Chapter 5

5. Identification of Environmental Impacts

5.1 Definitions and concepts

An **environmental impact** is defined as any change to the environment, whether adverse or beneficial, wholly or partially resulting from an organization's/ a facility's activities, products, or services.

A **significant environmental aspect(activity)** is one that may produce a significant environmental impact.

ENVIRONMENTAL ASPECT - Element of an organization's activities, products or services that can interact with the environment.

Impact = A Change to the Environment, Positive or Negative

1. Degradation of Air Quality
2. Decrease in Natural Resources
3. Increase in Landfill Space

Significant Impacts = Those Environmental Impacts that the Organization Places the Highest Priority

Concepts and Methods

- Any economic development project, whether it is a simple and small or a large and complex it has some environmental implications.
- The environmental implications may be beneficial or adverse, but the main objective of impact identification is to specify areas that are likely to be affected by the implementation of a project.
- Environmental impact, by definition, implies an alternation of environmental conditions or creation of a new set of adverse or beneficial environmental consequences caused by the action under consideration.
- Impact identification starts at the early stage of scoping when data on both the project and surrounding environment are made available. As the EIA study progresses, more data become available on the environment and socioeconomic conditions. The preliminary identification of impacts from scoping may be confirmed or new impacts may be identified as requiring investigation.

Environmental Aspects

Environmental Aspect is an organization's activities, products or services that can interact with the environment. There are two types of environmental aspects:

- Direct (visible)Environmental Aspect - Activities over which a company can be expected to have an influence and control. For example, emissions.
- Indirect Environmental Aspect - Actual or potential activities over which the organization can be expected to have an influence on , but no control over. For example, supply chains, customer controlled aspects, aspects managed elsewhere within the same company.

Environmental Aspects can include:

- Land Use
- Energy Consumption
- Water Consumption
- Waste
- Community Interactions

➢ Examples of Aspects of **Land Use**

- On-site storage/containment/distribution/handling of solids, liquids, gases
- Interactions with natural surface or ground water on the property or wetlands
- Maintenance activities that disturb the earth
- Soil erosion
- Release of pesticides and fertilizers
- Remnants of past activities at the site (e.g., soil contamination)

Environmental Impact (effect)

Is any change in the environment, whether adverse or beneficial, wholly or partially, resulting from an organization's activities, products, or services

Significant Impact

An activity that results in a substantial impact on the environment and is usually due to abnormal conditions.

•The environmental analysis or environmental aspects and impacts identification process is one of the most important parts of any Environmental Management System (EMS), as it lays the foundation for how the management system will run in the future and the environmental improvements it should address.

• In basic terms, it will assess environmental risk.

•It also has the ability to give information on the level and amount of environmental impact, and to give valuable information on other requirements of the system that might be required, including training needs, operational control requirements and the setting of objectives and targets within the system.

5.2 KEY ELEMENTS FOR ASSESSING IMPACT SIGNIFICANCE

- environmental standards
- level of public concern
- scientific and professional evidence concerning:
  - resource loss/ecological damage
  - negative social impacts
  - foreclosure of land and resource use options

5.3 GUIDING PRINCIPLES FOR DETERMINING IMPACT SIGNIFICANCE:

- use established procedure or guidance
- adapt relevant criteria or comparable cases
- assign significance rationally and defensibly
- be consistent in the comparison of alternatives
- document the reasons for judgements

Environmental Aspects/Impacts procedures

- Use process to identify activities, aspects and impacts.

➢First, Identify ***Activities*** within the project that could have an Environmental Impact

➢Then, Identify How These Activities Specifically Interact with the Environment

➢Last, Document the Resulting Change, Positive or Negative ***(Impacts)***

- ***Each Activity May Have Multiple Aspects and Impacts***

PRACTICAL GUIDANCE

Impacts are likely to be significant if they:

- are extensive over space or time
- are intensive in concentration or in relation to assimilative capacity
- exceed environmental standards or thresholds
- do not comply with environmental policies/ land use plans
- affect ecological sensitive areas and heritage resources
- affect community lifestyle, traditional land uses and values

Impact characteristics can vary in:

- nature (positive/negative, direct/indirect)
- magnitude (severe, moderate, low)
- extent/location (area/volume covered, distribution)
- timing (during construction, operation etc, immediate, delayed)
- duration (short term/long term, intermittent/continuous)
- reversibility/irreversibility
- likelihood (probability, uncertainty)
- significance (local, regional, global)

- **RESPONSIBILITIES AND AUTHORITIES TO IDENTIFY *ASPECTS AND IMPACTS***

Environmental Management Team – EMR, Human Resources Manager, Procurement Manager, Process Engineering Coordinator, Engineering Technician, Quality Engineering Coordinator, QA Technician, Production Control Coordinator and Production Specialists.

Developing Your Aspects and Impacts Register

- Your Aspects and Impacts register needs to include all activities included within the scope of your Environmental Management System.
- Don’t forget to also consider any new activities you are going to become involved in as this will allow you to identify any potential risks before they arise.
- Another factor to consider is that your aspects and impacts register needs to address normal and abnormal operating conditions, shut down and start up conditions and, where foreseeable, emergency situations.

Steps to develop an Aspects and Impacts Register

1. Select an Activity, a Product or Service

•The key here is to not overcomplicate things. Categorize activities together where possible but be careful not to make the groups so large it become impossible to fully understand the impacts.

•Typical activities for a construction company would include:

- Excavation
- Use of concrete
- Storage of oils and fuels
- Waste management
- Procurement
- Control of sub-contractors
- Site deliveries

2. Identify the environmental aspects of the chosen Activity, Product or Service
You now need to identify as many environmental aspects associated with your chosen area.

Remember, an aspect is something that has the potential to interact with the environment.

If we use 'site deliveries' as an example, typical aspects would include:

- Use of vehicles
- Loading / Unloading
- Packaging

3. Identify environmental impacts
You then need to identify as many actual, potential, positive and negative environmental impacts as possible
associated with the aspect. To help ensure nothing is missed, it is useful to consider impacts using standard
criteria to assess against. For example:

- Land
- Air
- Water
- Local community
- Waste
- Heritage
- Ecology - • Natural resources

Cause and Effect- Environmental Aspects and Environmental Impacts

Environmental Aspect	Environmental Impact(s)
Air Emissions	Degradation Air Quality
Emissions of volatile organic compounds (VOCs)	Air pollution, smog
Spills	Degradation Air, Water, and Soil Quality
Water Discharges	Degrade Water Quality
Discharges to stream	Degradation of aquatic habitat and drinking water supply
Spills and leaks	Soil and groundwater contamination
Natural Resources	Consumption of Natural Resources
Use of recycled paper	Conservation of natural resources
Recycling	Increase Landfill Space
Waste Generation	Decrease Landfill Space
Habitat	Habitat Conservation
Electricity use	Air pollution, global warming

Activity	Aspect	Impact(s)
processing of composting	water quality	water degredation
building a liner	environmental	water quality
Heating/Cooling (Central Office)	Energy consumption	Use of natural resources
flaring	air emissions	air degredation
landfilling	disposal	air space
farming	tillage	erosion
farming	tillage	sediment loading
excavation	soil disturbance	erosion
Lighting use	Energy usage	Use of natural resources
Dishwashing, handwashing, toilet flushing (Central Office)	water usage	use of natural resources
stormwater management	water flow	erosion

Activity	Aspect	Normal/Abnormal Operations	EMS Impact Positive / Negative
Provide HHW programs	Waste Generation and disposal	Normal	Reduction in landfill space / toxicity
Provide Education programs	Waste Generation and disposal	Normal	Reduction in landfill space
Hauling Soil and Landfill Cell Construction	Land Usage	Normal	Aesthestics and community environment
Operation of equipment	Dust Generations	Normal	Degradation of air quality
Mowing	Air Emissions	Normal	Degradation of air quality
Generation of solid waste at facility	Land Usage	Normal	Aesthestics and community environment
Operation of equipment	Air Emissions	Normal	Degradation of air quality
Idling vehicles at operations site	Air Emissions	Normal	Degradation of air quality
Operation of equipment	Use of Materials	Normal	Use of natural resources
Bulking of HHM materials	Air Emissions	Normal	Degradation of air quality

5.4 TYPE OF IMPACTS AND THEIR CONSIDERATION

- **A. Biological and Physio-chemical Impacts:** Impacts in this category relate to effects on biological resources such as vegetation
- **B. Social Impact:** A study of socio-economic impacts would examine project action that alters the existing social and economical condition)
- **C. Cultural Impacts:** Project impacts on cultural heritage include historic sites, religious areas, or traditional practices
- **D. Health Impact:** The links between health and social impacts are apparent.
- **E. Economic Impact:** The focus in economic impact assessment is the estimation of the change in economic variable

A. Biological and Physio-chemical Impacts.

- Impacts in this category relate to effects on biological resources such as vegetation, wildlife, crops, and aquatic life.
- Impacts affecting soil and land forms, or creation of a propensity for soil erosion, floods and sedimentation, would be considered as physical impacts.
- Chemical impacts relate to project activities that cause a chemical change in air/water/soil quality. Smoke emitted from a brick factory, for example, may change the amount of sulphur dioxide (SO2) content of ambient air, while untreated effluent discharged directly into a river by a paper factory may change the chemical characteristics of the river.

- The biological component covers all elements, including different forms plant life, structures, functions and their interaction with other components of an ecosystem. Another component of a biological system is the animal life, which ranges from microscopic protozoans to large animals such as elephants occupying different niches in trophic-dynamic systems.
- The biological systems interact with physical elements such as air, water, soil, rocks and solar radiation, giving rise to a system known as an **ecosystem**.
- The material-cycling, assimilative, and productive roles of an ecosystem are the process that maintain the balance of nature.
- However, human activities which are intended primarily for self benefit tend to destroy the natural balance, consequently giving rise to man made disasters.

- In the conclusion, in the process of planning of a economic development project, the consideration of following four major points should be made to avoid or minimize the adverse impacts of biophysical components;

1. the project activities, which may affect the bio-physical component of the project area, should be carefully analyse and the measures to be adopted to avoid any adverse impacts, should be implemented,
2. the composition, structure, and abundances of flora, is the habitat for keystone animals, may also contains economic plants, endangered, rare, endemic and threatened species, and also constitute a primary components of biodiversity, should be protected and conserve from the damage likely to take place in the implementation of project activities,

3. keystone animals constitute important players in food-chain, and may be endangered, rare, threatened, and endemic species, and form an important component of biodiversity, should not be affected by the project activities. Measures to protect such animals and their habitat from any adverse impacts should be included in the development activity package, and

4. any activities, which affects bio/geo-chemical cycle within an ecosystem should be carefully analyzed and efforts should be made to minimize the impacts through the implementation of appropriate measures.

B. Social Impact

- A study of socio-economic impacts would examine project action that alters the existing social and economical condition of communities within or around the project location.
- Socio-economic impacts may prove either adverse or beneficial.
- For example, an expanded irrigation facility designed to enhance agricultural production would be beneficial; while the project might also result in water-logging that could produce a salinity problem with is adverse consequences.

- Social impacts can be subdivided into the following:
- **demographic impacts** - such as displacement and relocation effects; and changes in population characteristics,
- **socio-economic impacts** - including income and income multiplier effects, employment rates and patterns, prices of local goods and services, and taxation effects,
- **cultural impacts** - traditional patterns of life and work, family structures and authority, religious and tribal factors, archaeological features, social networks and community cohesion,
- **institutional impacts** - including demands on the government and social service, NGOs housing, schools, criminal justice, health, welfare and recreation, and
- **gender impacts** - the implications of development projects on the roles of women in society, income-generating opportunities, access to resources, employment opportunities and equity.

- Traditionally, social considerations in EIA were limited to changes, that has occurred in demographic and socioeconomic characteristics because: the changes can be quite easily quantifiable (such as number of in-migrants and out-migrants, family size, etc.), and the magnitude of changes can be indicated.
- A more comprehensive analysis would required to include the following sociocultural parameters:
  - quality of life,
  - social organisation and structures,
  - cultural life, including language, rituals and general lifestyle. A cultural life makes a social group immediately recognisable as being distinct from other groups, and
  - dispute-resolution institutions and processes; relationships between generations and value systems.

- The first step in social impact analysis is the identification to social communities such as:
  - ethnic/tribal group,
  - occupational groups,
  - socio-economic status, and
  - age and gender.
- The analysis also include (the refinement of the actual capacity of the people, to make the major decision, regarding the uses of biophysical resources, upon which they depend for livelihood. The distribution of production is also another important aspects to be analyzed.

- Identification and analysis has to be made on:
  - the existing local institutions and their systems of operation, for bio-physical resource utilisation
  - conflict resolutions,
  - authority and leadership structures,
  - representation social communities,
  - dominance, and
  - their capability of handling the issues.
- Information on resource availability and utilization, impact of inadequate compensation, if traditional system of resource use is disrupted are extremely useful for formulating environmental mitigation strategy in the process of EIA.
- Another aspect of social analysis is the consideration of EIA for a project which is being planned for implementation in an ecologically sensitive area, from which the local people are deriving their livelihood.

- People utilizing resources in such an area, can be broadly categorized into three resource user groups:
  - those who are residents from generation to generation; stable, low-energy and sustained-yield production systems, operated by local people, based on knowledge transmitted through generations; well adapted and compatible with the environment,
  - new settlers, who have comparatively less knowledge of the resource base of the area and of sustainable resource-use practices, and usually devastate the area through excessive use of biophysical resources, and
  - non-resident people, who often visit the area for exploitation of biophysical resources and are potentially more dangerous than either of the above types.
- Particular attention must be paid to the consideration of indigenous, tribal, low- caste, ethnic and minority groups in implementation of projects

- These groups in the society, become most vulnerable to dislocation and changes in socioeconomic status. Otherwise, this might, in turn, create more environmental problems, as they will be forced to adopt inappropriate production systems.
- Two important aspects have been recommended while considering social aspects in EIA:

- it is always advisable to avoid involuntary resettlement, mostly in cases where vulnerable groups of people are involved, and
- in cases, where projects require land acquisition from indigenous territories, the people affected should be compensated adequately so that their standard of living is improved or, at the least, is at the similar level.

C. Cultural Impacts

- Project impacts on cultural heritage should be considered. Areas of study should include historic sites, religious shrines or areas, or traditional practices that may be affected.
- Cultural resources refer to archaeological, historical, religious, cultural and aesthetic values.
- Cultural resources are part of the resource base, it is therefore important that the development options, under consideration are screened for potential impact on cultural properties. In the process of conducting EIA, it is essential; to check; whether or not the area contains UNESCO World Heritage Sites.

D. Health Impact

- Traditionally, health issues have been given little attention in EIAs.
- The World Health Organisation (WHO) defines health as a state of social and individual well-being and not just the absence of disease.

➢ The following are reasons why the consideration of health impact assessment, should be integrated into the EIA process.

- prevention is better than cure, as with other forms of assessment,
- it is specified in many forms of impact assessment legislation,
- environmental degradation is linked with health impacts,
- environmental, social and health outcomes can be improved,
- systematic consideration of health issues improves the legitimacy of the decisions made and the process through they are taken, and
- human health issues often prompt a public response and their involvement.

E. Economic Impact

- The focus in economic impact assessment is the estimation of the change in economic variable caused by:
  - project construction and operation
  - workforce requirement and the income earned by workers,
  - materials and other inputs for the project, and
  - capital investment.
- A thorough analysis of the labourforce and the local economy requires information on:
  - the categories of labour available,
  - the categories of labour that are highly demanded and employed, not employed and partly employed,
  - estimation of unemployed labour; proportion of female looking for employment, and
  - the number and type of employment likely to be generated by project implementation

Identifying Aspects and Impacts: Some Questions to Consider:

Identifying Aspects	Evaluating Impacts
❑ Which operations and activities interface with the environment in a way that could result (or has resulted) in environmental impacts? ❑ What materials, energy sources and other resources do we use in our work? ❑ Do we have emissions to the air, water or land? ❑ Do we generate wastes, scrap or off-spec materials? If so, does the treatment of disposal of these materials have potential environmental impacts? ❑ Which characteristics or attributes of our products or services could result in impact the environment (through their intended use, end-of-life management, etc.)? ❑ Does our land or infrastructure (e.g., buildings) interact with the environment? ❑ Which activities (for example, chemical storage) might lead to accidental releases?	❑ Are the impacts actual or potential? ❑ Are the impacts beneficial or damaging to the environment? ❑ What is the magnitude or degree of these impacts? ❑ What is the frequency or likelihood of these impacts? ❑ What is the duration and geographic area of these impacts? ❑ Which parts of the environment might be affected (e.g., air, water, land, flora, fauna)? ❑ Is the impact regulated in some manner? ❑ Have our interested parties expressed concerns about these impacts?

The Link Between Aspects and Impacts (some examples from a real company)

Aspects	Potential Impacts
Emissions of volatile organic compounds	Increase in ground level ozone
Discharges to stream	Degradation of aquatic habitat and drinking water supply
Spills and leaks	Soil and groundwater contamination
Electricity use	Air pollution, global warming
Use of recycled paper	Conservation of natural resources

Some Potential Environmental Aspect Categories:

- Air Emissions
- Solid and Hazardous Wastes
- Contamination of Land
- Local Issues (e.g. noise, odor, dust, traffic, etc.)
- Water Discharges
- Energy Use
- Raw Material and Resource Use (water, energy, etc.)
- Hazardous Material Storage and Handling

example 1 - Environmental Analysis metal Sheet

Environmental Aspects (Normal, Abnormal and / or Emergency)		Environmental Impacts
Air Emissions	VOCs (Solvents e.g. from paint, sealant, degreasing, cleaning, etc.)	Formation of ground level ozone
	Chlorinated VOCs	Formation of ground level ozone and depletion of stratospheric ozone except VOC exempts compounds
	Dusts or particulates	Detrimental to local air quality Human respiratory problems and damage to flora
	NOx, SOx	Formation at ground level of ozone, acidification and effects on flora
	CO_2	Greenhouse gas - Impact on climate change
	Acid fumes / treatment bath extractions	Detrimental to local air quality
	Vehicle Exhaust fumes	Global warming Acid rain Detrimental to local air quality Formation of ground level ozone
Water Use	E.g. for cleaning, dilution of treatment chemicals or coolants, rinse tanks, etc.	Cost of incoming supply
Discharge to Water	Discharges to waste effluent facility	Use of treatment chemicals and/or filtration treatment process
	Accidental releases to Storm Water Drains Discharges to Foul Sewer	Contamination of local water courses
Noise Nuisance	Excessive noise or vibrations (outside building)	Off-site noise nuisance (above background level)
Solid Waste	Dry Hazardous waste (e.g. used containers, rags, brushes, etc.) Non-hazardous waste Paper or cardboard Packaging	Cost of disposal Contamination of landfill site
	Drummed liquid wastes (e.g. coolant, waste hydraulic fluid, oils, etc)	Cost of disposal Use of treatment chemicals
Energy Use	Electricity, gas, oil, consumption (including compressed air production)	Cost of supply Global warming Acid rain Depletion of non-renewable resources
Raw Materials	Fuel, metals, paints, solvents, chemicals, sealant, rags, cleaning equipment, wood, other (please state)	Cost of purchase, impacts of manufacturing processes
Ground Contamination	Spillages, discontinued processes	Contamination of area, cost of disposal, remediation costs

Activity, Product or Service	Environmental Aspect	Potential Environmental Impact	Amount and/or Occurrence	Significance	Control and/or Measure
General Manufacturing	Energy usage and noise through manufacturing operations	Air Pollution through CO2 Emissions	Daily	High	Meter readings taken weekly. Single shift to reduce energy usage. Manufacturing shutdown after working hours. Regular equipment maintenance.
		Noise Pollution	Daily	Low	Single shift to reduce noise pollution at unsociable hours.
		Battery Acid Hazardous Material	Daily	Medium	Regular forklift maintenance and battery inspections.
Manufacturing Process Residues	Fumes, Chemical Spillages and Waste Materials from the Manufacturing Process	Air Pollution through PCBA Manufacture	Occasional Use	Low	Outsourcing of PCBA manufacture, reducing the need for wave solder equipment. Filtered LEV on wave solder equipment to reduce fumes. Regular maintenance of the wave solder equipment. Solvents and Emissions Procedure.
		Air Pollution through Wetline Process	Daily	Low	Sealable, segregated bin for chemical residues, to reduce fumes in the work environment. Air extraction bench, with filters to reduce fumes in the work environment.
		Chemical Spillage Hazardous Material	Rarely	Low	Spillage kit to deal with chemical spills. Solvents and Emissions Procedure.
		Production Waste	Daily	High	Waste segregation. For all waste types, impacts, controls and measures, see 'Waste'.
Component Part Raw Materials	Energy Usage and Possible Environmental Damage in Production of Raw Materials	Air Pollution through CO2 Emissions	Occasional	Low	When new products are being developed, or if replacement parts are being considered, consideration is given to new materials where improved processes may have an improved impact on the environment.
		Water Pollution, Land Contamination, Resource Depletion	Occasional	Low	

5.5 IMPACT PREDICTION AND EVALUATION

- Prediction should be based on the available environmental baseline of the project data. Such predictions are described in quantitative or qualitative terms.

➢ Considerations for Impact Prediction

- **Magnitude of Impact:** this is defined by the severity of each potential impact and indicates whether the impact is irreversible or, reversible and estimated potential rate of recovery. The magnitude of an impact can not be considered high if a major adverse impact can be mitigated.
- **Extent of Impact:** the spatial extent or the zone of influence of the impact should always be determined. An impact can be site-specific or limited to the project area (SP); a locally occurring impact within the watershed of the proposed project (L); a regional impact that may extend beyond the watershed (R); and a national impact affecting resources on a national scale (N).

- **Duration of Impact:** environmental impacts have a temporal dimension and needs to be considered in an EIA.
- Impacts arising at different phases of the project cycle may need to be considered. An impact that generally lasts for only three to nine years after project completion may be classified as short-term (St). An impact which continues for 10 to 20 years may be defined as medium-term (Mt), and impacts that last beyond 20 years are considered as long-term (Lt). The type of impacts produced during the construction phase are of generally of short-termed.

Uncertainty in Impact Prediction

- When the impact of some activity is predicted, the assessor gives an impression that it is going to happen certainly. In most of the cases, however, it is universally true that all the predictions made have some elements of uncertainties about social, physical and economical environment; uncertainties about guiding values such as policies, priorities and legislation and uncertainties about related decisions such as planning, negotiation, coordination, etc., usually affect the accuracy of prediction in EIA process.
- However, in resolving the question of uncertainty, the issue of probability of occurrence and confidence limit of impact prediction has to be addressed. All predictions should be expressed such that each of the outcomes should be within a certain range of percentage of confidence.

COMPARISON OF ALTERNATIVES

- Assessment of alternatives in EIA has been considered as the "heart" of environmental impact reports. In order to achieve systematic decision-making in the choice of alternatives, it is desirable to use trade-off analyses, which typically involve the comparison of a set of alternatives relative to a series of decision factors.

➢The following formal and informal approaches can be used to carry out the comparative analysis:

- **Qualitative approach:** in which descriptive information on each alternative is presented,
- **Quantitative approach:** in which quantitative information on each alternative is presented,

- **Ranking, rating or scaling approach:** in which the qualitative or quantitative information, on each alternative is summarised through the assignment of rank, rating or scale value usually based on the characteristics of the impacts (severity, reversibility, etc.),
- **Weighting approach:** in which the importance in weight of each alternative is presented in view of the relative importance of the decisive factors, and
- **Weighting-ranking/rating/scaling approach:** in which the relative importance of either environmental factors, or impacts are determined and numerical weights are assigned to each factor or impact. The important weight is multiplied by the ranking/rating of each alternative, then the resulting products for each alternative are summed up to develop an overall composite index or score for each alternative.

5.6 Mitigation Measures

Concept and objective

Mitigation measures are recommended actions to reduce, avoid or offset the potential adverse environmental consequences of development activities

The objective of mitigation measures is to maximize project benefits and minimize undesirable impacts.

MEASURES MOST RELEVANT TO DEVELOPMENT PROJECTS

Preventative measures:

prevent or reduce potential adverse impacts before occurrence, e.g.

- health education programme, and
- public awareness programme

Compensatory measures:

actions that compensate unavoidable adverse impacts, e.g.

- restoration of damaged resources,
- creation of similar resources or habitats elsewhere to replace a loss, and
- compensation to affected persons

Corrective measures:

applied to reduce the adverse impact to the acceptable level, e.g.

- installation of pollution control devices
- construction of a fish ladder (in dams, weirs)

INTERESTING POINTS

Mitigation measures requires funding	for which implementation of the proposed should be estimated and included in the EIA report
Mitigation measures should be integrated in the project design	so that these measures may automatically form a part of the construction and operational phases of the project
Mitagation measures is not limited to one point in the EIA process.	At any time, during project implementation, new types of impacts can be identified and appropriate mitigation measures should be proposed for addressing them
Link between mitigation and monitoring	Mitigation measures are of no value unless they are implemented, hence, they should be devised with monitoring in mind.