

# Regulatory Approach in Soil Erosion and Sedimentation Control for EIA Project

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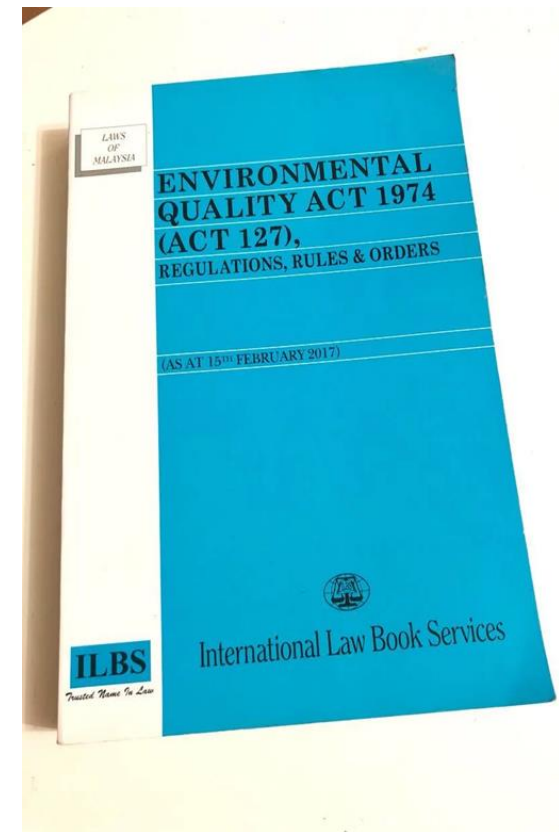
# Overview

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- EIA Provision in EQA 1974
- EIA Implementation in Malaysia (TOR, EIA and EMP implementation)
- EIA Effectiveness and indicators
- Indicators -The Quality of EIA reports
- Indicators - The implementation of effective mitigation measures
- Indicators - Capacity Building
- Building successful regulatory approach towards soil erosion and sediment control.

# EIA Enforcement via EQA 1974

- Department of Environment (DOE) has given mandate to govern and enforce Environmental Impact Assessment in Malaysia.
- EIA provision is fall under Section 34A, Environmental Quality Act 1974
- EIA Order (2015), prescribed 38 types of activities that require for EIA study before project carried out.



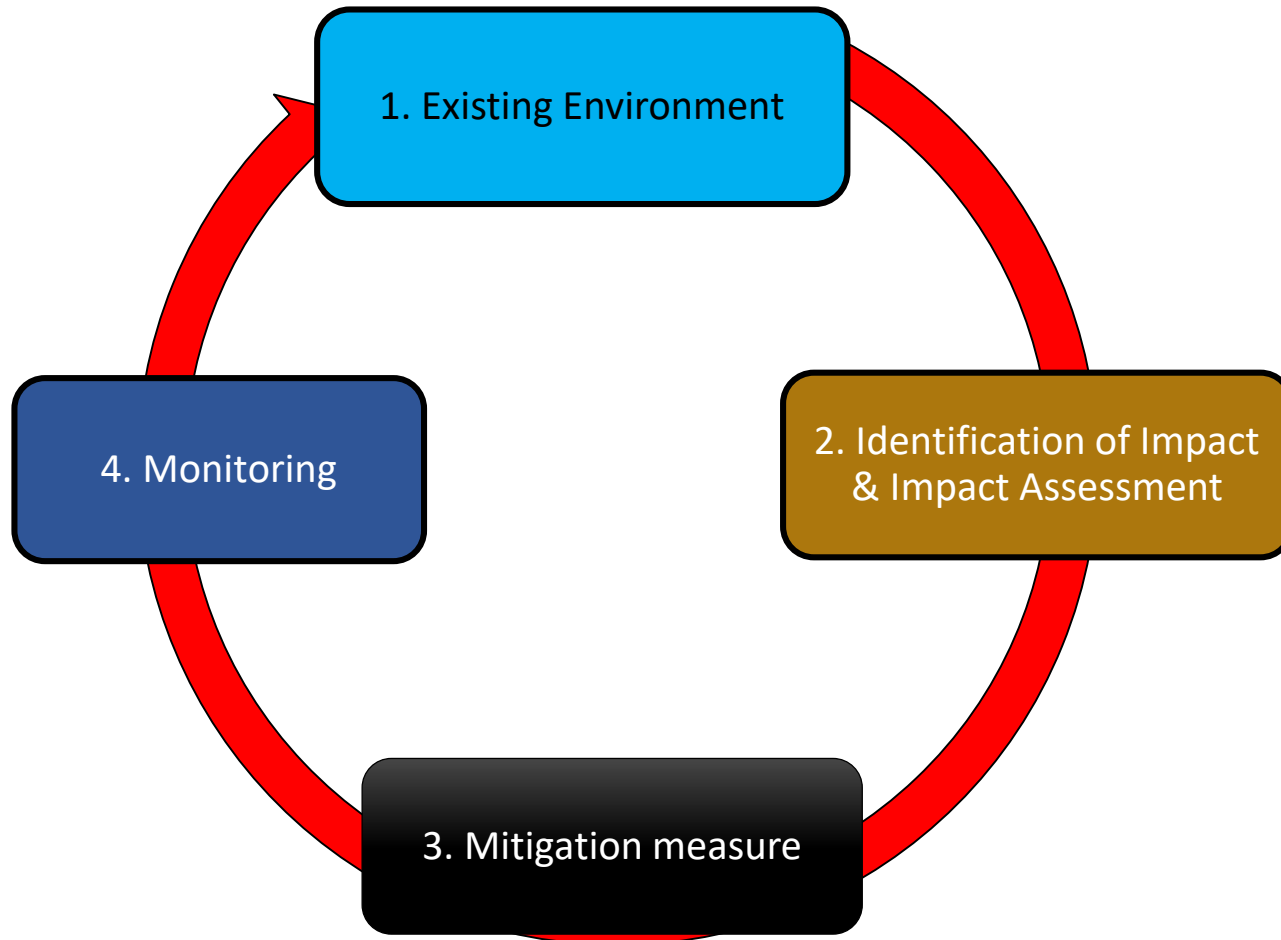
# EIA Enforcement via EQA 1974

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- The objective of EIA is to ensure the environmental impact could be minimize before, during and after the project development is carried out. Its can be achieved by integrating mitigation measures in every stage of the project phase.
- Four core elements in EIA : Existing Environment, Impact Assessment Mitigation and Measures and Monitoring.
- In Malaysia EIA consist with three important stage i.e TOR, EIA and EMP.

# What are the core elements in EIA ?

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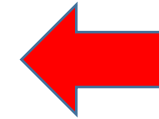
Core elements means the major important Element in EIA study

# What are the core elements in EIA

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## 1. Base line study : Existing environment study

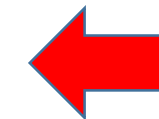
Is a study to identify the current status of environmental quality. The data regarding flora and fauna, water quality, air quality, noise quality data, soil erosion is very useful to be analysed to know the status of environmental quality.



What is the current status of Environmental quality at the project site and surrounding area ?

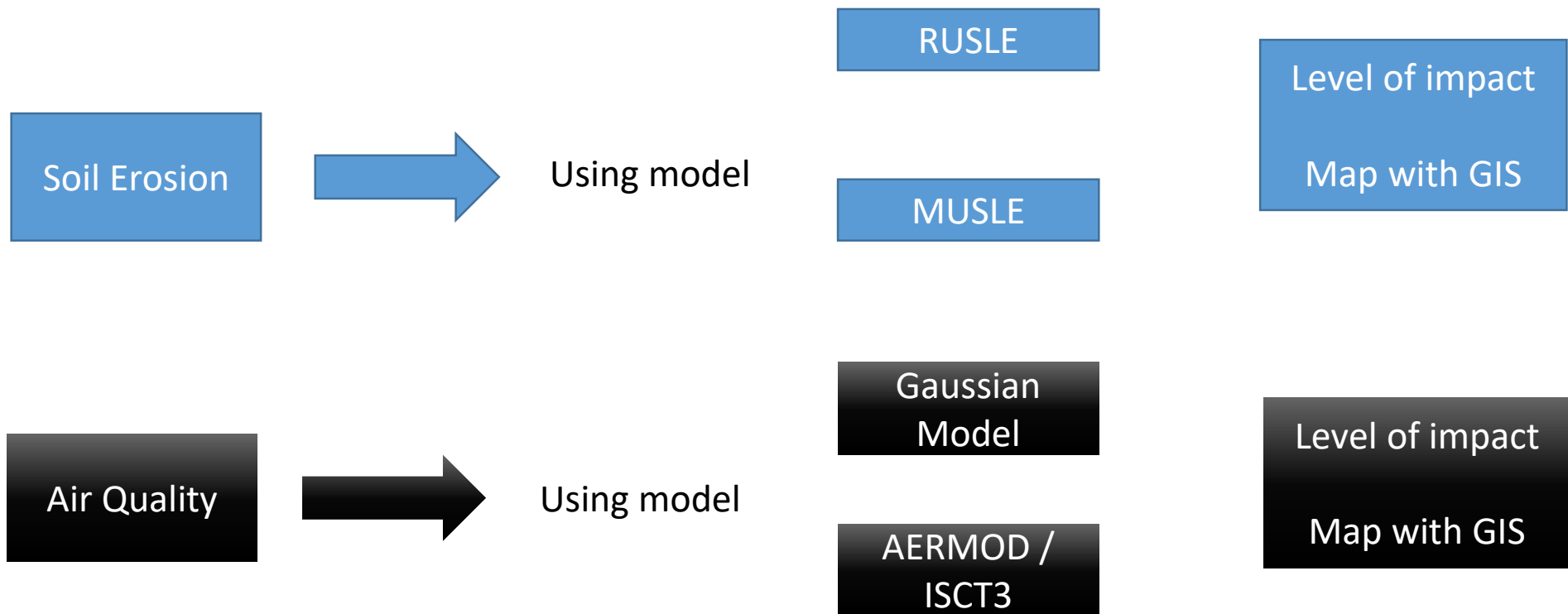
## 2. Identification of Impact & Impact Assessment

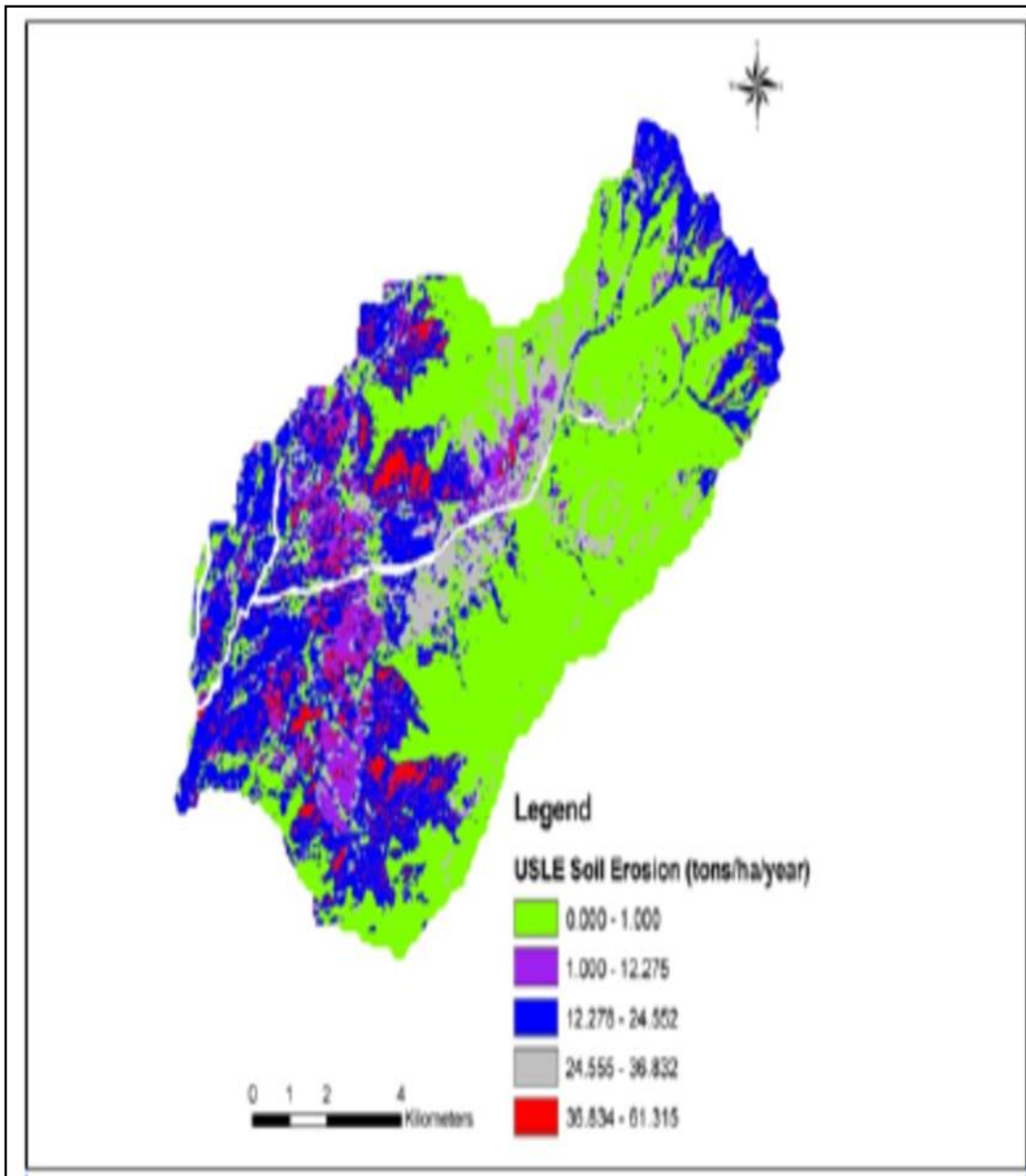
To list out the possible impact, and to evaluate the level of impact by using qualitative and quantitative method. Using specific model and software, prediction until worst case scenario.



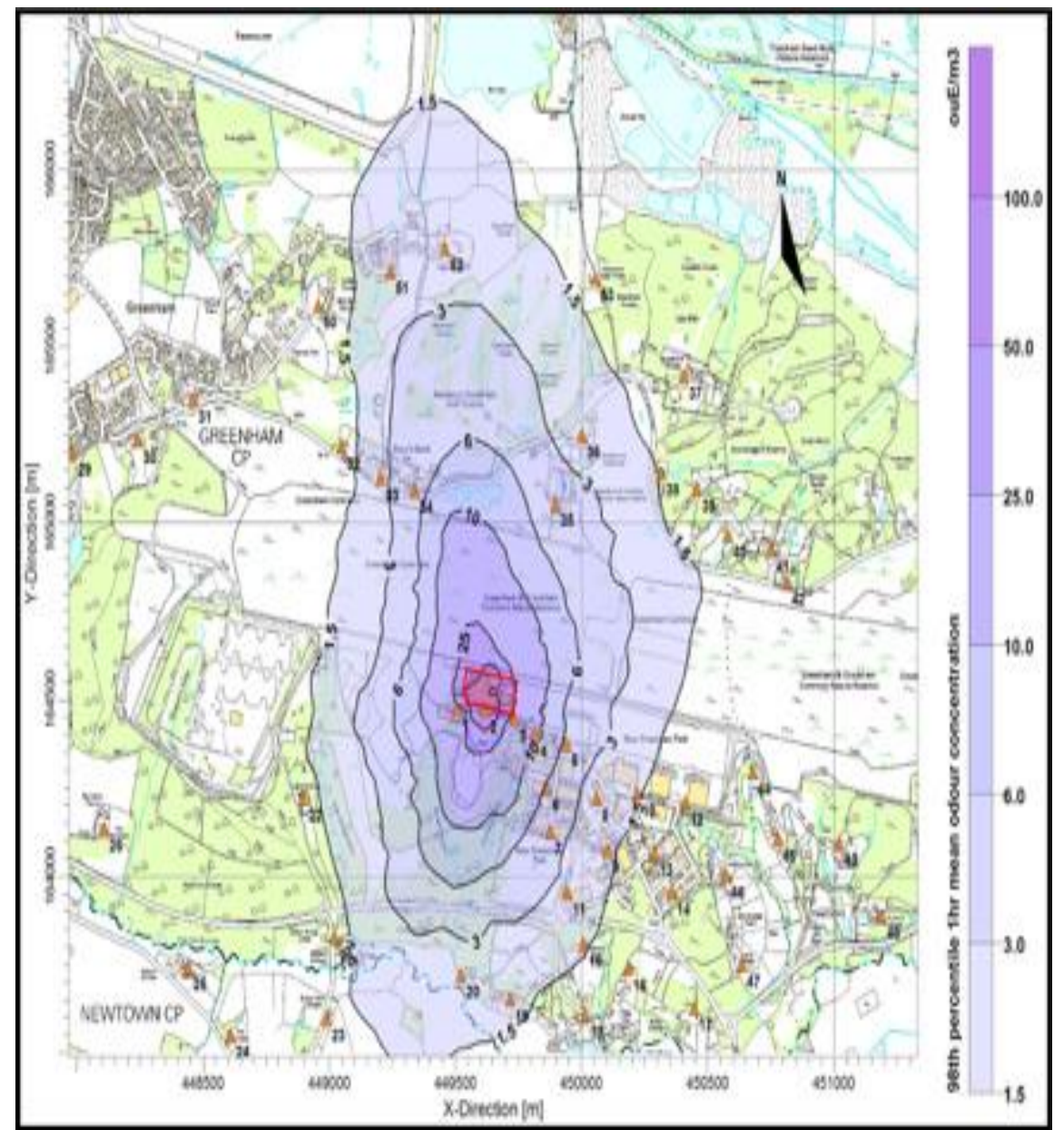
What is the impact ?  
What are the level of impact ?

- Impact assessment





Soil erosion map



Air quality modelling

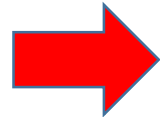


# What are the core elements in EIA

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What is the best mitigation measure ?

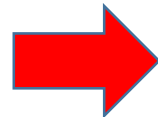
How to conduct the project ?



### 3. Mitigation measure

Suggestion of mitigation measure, is to tell the project developer what are the best mitigation measure should be in place, How to conduct the project. Mitigation measure has difference for every project. Specific method or installation must be stated clearly.

How is the impact after the project implementation ?  
What can be done if any changes ?



### 4. Monitoring

It is to monitor what are the impact to the environmental quality after the implementation of the project if there is any significance changes the mitigation measure or the way the project is implemented need to be review.

# EIA Effectiveness

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- EIA Effectiveness is an important theme has been discussed around the world.
- EIA has been implemented more than 30 years in Malaysia.
- However the effectiveness of EIA implementation still be questioning.
- In terms of soil erosion and sedimentation control in EIA project still has many challenges and need more integrated solution.

# EIA Effectiveness Indicator

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- There are three important indicator for EIA effectiveness :



The quality of EIA reports

Effective mitigation measure during the project implementation

Capacity building

# EIA Effectiveness – Quality of EIA report

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- The quality of EIA reports could be define as measure of content information completeness in EIA report including impact assessment, mitigation measures, presentation of the report and the compliance to the standard or guideline set by the authority.
- The information in EIA report very important in the process of decision making.
- Poor quality report would effect the effectiveness of EIA implementation.

# EIA Effectiveness – Quality of EIA report

## Finding during EIA review for soil erosion and sedimentation study

Not comply to the guidelines.

Insufficient information on the analysis

Erosion risk map not provided

Development phasing Vs Land disturbing phasing.

The sequence of land disturbance activity not discuss in details in method statement

Conceptual  
LDP2M2  
not  
provided.

Only  
Earthwork  
Plan given

Inadequate  
BMPs  
  
Improper  
location of  
BMPs

# EIA Effectiveness – Effective Mitigation measure

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- Effective mitigation measure could eliminate, prevent and minimize the impact of environmental pollution.
- Effective mitigation measure would bring good image to the project developer and good compliance.
- In terms of soil erosion and sedimentation, the effective mitigation measure could be achieved with the combination of BMPs structure and non structure BMPs.

# EIA Effectiveness – Effective Mitigation measure

## Finding during EIA enforcement by DOE

EMP is not prepared land disturbance activities has been carried out.

No environmental officer at the project site

Land disturbances carried out without staging.

Improper soil erosion control, runoff control and sediment control

The BMPs install not as per design

- No maintenance
- Wrong BMPs installation.
- Wrong place
- Focusing only on BMPs structure.
- Lack commitment from the project developer.



# Land Disturbance Activities

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- Clearing trees



- Clearing vegetation



# Land Disturbance Activities

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- Excavating

# Land Disturbance Activities

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- Sloping ground



# Land Disturbance Activities

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- Earthwork



# Land Disturbance Activities

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- Sand extraction



# Land Disturbance Activities

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- Improper BMPs



# Land Disturbance Activities

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- Improper BMPs



# Impact from land disturbing activities



- Soil erosion



- Sedimentation



# Impact from land disturbing activities

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- River pollution



# Impact from land disturbing activities

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- River pollution



# Impact from land disturbing activities

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- River pollution



## Banjir kuning bagi tsunami ancam Kelantan

Dr Wardah Tahir

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KEADAAN rumah dan jalan utama ke bandar Tumpat yang musnah dibawa arus deras di Kampung Tanjung Kuala, Tumpat. - Foto Nik Abdullah Nik Omar

Banjir besar yang melanda Kelantan pada Disember lepas adalah antara yang terburuk dalam sejarah negara. Menurut Pengerusi Jawatankuasa Bencana Banjir Kelantan, Datuk Seri Mustapa Mohamed, setakat ini kerugian infrastruktur dan aset awam adalah dianggarkan sebanyak RM200 juta. Ini belum termasuk kerugian dialami orang persendirian dan perniagaan.

Luar biasanya banjir kali ini adalah skala kemusnahan yang tidak tergambar sebelum ini

Kampung Orang Asli Gua Musang diteroka pembalok, peladang

## Kawasan tadahan air bukit musnah

Oleh AIMUNI TUAN LAH

**GUA MUSANG** - Kira-kira 50 kawasan tadahan air bukit masyarakat Orang Asli di sini diancam kemusnahan ekoran aktiviti pembalakan dan perladangan yang tidak terkawal di kawasan tersebut.

Ahli Dewan Undangan Negeri Galas, Ab. Aziz Yusoff berkata, setakat ini sebanyak 17 kawasan tadahan air di 17 buah perkampungan Orang Asli didakwa telah musnah akibat aktiviti tersebut.

Menurut beliau, kesan hakisan dari kawasan bukit juga didakwa mengancam nyawa Orang Asli terutama ketika musim hujan.

"Isu ini bukan perkara baharu dibangkitkan oleh Orang Asli memandangkan kemusnahan alam sekitar di kawasan penempatan mereka dilaporkan semakin parah.

"Kawasan penempatan mereka kini seolah-olah menjadi sebuah pulau apabila dikelilingi



AB, AZIZ (kanan) meninjau sebatang sungai yang berkeladak dan hampir kering akibat kegiatan pembalakan dan perladangan di Pos Brooke, Gua Musang kelmarin.



KERATAN Kosmo! semalam.

dengan ladang sayur-sayuran dan kawasan pembalakan," katanya.

Ab. Aziz berkata demikian



KAWASAN hutan yang ditarah boleh menyebabkan berlaku hakisan tanah dan mengancam penempatan Orang Asli di Pos Brooke, Gua Musang.

ketika meninjau perkampungan Orang Asli di Pos Brooke di Tanah Tinggi Lojing di sini kelmarin.

Beliau berkata, air sungai yang dahulunya jernih kini bertukar menjadi kotor, kering dan beracun akibat ditimbus tanah ladang serta sisa racun yang mengalir ke lembah sungai.

"Hasil hidupan sungai seperti ikan juga semakin berkurangan sekali gus menjejaskan sumber makanan serta pendapatan Orang Asli.

"Aktiviti pembalakan juga menyebabkan kawasan kubur masyarakat orang asli musnah," katanya.

Menurutnya, bagi mengatasi masalah tersebut, kerajaan negeri perlu mengadakan kelulusan aktiviti perladangan serta pembalakan pada masa akan datang agar kemusnahan alam sekitar dapat dikekang.

"Orang Asli juga mahukan agar tanah yang mereka duduki sejak turun-temurun diwariskan segera sebagai kawasan tanah adat," katanya.

# EIA Effectiveness – Capacity Building

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- Capacity building can be define as the capabilities to perform an intended program or activities.
- Capacity building as an important aspect to achieve desire goal.
- In EIA implementation at least 4 important capacity building areas should be focused

# EIA Effectiveness – Capacity Building

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Expertise on  
EIA preparation  
for specific  
study and  
impact

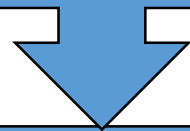
Competency to  
carried out  
mitigation  
measure in  
every stage of  
the EIA project

Development  
and  
improvement  
on the  
regulation, SOP  
and guidelines

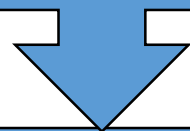
Strengthening  
Enforcement  
Program

# Building Successful Regulatory Program

In line with EIA effectiveness Indicator



Identify the stakeholder

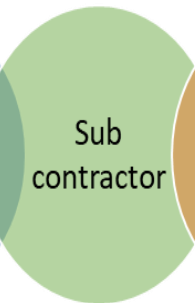
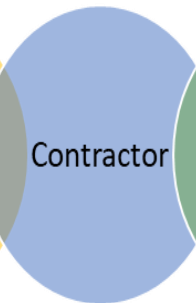
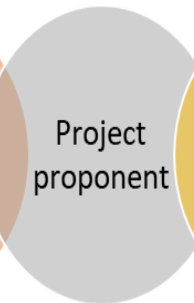
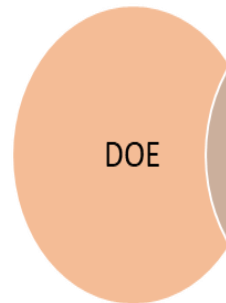


Strategic Planning with the involvement of stakeholders

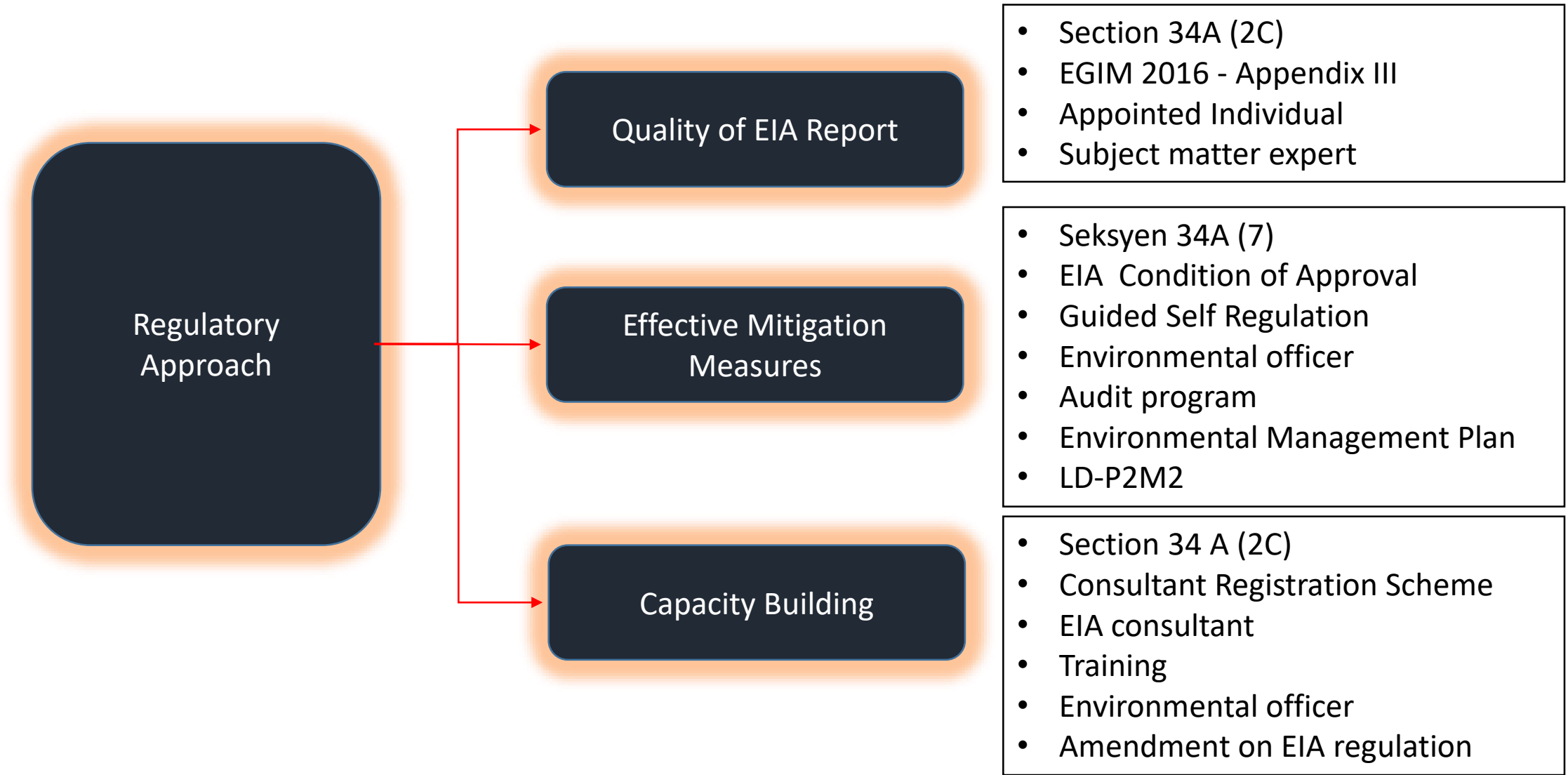
The quality of EIA reports

Effective mitigation measure during the project implementation

Capacity building



# Building Successful Regulatory Approach





# Building Successful Regulatory Approach

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- **The Quality of EIA Reports**

- i. Section 34 A (2c) *Laporan itu hendaklah mengikut garis panduan sebagaimana yang ditetapkan oleh Ketua Pengarah*
- ii. Environmental Impact Assessment Guideline in Malaysia (EGIM) Appendix III Guidance on soil erosion and sedimentation study preparation in EIA reports.
- iii. Appointed Individual to check adequacy of the reports
- iv. Continues evaluation for the consultants.



# Building Successful Regulatory Approach

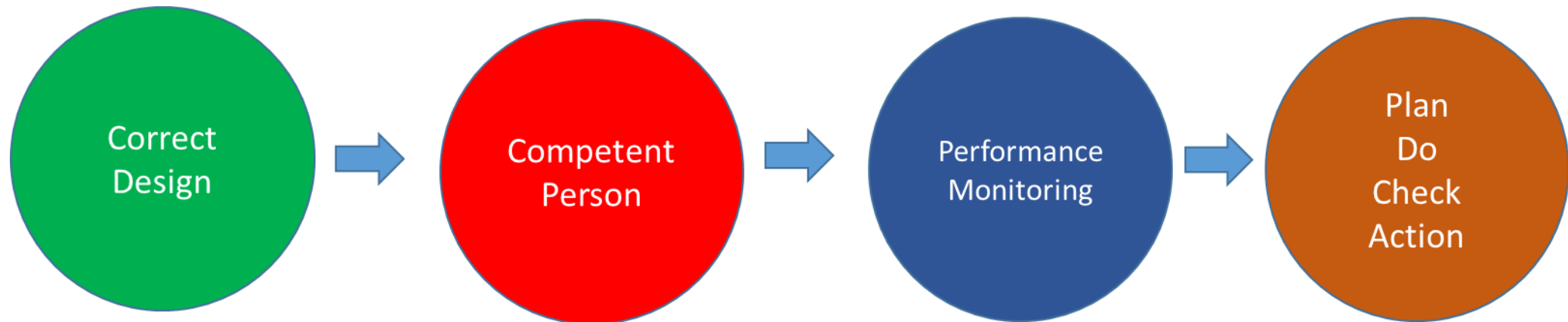
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- Effective mitigation measures
  - i. Section 34 (7) The requirements to follow EIA Approval Conditions
  - ii. In 2015, DOE make improvement in EIA Approval conditions with condition related to control soil erosion and sedimentation.
  - iii. Self Regulation approach implementation
  - iv. Environmental officer at the project site
  - v. Third party audit
  - vi. Preparation EMP with LD-P2M2

# Building Successful Regulatory Approach

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- Effective mitigation measures



# Building Successful Regulatory Approach

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- Capacity Building

- i. Strengthening Training Program with the involvement all stake holders (DOE Officers, Consultants and Developer)
- ii. Developing new module which related to soil erosion and sediment control (environmental officer, LDP2M2 etc.)
- iii. Improvement to existing guidelines
- iv. Improvement to EIA related regulation
- v. Improvement on EIA procedures

# Conclusion

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- Soil erosion and sedimentation control is major challenges in the implementation EIA project.
- The effectiveness in soil erosion and sediment control need dynamic regulatory approach.

**Thank You**