(7) Good practices

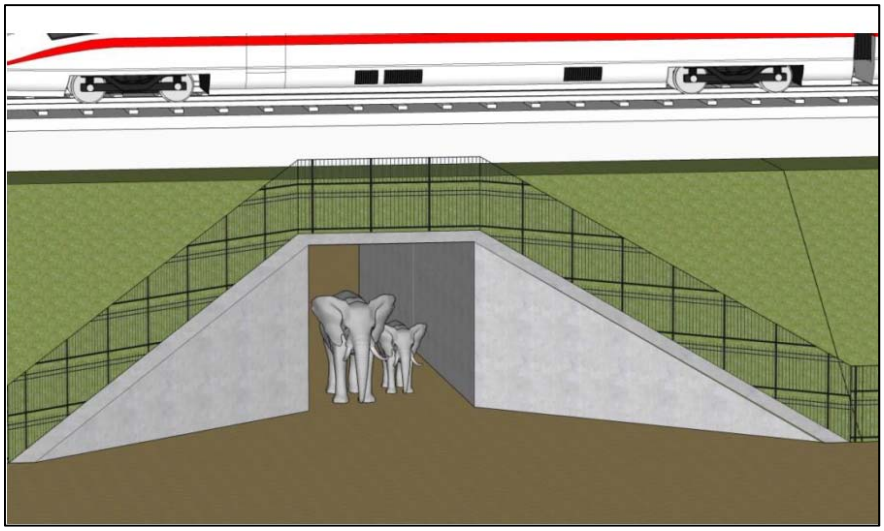
<Malaysia>

Good Practice 1: Major Linear Infrastructure Project in the East Coast of Peninsular Malaysia

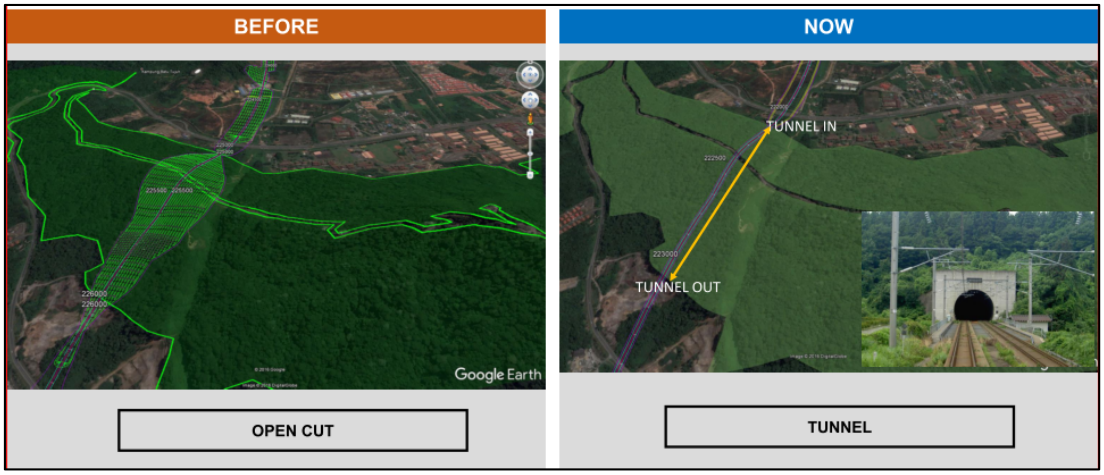
1.Stage of EIA Process	Planning and Construction Phase
2.System/ Implementation	Implementation
3.Country	Malaysia
4.Outline of good practice	The project design was changed substantially to avoid forests and wildlife habitats and significant amount of investment was made for mitigation measures.
5.Background and issues identified (why and how does this good practice was started and evolved?)	The original design of the project (made by the engineers) involved the alignment cutting through many forest reserves and important wildlife habitats. In the original design, more than 2000 hectares of forest would have been lost and some very important wildlife habitat would have been fragmented. The EIA team started working with the engineering design team to relook at the alignment and design in order to minimise forest loss. It was not easy because this was a large and fast-tracked project and everyone was working at a fast pace. Based on the field surveys and previous research, the EIA team was able to identify areas where the alignment needed to be changed and where the design needed to be modified. The EIA team had to work with the engineers to identify if these changes to the alignment and design were feasible form an engineering point.

	From this point, it was a constant negotiations and design changes. In between, many meetings were also held with the regulatory agencies (forestry, wildlife) to ensure that the final design was acceptable to all parties.
6.Key features of good practice and its consequences/ outcomes	As a result of the alignment and design changes, the forest loss was reduced from over 2000 hectares to 450 hectares and then finally to 225 hectares. In addition to these, 27 wildlife crossings and 44 tunnels were also incorporated into the design. A Wildlife Management Plan was also prepared that spelt out the monitoring requirements, additional surveys and the awareness raising requirements. The project developer also allocated RM 10 million for the implementation of the Wildlife Management Plan.
7.Lesson learnt/way forward	There are 4 main lessons learnt : (a) Engagement with all stakeholders is very important to ensure that the final design is acceptable to all parties. It is important to understand the engineering requirements so that the EIA team can negotiate with the engineering team effectively. (b) Early entry is important. Because the EIA team was engaged early in the project, it was possible to influence the project design before they were cast in stone. Early entry also enabled the developer to budget for the environmental protection works. (c) Good science. The EIA team needs good science in order to influence project design. Good science is important to determine accurately locations for wildlife

	crossings and tunnels as these affect the project cost significantly. (d) Understand the limitations. Because there are so many factors to balance (engineering, environment, social, political), it is not possible to save everyone. The EIA team has to try to save as much as possible but understand that it may not be possible.
8.Photos	See below



Wildlife crossing to conserve wildlife habitats



Tunnelling to avoid cutting through forest reserve

Good Practice 2: Major Linear infrastructure Project in the Klang Valley

1.Stage of EIA Process	Post EIA
2.System/ Implementation	Implementation
3.Country	Malaysia
4.Outline of good practice	Main environmental impacts during the construction stage: • Soil erosion and sedimentation • Noise and vibration • Flooding • Waste management Best management practices to minimize the main environmental impacts: <u>Soil erosion and sedimentation</u> • Covering temporary exposed slope with erosion control blanket and permanent slope with turfing • Having a network of temporary drains and silt fence to contain sedimented water within the site and diverting to silt traps and sediment basin to settle the silt before clearer water allowed to be discharged into public drains. • Use of mechanical/chemical treatment for sedimented water before discharge into public drains • Use of silt curtains as filters for sedimented waters before discharging into public drains <u>Noise and Vibration</u> • Erecting temporary noise barriers at areas next to sensitive receptors such as schools and residences • Limiting work hours to 8pm or 10pm at areas next to residences where possible • Engagement with the residents to inform them about the potential noise disturbance and the measures taken

	Flooding • Ensure regular maintenance of drainage surrounding the project area; maintenance records to be kept for future audits • Provision of sandbags or temporary concrete bunds erected at the project boundary to ensure rainwater from the project does not flow out onto the public areas Waste management • Used oil, spilled oil and other similar wastes are managed as scheduled waste, properly labelled and stored in designated areas Disposal of scheduled waste to be done by only licensed contractors and disposed at approved premises.
5.Background and issues identified (why and how does this good practice was started and evolved?)	These issues are inherent in the construction industry especially with large scale earthworks. There was also much specific experienced gained during the construction of the first Mass Transit Line and put to practice for expansion of the network.
6.Key features of good practice and its consequences/ outcomes	Key features in the implementation tool and the objective of encouraging a behavioural change in the sub-contractors and raise the bar for environmental management in the Malaysian construction industry. The requirements that were set for the contractors and sub-contractors are stricter and exceed the regulatory requirements with the objective to lift the overall industry standards, such as having more qualified and more experienced personnel, additional monitoring for noise levels, additional reporting and planning.

	To achieve this, the clients has detailed these requirements in the General and Particular Specifications as well as clearly specifying these items in in the Bill of Quantities for the contractors. In other projects one of the limiting factors and often overused excuse by contractors for non-compliance is the lack of funds but in this infrastructure project, there is sufficient financial allocation for the contractors to ensure full compliance to the requirements.
7.Lesson learnt/way forward	To date the client has observed a gradual but encouraging improvement, slowly overcoming outdated and non-sustainable practices. The way forward is for all contractors to continue with such good practices in future projects and make it part of their work culture without any additional incentive.
8.Photos	See below

Exposed slopes covered by erosion control blankets

Active wastewater treatment plants at sites

Silt curtain as a filter for water quality in downstream pond

Temporary Noise barriers at residential areas