Aims of EIA implementation and follow up are to:

- carry out conditions of approval
- ensure they work effectively
- verify impacts are as predicted or permitted
- take action to manage unforeseen changes
- optimise environmental benefits
- improve EIA practice in the future

Key components of EIA implementation and follow up

- surveillance and supervision
- effects or impact monitoring
- compliance monitoring
- environmental auditing
- evaluation of EIA effectiveness and performance
- post-project analysis

Tool box for environmental management and performance review

- **Internalising the environment in policy and planning – use SEA, technology assessment, comparative risk assessment**

- **Planning and designing environmentally sound projects – use EIA, SIA, risk assessment, environmental benefit cost assessment**

- **Environmental management of the impacts of an operating facility or business enterprise – use EMS (ISO 14000 series), total quality environmental management (TQEM), industrial codes of practice**

Tool box for environmental management and performance review
(continued)

- **Eco-design of processes and products – use environmental design, life cycle assessment, cleaner production**

- **Monitoring, audit, and evaluation of performance – use effects and compliance monitoring, site, energy, waste, health and safety audits, bench marking, performance review, environmental auditing**

Guiding principles of EIA implementation and follow up

- carry out conditions of approval
- undertake routine surveillance and inspection
- other activities should be commensurate with significance
- monitoring and auditing should be undertaken when:
  - potential impacts are potentially significant
  - mitigation measures are untried/ outcomes uncertain
  - new aspects of EIA introduced

Aspects to consider in design of EIA implementation and follow up

- What is required?
  - identify the scope and components
- Who will carry out the activities?
  - specify roles and responsibilities
- How will these be implemented?
  - allocate resources, define procedures and arrangements

Monitoring is used to:

- establish baseline conditions
- measure actual impacts and trends
- verify they comply with agreed conditions
- facilitate impact management
- determine the accuracy of impact prediction
- review the effectiveness of mitigation measures

Monitoring requirements in the EIA/EMP

- impacts to be monitored
- objectives and data requirements
- arrangements for conduct of monitoring
- use of the information collected
- response to unanticipated impacts
- measures for public reporting and involvement

For scientifically credible monitoring:

- use methods of a relevant discipline
- establish impact and reference sites
- result in time series data which can be analysed by:
  - -assembling the data in tabular or graphic format
  - - testing for variations that are statistically valid
  - -determining rates and directions of change

Steps to develop an effective monitoring programme

- define the scope and objectives (for each impact)
- identify the boundaries and select sites
- choose the key indicators
- determine the level of accuracy required in the data
- consider how the data will be analysed
- establish a data and reporting system
- specify thresholds of impact acceptability
- set requirements for action on exceedences

Actions to address excessive impacts or unanticipated changes

- stop or modify the causal activity
- impose penalties if legal standards are breached
- add or scale up mitigation measures (if feasible)

EIA audits are used to:

- identify impacts and results
- verify that conditions of approval are being met
- test the accuracy of impact predictions
- check the effectiveness of mitigation measures
- improve compliance and performance

EMS audits include:

- site audits
- compliance audits
- sector & issue audits, e.g.
- waste
- energy
- health and safety
- supply chains

Difficulties commonly experienced in EIA audits

- limited baseline information
- qualitative and non auditable predictions
- changes to project design and mitigation
- long lead times for some types of impact