

Chapter 8: Conclusions and Recommendations

8.1 Problem Statement & Methodology

8.1.1 Background

A company's project management framework must support the goals and objectives of sustainable development, as it is the driving force that implements new ventures and processes (Sunter & Visser, 2002). The project appraisal process should therefore focus on the environmental, economical as well as social consequences of the project. Economic aspects receive the most consideration in current project appraisal processes. The evaluation of a typical project management framework used in the South African process industry proved that environmental and social aspects are not addressed at the same level as economical aspects. Figure 8.1 illustrates the extent of current environmental considerations in project management in South Africa.

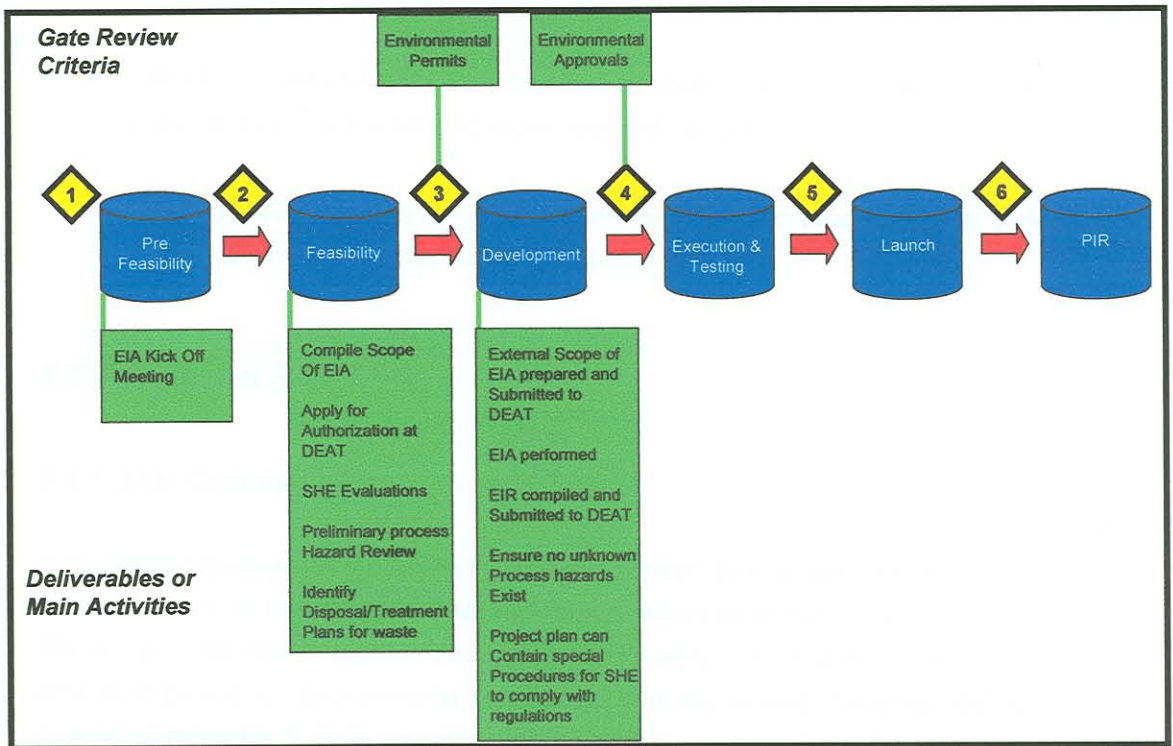


Figure 8.1: Extent of current environmental considerations in a typical project management framework.

8.1.2 Problem Statement

Businesses within the South African process industry will not truly support sustainable development until social and environmental aspects receive similar management attention as

economic aspects. In this context the typical current project management framework is therefore not efficient and need to be adapted.

The focus of the dissertation excluded social and economical aspects. Economical aspects are efficiently addressed in the current project management framework. Social aspects are excluded since incorporation of sustainability into businesses has traditionally started by focusing on environmental aspects only (see section 1.2.2). The aim is thus to incorporate environmental sustainability into a project management framework.

8.1.3 Methodology

In order to ensure that environmental sustainability aspects are treated on a par with economic aspects the following areas of the current project management framework have been investigated:

- Gate criteria, which refer to the questions that must be answered about the progress, deliverables and expected outcome of the project at the different phase-ends.
- Deliverables, which define specific outcomes that must be achieved during every phase and which are measured and reviewed at the gate meeting.
- Decision-Making Process at the various phase-ends, which refer to the final decision at every gate about whether the project continue or not.

8.2 Proposed Solution

8.2.1 Gate Criteria

Gate criteria are viewed as the driving force behind decision gate meetings since it guides the decision-makers as to what the project should have achieved at that stage in its life cycle. The current gate review criteria include only two references to environmental aspects of projects (Figure 8.1). Environmental sustainability can only receive the same attention as financial sustainability if more environmental specific criteria are added to the staged project management framework.

Such criteria have been developed taking the following into consideration:

- Specific activities at certain stages of the project life cycle (Figure 3.3)
- Applicability of specific environmental management tools (Figure 3.6)
- Information that can be obtained from the developed Environmental Evaluation Matrix (EEM) tool or Environmental Impact Assessments (EIAs)

The criteria are gate specific and can be included as part of the technology management criteria (within the project management process) or separately as environmental management criteria. Figure 8.2 proposes how these criteria may be incorporated into the project management framework. This process will act as a driver to ensure that environmental aspects are adequately addressed in future business practices.

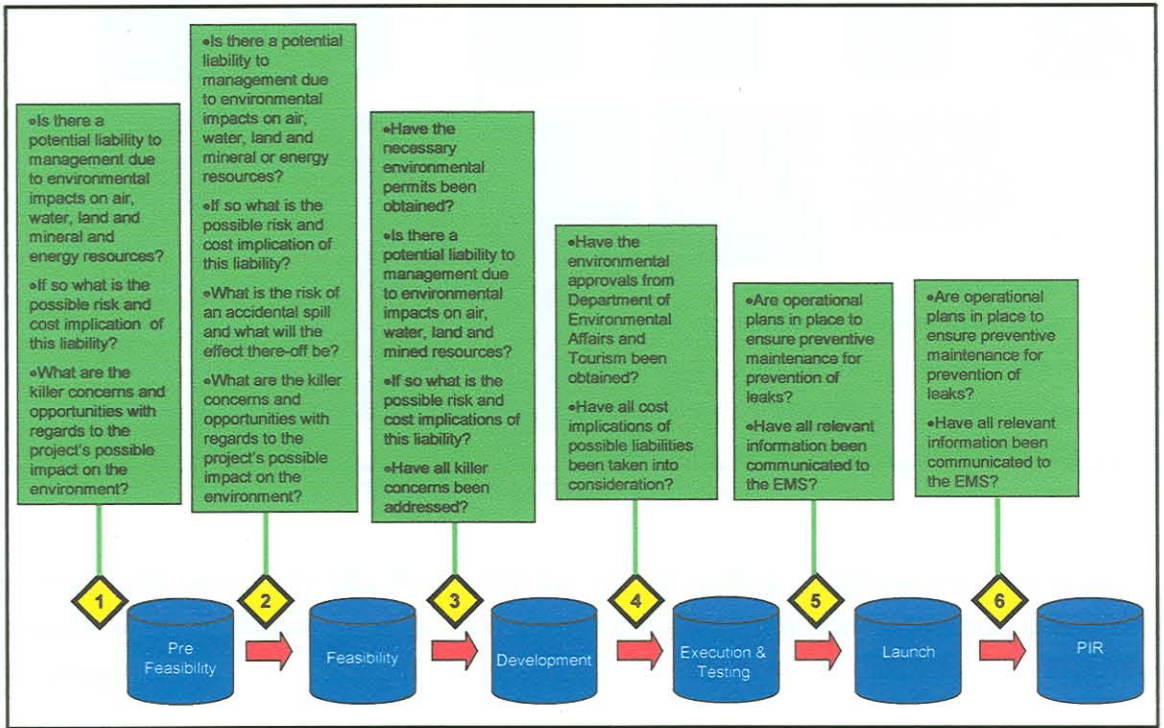


Figure 8.2: Gate criteria addressing environmental sustainability

8.2.2 Deliverables

Environmental information must be available to answer the questions related to environmental aspects incorporated in the gate criteria. It is concluded from Figure 8.1 that specific environmental deliverables are only documented in the project management framework up to the development phase. There are, however, certain environmental tools that should be applied after the development phase such as the implementation of an Environmental Management System (EMS) during the launch phase. Businesses within the process industry are incorporating these activities or tools, but it is not documented as part of the project

management framework. These activities should specifically be mentioned as the outcomes thereof are measured by the gate criteria.

In the dissertation an Environmental Evaluation Matrix (EEM) tool to assist with the gathering of environmental information at Gates 1 to 3 was developed. The tool can assist decision-making processes as well as emphasise the importance of environmental aspects to designers and the project team. It is further proposed that the deliverables of the project management framework must be adapted to incorporate the use of the EEM tool as well as other environmental management tools that are used in later phases. The proposed environmental deliverables are shown in Figure 8.3.

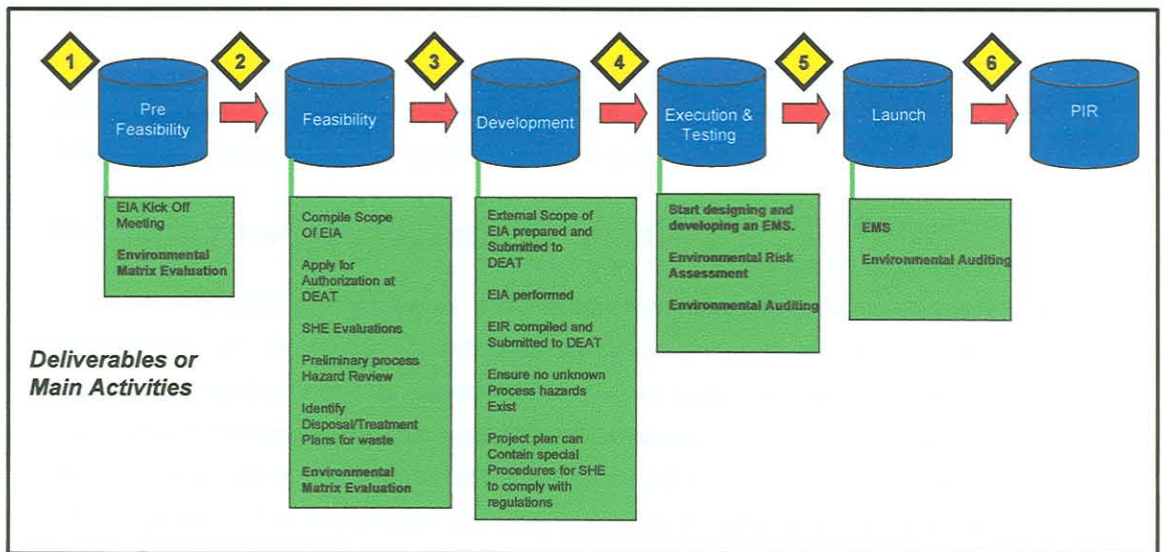


Figure 8.3: Environmental Deliverables

Although the case study has shown that the generic scoring guidelines will have to be adapted for to be company specific, the EEM tool can promote environmental thinking within a company.

8.2.3 Decision-Making Process

Environmental aspects can be incorporated into the decision-making process by either expressing it in financial terms or by using multi criteria decision analysis techniques to weigh environmental and economic aspects against each other (see Figure 7.1). It is recommended that companies utilize one, or both, of the separate techniques to incorporate environmental aspects into the decision-making processes at Gates 1 to 3.

8.3 Implementation Challenges

Implementing the changes to the project management framework within the company will be met with resistance. Many view sustainable development, and especially the environmental

focus thereof, as a burden to growth and it is not easy to “sell” the concepts within the ranks of a company (Holliday, Schmidheiny & Watts, 2002).

The incorporation of environmental sustainability, or sustainability as a whole, requires a paradigm shift within the company. This will not be achieved if top management does not clearly indicate the support for sustainable development as part of the company's mission, vision and strategy i.e. at policy level.

Environmental sustainability should first be introduced by adapting the gate criteria. The second step can be to incorporate the proposed environmental deliverables in the project management framework. Finally the environmental information can be taken into consideration during the decision-making process.

Companies must embrace the opportunity to implement sustainability, as it can become a competitive advantage. If the challenge is ignored, sustainable development will remain a threat that can become a major weakness (Sunter & Visser, 2002).

8.4 Recommendations for future research

A project management framework that incorporates environmental sustainability is an improvement on the current state, but sustainability does not only consist out of environmental and economical aspects. Unless social aspects are also included, the project management framework will not support true sustainability. The incorporation of social aspects in a project management framework and project appraisal process therefore requires further research. The link between the three objectives of sustainability and the way in which impacts in the three different regions affect the other two aspects are another area that could benefit from future research. In South Africa, research directed towards a better economic valuation of environmental effects is currently undertaken. Figure 8.4 illustrates future research opportunities.

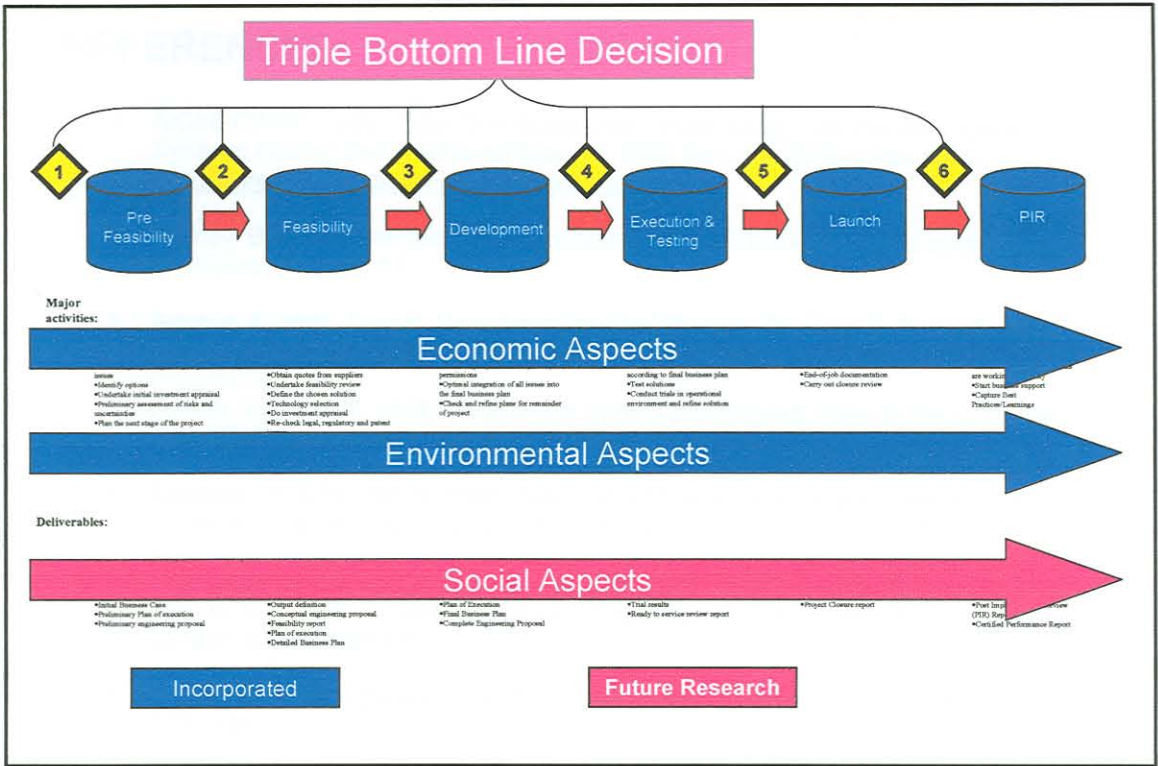


Figure 8.4: Future Research

8.5 Conclusion

Sustainable development is not a fixed state of harmony. It is rather a process of constant change, change in the way in which resources are used, change in the direction of investments, change in the orientation of technologies and even institutional changes. All these changes are, however, aligned and consistent with present and future needs (Holliday, Schmidheiny & Watts, 2002).

Inherently sustainable development is all about painful decisions and choices. The concept can only achieve its goals if society, government and business progress at the same speed in the same direction. In South Africa the economic climate is a major barrier to the incorporation of sustainable development into business activities (Holliday, Schmidheiny & Watts, 2002). Industry leaders should set an example by facing the challenge, only then a sustainable future might become a reality.