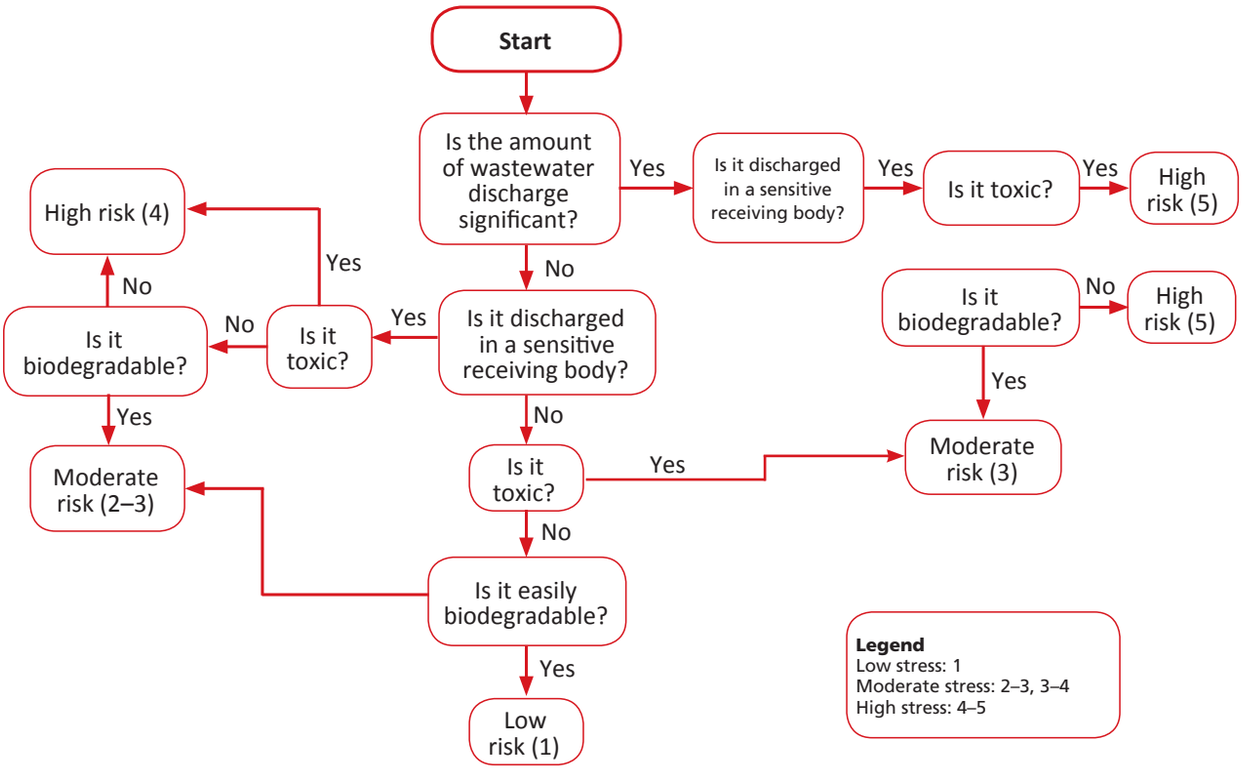
WASTEWATER: POLLUTION POTENTIAL

The factors determining the impact of wastewater discharge are:

- Volume of wastewater discharged
- Characteristics of wastewater like biodegradability or toxicity
- Nature of receiving body with regard to the sensitivity of the ecosystem it houses, and its uses (drinking water, fisheries, water supply etc.)

Figure 4: Impact of wastewater discharge combines the three factors in a series of questions, with 'yes' and 'no' answers as well as the outcome with various scales.

Figure 4: Impact of wastewater discharge



Source: CSE analysis

Noting for competent authority:

- The noting will enable the reviewer to set threshold limits, standards and benchmarks according to the international, national and local conditions. If the proposed project crosses the set limit, the indicator can be considered as a high stress factor and vice-versa.
- These thresholds should be in line with the existing acts, regulations and guidelines of the host country.
- In case no standard has been specified, a benchmark should be formulated by the relevant competent authority based on the local condition.
- Where local standards are not available, acceptable international standards should be used for instance International Finance Corporation (IFC), World Health Organisation (WHO), or standards and guidelines of others countries which incorporate best practices.

Disclaimer: The threshold values given below are only for understanding. The competent authority may change the scale and allocate marks accordingly

Stress depends on the following factors:

a. Volume of wastewater discharged

If the volume of wastewater discharged is high, its collection and treatment is more complex and demands more investment. If the proposed project discharges more than 25 kilolitres per day (KLD), it is high stress.

Wastewater discharge (KLD)	Stress
≤ 25	Low
≥ 25	Moderate to high

b. Characteristics of wastewater

Biodegradability and toxicity are the two main characteristics of wastewater. Biodegradability generally refers to the biochemical oxygen demand and chemical oxygen demand ratio (BOD/COD) as shown in *Table: Classification with respect to biodegradability*.

Table: Classification with respect to biodegradability

BOD/COD ratio	Inference	Risk
≥ 0.3–0.5	Biodegradable	Low risk
< 0.3	Non-biodegradable	Moderate to high risk

Source: Compliance Monitoring and Enforcement in Indian Industry, CSE

Toxicity is measured in terms of the value of LC_{50} in water in the case of fish and crustaceans as shown in *Table: Classification with respect to toxicity*.

Table: Classification with respect to toxicity

LC_{50} test	Value (mg/l)	Toxicity
Low LC_{50}	≤ 2	Highly toxic
High LC_{50}	> 2	Low to medium toxicity

Source: Manufacture, Storage and Import of Hazardous Chemical Rules, 1989

The following is a list of water pollutants classified as toxic:
Free available chlorine, total residual chlorine, fluoride, sulphide, free ammoniacal nitrogen, dissolved phosphates, free ammonia, nitrate nitrogen, mercury, selenium, hexavalent chromium, lead, tin , vanadium (V), cadmium (Cd), manganese (Mn), total chromium (Cr), copper (Cu), iron (Fe), nickel (Ni), zinc (Zn), benzene, arsenic (As), benzo-a-pyrene, cyanide (Cn), phenolic compounds (C6h5oh), absorbable organic halogens (Aox), boron, etc.

**Note: This list is not exhaustive and can be made as per the country's requirement.*

c. Nature of the receiving body

The third factor determining the impact of wastewater is the sensitivity of receiving waterbodies with regard to of their use pattern such as drinking-water source, or importance for pisciculture or wildlife propagation.

Sensitivity vis-à-vis use pattern	Stress
Drinking water, wildlife propagation and pisciculture	High stress
Agriculture	Low to moderate stress

If the wastewater is discharged in groundwater or surface water, such as river or ponds that are used for drinking-water, wildlife propagation or pisciculture, it is high stress.

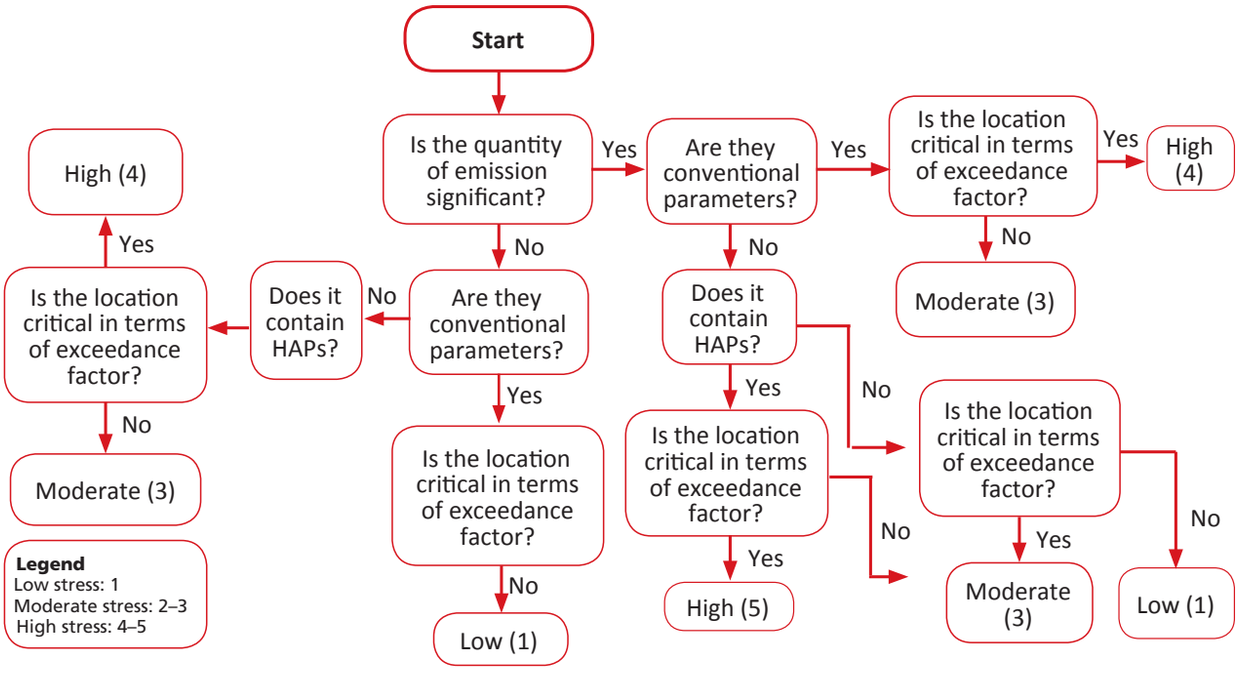
AIR EMISSIONS: POLLUTION POTENTIAL

The impact of emission of air pollutants is governed by the following indicators:

- Quantity of emissions
- Characteristics of the air pollutants, whether they are conventional pollutants (SOx, NOx or particulate matter) or hazardous air pollutants (HAPs).
- Exceedance factor

Figure 5: Impact of emission of air pollutants combines the three factors in a series of questions with 'yes' or 'no' answers, along with the outcome with various scales.

Figure 5: Impact of emission of air pollutants



Source: CSE analysis

Noting for competent authority:

- The noting will enable the reviewer to set threshold limits, standards and benchmarks according to the international, national and local conditions. If the proposed project crosses the set limit, the indicator can be considered a high stress factor and vice versa.
- These thresholds should be in line with the existing acts, regulations and guidelines of the host country.
- If no standard has been specified, a benchmark should be formulated by the relevant competent authority based on local conditions.
- Where local standards are not available, acceptable international standards should be used, e.g. International Finance Corporation (IFC), World Health Organization (WHO) or standards and guidelines of others countries that incorporate best practices.

*Disclaime*r: The threshold values given below are only for understanding. The competent authority may change the scale and allocate marks accordingly.

Stress depends on the following factors:

a. Quantity of emission

- **Potential fugitive emission**, which in turn depends on quantity of raw material handling, mode of transportation, mode of storage, existing meteorological condition, etc.
- **Emission from fixed source**, combustion or reaction, number of stack and gas flow rate (see *Table: Gas flow rate and its impact)*

Gas flow rate and its impact

Volume of gas	Stress
< 3,000 Nm^3/hour	Low to moderate stress
> 3,000 Nm^3/hour	High stress

b. Characteristics of air pollutants

- **Conventional parameters**, including particulate air pollutants or particulate matter (PM) sulphur dioxide (SO_2), carbon monoxide (CO), NO_X, etc.
- **Hazardous air pollutant (HAPs)**, including fourteen hazardous air pollutants that are carcinogenic—benzene, toluene, xylene, butadiene, ethylene oxide, ethylene dichloride, dioxin, furan and ammonia, etc.

**Note: This list is not exhaustive and can be made as per the country's requirement.*

c. Exceedance factor

For ease of understanding pollution levels, air quality can be categorized into four broad categories on the basis of exceedance factor (EF), viz. ratio of existing concentration of a pollutant and its respective standard. Accordingly, the level of stress can be determined.

The exceedance factor also takes into account the cumulative effect of industries and other air polluting sources. Based on above, air pollution can be categorized into Three types as:

Exceedance factor	Stress
>= 1.5	High
1.5>EF>0.5	High to moderate stress
<0.5	Low stress

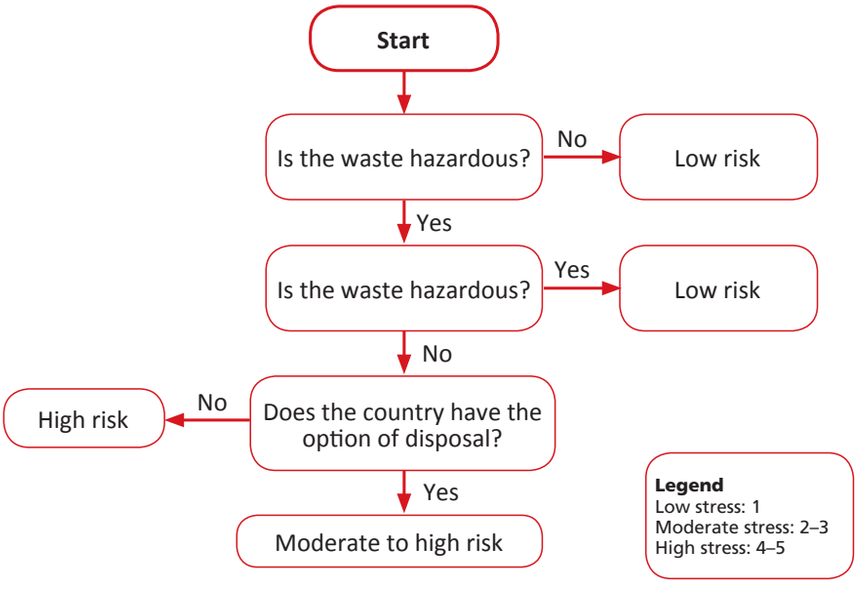
SOLID WASTE: POLLUTION POTENTIAL

The prime factors governing the screening decision for a project with respect to waste generation are:

- Type of waste (hazardous and non-hazardous),
- Quantity
- Safe handling and disposal

Figure 6: Pollution potential of solid waste combines the three factors in a series of questions,with 'yes' or 'no' answers along with the outcome with various scales.

Figure 6: Pollution potential of solid waste



Noting for competent authority:

- The noting will enable the reviewer to set threshold limits, standards and benchmarks according to international, national and local conditions. If the proposed project crosses the set limit, the indicator can be considered a high stress factor and vice versa.
- These thresholds should be in line with the existing acts, regulations and guidelines of the host country.
- If no standard has been specified, a benchmark should be formulated by the relevant competent authority based on the local condition.
- Where local standards are not available, acceptable international standards should be used, e.g. International Finance Corporation (IFC), World Health Organization (WHO)

or standards and guidelines of others countries that incorporate best practices.

Disclaimer: The threshold values given below are only for understanding. The competent authority may change the scale and allocate marks accordingly

Stress depends on the following factors:

a. Type of waste

- Hazardous waste: High risk
- Non-hazardous waste: Moderate to low risk based on the quantity of the waste.

b. Potential to be recycled/reused

- Reusable/recyclable: Recycle/reuse holds the topmost position in waste management. The waste may be reused or recycled, if the chance of environmental contamination is low. If the chance of environmental contamination is high, the waste may be subject to pre-treatment prior to being recycled/reused.
- If it is not feasible to recycle/reuse the waste, environmental contamination is high or the waste has high calorific value, it should be subject to incineration or combustion coupled with energy recovery. Incineration must be according to proper norms and within strictly defined parameters. The risk potential will be low to moderate risk.
- Non reusable/recyclable: The final option is to dispose of hazardous waste in secured landfills, taking every precaution to avoid soil and water contamination. This option is a long-term environmental liability and its risk potential is high.

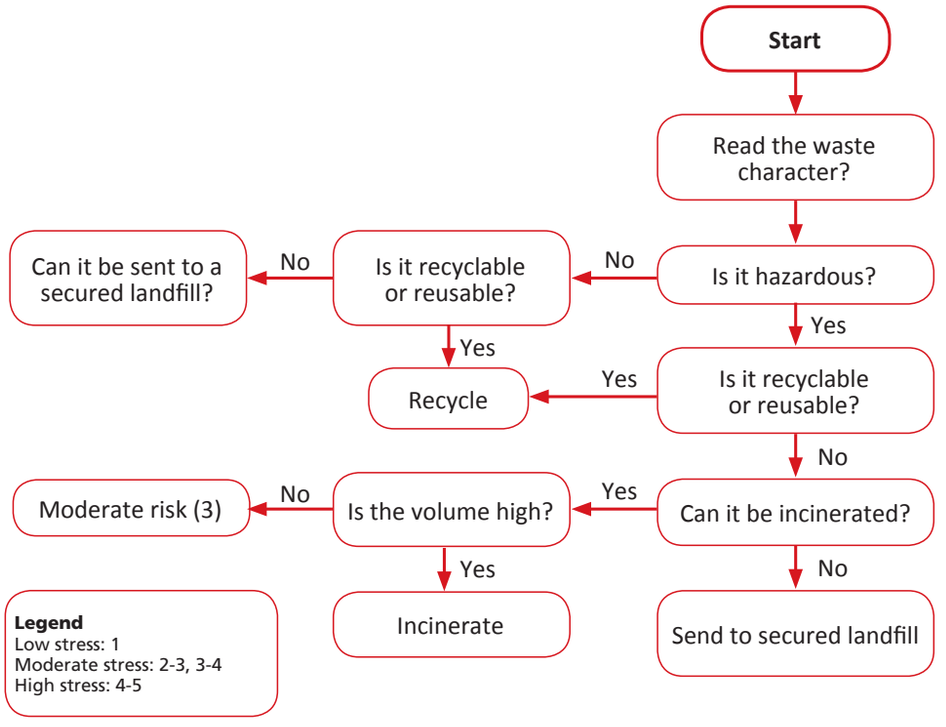
c. Safe handling and disposal

- Trans-boundary disposal: High risk
- If there is no facility of the waste to be disposed of in the host country, its risk potential is high as the chances of illegal disposal may increase, which may lead to soil and groundwater contamination.
- Disposal within national boundary: Moderate to high risk.
- If the facility to dispose of the waste is available in the country, it is moderate risk as it increases the future liability to manage such waste sites.
- Within safe handling and disposal of waste, priority is given to reuse and recycling. Disposal to a secured landfill is considered

a last option as it leads to future liability. Incineration or combustion coupled with energy recovery is prioritized over landfill disposal.

- Preferential choices of waste management are recycling or reuse > incineration > secured landfill (see *Figure 6A: Management options for solid waste treatment and disposal*).

Figure 6A: Management options for solid waste treatment and disposal



Source: CSE analysis

Overall stress on environment due to wastewater, air pollutants and solid waste

The three contributors to stress on environment due to impacts of wastewater discharge, emission of air pollutants and solid waste treatment and disposal are given scores of 1 to 5, 5 being the worst effects (see *Figure 7: Impact of wastewater, air pollutants and solid waste*).

Wastewater discharge and solid waste treatment and disposal are shown in the rows to the left and right and air emission is given in column.

Figure 7: Impact of wastewater, air pollutants and solid waste

Air pollutants / Wastewater discharge	5	4	3	2	1	Solid waste displacement
5	15	14	13	12	11	5
4	13	12	11	10	9	4
3	11	10	9	8	7	3
2	9	8	7	6	5	2
1	8	6	5	4	3	1

Source: CSE analysis

Legend:
- High: 7–10 (red)
- Medium to high: 4–7 (yellow)
- Low to medium: 2– 4 (green)

- If the cumulative score is 12–15, the project would have high impact.
- If the cumulative score is 8–11, the project would have medium or high impact.
- If the cumulative score is 3–7, the project would have low impact.

CUMULATIVE STRESS ON NATURAL RESOURCES AND IMPACT OF POLLUTANT DISCHARGE

This is an attempt to finalize the overall impact with respect to environmental stress on natural resources and cumulative impact of wastewater, air emissions and solid waste. The previous sections deal separately with the two aspects and arrives at the score qualitatively, viz. high (H), medium to high (or moderate) (M) and low (L). Keeping the impact in row and environmental stress in column, the cumulative scores are as follows:

- If both have the same impact, the overall impact is same—i.e. H, H as high; M, M as medium to high; and L, L as low.
- In case of different scores in terms of impact, the average value will be considered to be the overall impact, which will be rounded off to the higher value, i.e. while the cumulative

impact of an H, L combo will be M, the cumulative value of an H, M combo will be H, and the cumulative impact of an M, L combo will be M (see *Figure 8: Ranking the overall impact of projects*).

Figure 8: Ranking the overall impact of projects

Pollution impact / Natural resource stress	H	M	L
H	H	H	M
M	H	M	M
L	M	M	L

Source: CSE analysis

Legend:
- High impact: Red
- Medium impact: Yellow
- Low impact: Green

- If the cumulative impact is high (red portion of the matrix), the project shall be treated as a category for which EIA is mandatory.
- For medium projects (yellow portion of the matrix), the commissioner may decide if the project can be cleared on the basis of a scoping report, ESMP or EIA, based upon the scale, magnitude, ecological sensitivity and pollution potential of the project.
- If the cumulative impact is low (green portion of the matrix), the project can be cleared by submitting EMP plan.

Annexure: Country-wise screening criteria

S. no.	Country	Legal mandate	Screening criteria
1	Tanzania	Environmental Management Act, 2004 EIA and Audit Regulations, 2005	1. The project will not substantially use natural resources in a way that pre-empts the use, or potential use, of that resource for any other purpose. 2. Potential residual impacts on the environment are likely to be minor, of little significance and easily mitigated. 3. The type of project, its environmental impacts and measures for managing them are well understood in Tanzania. 4. Reliable means exist for ensuring that impact management measures can and will be adequately planned and implemented. 5. The project will not displace significant numbers of people, families or communities. 6. The project is not located in, and will not affect, any environmentally sensitive areas. 7. The project type will not result in: (a) policy initiatives which may affect the environment such as changes in agricultural pricing subsidies or the tobacco liberation; (b) major changes in land tenure; or (c) changes in water use though irrigation, drainage promotion or dams, changes in fishing practices. 8. The project will not cause: (a) adverse socioeconomic impact; (b) land degradation water pollution; (c) water pollution; (d) air pollution; (e) damage to wildlife and habitat; (f) adverse impact on climate and hydrological cycle; (g) air pollution; and (h) creation of by-products, residual or waster materials which require handling and disposal in a manner that is not regulated by existing authorities. 9. The project will not cause significant public concern because of potential environmental changes. The following are guiding principles: (a) is the impact positive, mainly begin or harmful; (b) what is the scale of the impact in terms of area affected numbers of people or wildlife; (c) what is the intensity of the impact; (d) what will be the duration of the impact; (e) will there be cumulative effects from the impact; (f) are the effects politically controversial; (g) have the main economic, ecological and social costs been quantified; (h) will the impact vary by social group or gender; and (i) is there any international impact due to the proposal projects. 10. The project will not necessitate further development which is likely to have a significant impact on the environment.

S. no.	Country	Legal mandate	Screening criteria
2	Namibia	Environmental Management Act, 2007 EIA Regulations, 2012	In making a decision in terms of subsection (1)(b), the Environmental Commissioner must: (a) follow the consultative process referred to in Section 44; and (b) take into account: (i) any comment received in terms of the consultative process; (ii) the significant effect of the proposed activity on the environment; (iii) the nature and extent of the proposed activity; (iv) the principles set out in Section 3; and (v) any other matter that may be prescribed. Principles of environmental management: The following are the principles of environmental management: (a) Renewable resources must be used on a sustainable basis for the benefit of present and future generations; (b) Community involvement in natural resources management and the sharing of benefits arising from the use of the resources, must be promoted and facilitated; (c) The participation of all interested and affected parties must be promoted and decisions must take into account the interest, needs and values of interested and affected parties; (d) Equitable access to environmental resources must be promoted and the functional integrity of ecological systems must be taken into account to ensure the sustainability of the systems and to prevent harmful effects; (e) Assessments must be undertaken for activities which may have a significant effect on the environment or the use of natural resources; (f) Sustainable development must be promoted in all aspects relating to the environment; (g) Namibia's cultural and natural heritage, including its biological diversity, must be protected and respected for the benefit of present and future generations; (h) The option that provides the most benefit or causes the least damage to the environment as a whole, at a cost acceptable to society, in the long term as well as in the short term must be adopted to reduce the generation of waste and polluting substances at source; (i) The reduction, reuse and recycling of waste must be promoted; (j) A person who causes damage to the environment must pay the costs associated with rehabilitation of damage to the environment and to human health caused by pollution, including costs for measures as are reasonably required to be implemented to prevent further environmental damage; (k) Where there is sufficient evidence which establishes that there are threats of serious or irreversible damage to the environment, lack of full scientific certainty may not be used as a reason for postponing cost-effective measures to prevent environmental degradation; and (l) Damage to the environment must be prevented and activities which cause such damage must be reduced, limited or controlled.

S. no.	Country	Legal mandate	Screening criteria
3.	Ghana	Environmental Assessment Regulations, 1999	Initial assessment by screening of application: 1. The Agency shall on receipt of an application and any other relevant information required, as an initial assessment, screen the application taking into consideration: a. The location, size and likely output of the undertaking; b. The technology intended to be used; c. The concerns of the general public, if any, and in particular concerns of immediate residents if any; d. Land use; and e. Any other factors of relevance to the particular undertaking to which the application relates. 2. An applicant shall for the purpose of enabling the Agency determine the level of environmental assessment of his undertaking, prepare and submit to the Agency a report on the undertaking indicating in the report: a. The environmental, health and safety impact of the undertaking; b. A clear commitment to avoid any adverse environmental effects which can be avoided on the implementation of the undertaking; c. A clear commitment to address unavoidable environmental and health impacts and steps where necessary for their reduction; and d. Alternatives to the establishment of the undertaking.
4.	Kenya	Environmental Management and Coordination Act Second Schedule; The Environmental (Impact Assessment and Audit) Regulations, 2003	(1) Notwithstanding any approval, permit or license granted under this Act or any other law in force in Kenya, any person, being a proponent of a project, shall before for an financing, commencing, proceeding with, carrying out, executing or conducting or causing to be financed, commenced, proceeded with, carried out, executed or conducted by another person any undertaking specified in the Second Schedule to this Act, submit a project report to the Authority, in the prescribed form, giving the prescribed information and which shall be accompanied by the prescribed fee. (2) The proponent of a project shall undertake or cause to be undertaken at his own expense an environmental impact assessment study and prepare a report thereof where the Authority, being satisfied, after studying the project report submitted under Subsection 1, that the intended project may or is likely to have or will have a significant impact on the environment, so directs. (3) The environmental impact assessment study report prepare under this subsection shall be submitted to the Authority in the prescribed form, giving the prescribed information and shall be accompanied by the prescribed fee. (4) The Minister may, on the advice of the Authority given after consultation with the relevant lead agencies, amend the Second Schedule to this Act by notice in the Gazette. (5) Environmental impact assessment studies and reports required under this Act shall be conducted or prepared respectively by individual experts or a firm of experts authorised in that behalf by the Authority. The Authority shall maintain a register of all individual experts or firms of all experts duly authorized by it to conduct or prepare environmental impact assessment studies and reports respectively. The register shall be a public document and may be inspected at reasonable hours by any person on the payment of a prescribed fee.

S. no.	Country	Legal mandate	Screening criteria
			(6) The Director-General may, in consultation with the Standards Enforcement and Review Committee, approve any application by an expert wishing to be authorised to undertake environmental impact assessment. Such application shall be made in the prescribed manner and accompanied by any fees that may be required. (7) Environmental impact assessment shall be conducted in accordance with the environmental impact assessment regulations, guidelines and procedures issued under this Act. (8) The Director-General shall respond to the applications for environmental impact assessment license within three months. (9) Any person who upon submitting his application does not receive any communication from the Director-General within the period stipulated under Subsection 8 may start his undertaking. ***Regulations:*** (1) A proponent shall prepare a project report stating: (a) the nature of the project; (b) the location of the project including the physical area that may be affected by the project's activities; (c) the activities that shall be undertaken during the project construction, operation and decommissioning phases; (d) the design of the project; (e) the materials to be used, products and by-products, including waste to be generated by the project and the methods of their disposal; (f) the potential environmental impacts of the project and the mitigation measures to be taken during and after implementation of the project; (g) an action plan for the prevention and management of possible accidents during the project cycle; (h) a plan to ensure the health and safety of the workers and neighbouring communities; (i) the economic and sociocultural impacts to the local community and the nation in general; (j) the project budget; and (k) any other information the Authority may require. 2. Where the Authority is satisfied that the project will have no significant impact on the environment, or that the project report discloses sufficient mitigation measures, the Authority may issue a licence in Form 3 set out in the First Schedule to these Regulations. (3) If the Authority finds that the project will have a significant impact on the environment, and the project report discloses no sufficient mitigation measures, the Authority shall require that the proponent undertake an environmental impact assessment study in accordance with these Regulations.

S. no.	Country	Legal mandate	Screening criteria
5.	Nigeria	The Environmental Impact Assessment Act, 1992	A. Where the Agency is of the opinion that a project is not described in the mandatory study list or any exclusion list, the Agency shall ensure that: (a) a screening of the project is conducted; and (b) a screening report is prepared. Any available information may be used in conducting the screening of a project, but where the Agency is of the opinion that the information available is not adequate to enable it to take a course of action pursuant to Section 21 (1) of this Act, it shall ensure that any study and information that it considers necessary for that purpose are undertaken or collected. B. (1) After completion of a screening report in respect of a project, the Agency shall take one of the following courses of action: (a) where, in the opinion of the Agency (i) the project is not likely to cause significant adverse environmental effects; or (ii) any such effect can be mitigated, the Agency may exercise any power or perform any duty or function that would permit the project to be carried out and shall ensure that any mitigation measures that the Agency considers appropriate are implemented; (b) where, in the opinion of the Agency (i) the project is likely to cause significant adverse environmental effects that may not be mitigable; or (ii) public concerns respecting the environmental effects of the project warrant it,the Agency shall refer the project to the Council for a referral to mediation or a review panel in accordance with section 35 of this Act; or (c) where, in the opinion of the Agency, the project is likely to cause significant adverse environmental effects that cannot be mitigated, the Agency shall not exercise any power or perform any duty or function conferred on it under any enactment that would permit the project to be carried out in whole or in part. (2) For greater certainty, where the Agency takes a course of action referred to in subsection (1) (a) of this section, the Agency shall exercise any power and perform any duty or function conferred on it by or under any enactment in a manner that ensures that any mitigation measures that the Agency considers appropriate in respect of the project, are implemented. (3) Before taking a course of action in relation to a project pursuant to Subsection 1 of this section, the Agency shall give the public an opportunity to examine and comment on the screening report and any record that has been filed in the public registry established in respect of the project pursuant to section 51 of this Act and shall take into consideration any comments that are filed.
6.	India	The Environmental Impact Assessment (Notification), 2006	In case of Category 'B' projects or activities, this stage will entail the scrutiny of an application seeking prior environmental clearance made in Form 1 by the concerned State level Expert Appraisal Committee (SEAC) for determining whether or not the project or activity requires further environmental studies for preparation of an Environmental Impact Assessment (EIA) for its appraisal prior to the grant of environmental clearance depending up on the nature and location specificity of the project . The projects requiring an Environmental Impact Assessment report shall be termed Category 'B1' and remaining projects shall be termed Category 'B2' and will not require an Environment Impact Assessment report. For categorization of projects into B1 or B2 except item 8 (b), the Ministry of Environment and Forests shall issue appropriate guidelines from time to time.

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