

Maslow and the art of Mastering EIA Projects

Key success factors for EIA project management for road-infrastructure

Roel Nijsten, Annelies de Ridder, Paul Jongejan, and Jos Arts
Ministry of Transport, Water Management & Public Works / Twystra Guddé Consultant The Netherlands
Paper presented at IAIA conference May 2008, Perth, Western Australia

Abstract

This paper reveals the key-success factors for EIA project management, which were identified in a large scale screening of 75 road infrastructure projects in the Netherlands. The key to success: the authors suggest to apply a Maslowian hierarchy of needs approach in your project.

Introduction

The development of new road infrastructure and environmental impact assessment (EIA) have become more complex. They are often associated with long processes, involving many stakeholders and issues of conflict. The traditional response is the production of an impressive amount of (E)IA-reports based on extensive research and analysis. As a consequence of this multitude of reports and information, the risk of mistakes in impact assessments increases leading to court cases. In response to those legal cases even more reports are produced. The tendency is one of information overload, giving all parties more and more work. In practice, however, such extra information and detail will often neither lead to a better assessment of the project nor to more (public) support. This overloaded research approach is said to be 'killing the business' (Retief et al., 2007).

In the Netherlands, many road construction projects of the Ministry of Transport encounter delays¹, one of the main causes being: 'insufficient quality of the EIA-study'. Especially assessments concerning traffic and air pollution prove to be vulnerable given their level of detail, the size of the study area, and technical and legal developments (jurisprudence). In 2007, several incidents in EIA road construction projects alarmed the Minister. In reaction to these developments, several actions were taken. An external committee on 'faster decision-making of infrastructure projects' (Committee Elverding) was established by the Minister to investigate the causes of delay in decision making and to suggest improvements. Furthermore, the Ministry has changed its organisation of doing EIA-studies and all current EIA road-projects have been screened (a benchmark of 75 projects, RWS 2007).

In earlier IAIA-contributions, a call for more "common sense" in EIA has been voiced (e.g. Ross et al 2006). This is in line with our findings and conclusions of the project benchmark in the Netherlands. EIA is indeed no "rocket science" (Ross et al. 2006). Therefore we propose a simple, but sensible approach to master a project. We suggest that consultants and project managers follow an approach based on Maslow's (1974) hierarchy of needs. In this approach, a hierarchy of project needs is stated that is useful for setting the right priorities. The idea is that mastering a project is not just a sequentially and mechanically exercise following the different stages in a (EIA) procedure. One has to construct and combine different building blocks such that a stable construction is reached. Metaphorically stated: instead of the traditional "tower building approach", which has proven to be unstable if the underground is not solid, a solid basic framework is needed first, before "moving up". The Egyptians already used this principle: pyramids are very stable constructions.



The aim of this paper is to present the results of this study in which 75 EIA road infra-projects have been screened (RWS, 2007), revealing some practical tips and tools on how to master projects. The remainder of this paper discusses "images" which might be an inspiration for EIA project managers and consultants. The first image is the Maslow pyramid for mastering projects. The subsequent images deal with specific layers of the pyramid. Finally, we summarize the images into a table that suggest strategies that might be followed best depending on the project type.

1. The art of mastering projects

In order to master infrastructure projects successfully, the key is to follow a Maslow like hierarchy of project needs, as shown in Figure 1. The pyramid visualizes the issues, which have to be addressed sufficiently on the one level before investing in the next level. This process is iterative and dynamic; it does not imply a stringent order of steps that have to be taken. It rather indicates a sensible ordering of project needs which are prominent in mastering a project. The objective is to reach a stable and predictable planning process, which avoids fallbacks in procedure causing delays and loss of political and public support.

The suggested Maslow pyramid for mastering projects contains five layers:

¹ The average time span from start of project study to final consent decision is 4.8 years. Many projects do not meet formal deadlines laid down in the law, e.g. for only 27% of the projects a Route Decisions had been taken within the formal term of 5 months (RWS, 2008).

- The bottom layer refers to the need to reach clear commitment on the problem, goal and scope of a (road infrastructure) project in the political and stakeholder context.
- In section 2, we elaborate further on defining the scope, achieving commitment and stakeholder involvement. The 2nd layer relates to the need to take care of the management of the project scope to be used in the EIA-procedure. This is discussed in section 3.
- With respect to this, it is needed to organize and staff the project execution in the right way. This is discussed further in section 4.
- The next level of needs relates to carefully controlling a project with respect to scope, time, money, and quality.
- Finally, as government will contract out much work, the market needs to be involved in a sensible way, applying a strategy of ‘maximising added value’ including a fair division of risks.



Figure 1: Maslow's Pyramid for mastering projects

Traditionally, attention in Dutch planning has been focused on the upper levels of the pyramid. Due to external pressure (see TCI 2004 and WRR 1994) and choices made by the Ministry (“maximum outsourcing”), most attention has been paid to project control and market involvement (also see Nijsten et al, 2007). In sum, the tendency is to focus on *internal* aspects of a project and on contracting out to the market. In this tendency, the focus is on doing things in the right way instead of doing the right things. However, in the benchmark study the first two layers proved to be crucial. A basic condition for successfully mastering an EIA project is to get political commitment on a clear project scope. If there is no commitment on the scope has proven to be ‘killing’, just as vaguely formulated scopes. If the project scope has not been discussed sufficiently in political and stakeholder arena context at the start, projects will suffer from changes in their scope during the planning process (leading to considerable delays). Only when a solid agreement has been reached, it is worthwhile to take care of more internal management aspects of a project. Before narrowing down a project and focusing on project- and market management, project managers should ‘open the blinds’ to the basement of the pyramid and explore, compare, deal with opinions and interests of stakeholders and politicians.

Tips & tools:

- Focus on strategic stakeholders and political context first: they can make and break your project.
- During a project, the set of relevant stakeholders and their interests do not freeze (contingency). Therefore, take into account that the ‘storage life’ of a public agreement is limited to ca. three years.
- A project lacking a scope with public and political commitment has no chance: do not start an EIA unless a scope has reached a sufficient level of commitment. Take sufficient time to reach and mature this commitment, it is an important step which you should not rush
- Keep Maslow in mind and constantly use the right focus: “doing right things versus doing things right”.

2. Involvement of external stakeholders

An important condition for mastering a project is to have a good dialogue with external stakeholders. It is useful to distinguish between different kind of stakeholders depending on how important they are, based on their interest and power. Traditionally, project managers emphasise procedure and focus on the content of reports. However, especially in projects with a lot of conflict this has not been proven to be the best approach. The focus should be from external to internal, and not the other way round. This implies that there should be a dialogue when there is still room enough for scope changes (avoiding foreclosure). This is also taken into account in the pyramid in which the layer at the bottom indicates the need to involve stakeholders. An approach that has proven to be successful for involving stakeholders is “Proactive Issue and Stakeholder Management”, which has been developed by the Mutual Gains Advice Team of Twynstra Gudde (Wesselink, 2007). The purpose of the approach is fostering a long-term dialogue with stakeholders, or to proactively deal with the problems that arise between an organisation and its stakeholders. This approach is based on a combination of the Mutual Gains philosophy (“getting to yes”, Fisher and Ury, 1991), the Theory of Change (de Caluwé and Vermaak, 2003), and Project Management (Wijnen and Kor, 2000).

Tips & tools:

- Aim for a solution that *benefits all parties*: aim at creating added value for all stakeholders and avoid reasoning from differences between parties.
- Differentiate between *points of view and interests*.
- *Prepare thoroughly*: make an objective analysis of issues, stakeholders, and interests. Make an inventory of the issues first, and only then of the stakeholders and their interests.
- *Objectivity*: make use of unambiguous arguments and inform parties.
- Use information based on thorough and objective analysis, make a *selection of stakeholders, which matter most* and devote the greatest portion of your time to the stakeholders with the greatest interests.
- *Attitude*: be reliable, honour your commitments, and foster genuine interests in stakeholder concerns.

3. Making choices

We have argued that before starting a project the condition should be fulfilled that a fundamental choice concerning the scope of a project should be made. This choice is made and guided by politics. However, infrastructure projects have both an end goal (e.g. solving a congestion or safety problem) and a deadline to achieve this (usually: as soon as possible). The consequence of following an undetermined road when mastering infrastructure projects is that the road will be paved with delays, fallbacks in procedure, and changes in scope. If no clear and committed choices are made on the goal of the project it gets drifted. In other words, “if you do not know where you are going”, “any road will lead you there”. This seems unproblematic for Alice in Wonderland (see Figure 2), for whom wandering around and even getting lost is no problem since she has no intention of meeting a certain end at a certain time. In the real world it is however a problem.



Figure2: Making clear choices

Unfortunately, Ross et al. (2006, p.4) point out that “the problem seems to be that regulators are unwilling to be decisive on what matters are to be addressed through EIA”. That is where the art of scoping comes in. Scoping should ensure that only those issues important for decision-making are addressed in EIA. It is the project manager’s task to ensure that choices are made at the start of a project and that commitment is achieved among politics and stakeholders. This should pave a clear road for finalizing a project and EIA in an efficient way while taking the various interests sufficiently into account.

Tips & tools:

- Be clear in what you want. Dare to make choices! Avoid vaguely/compromised goals, ambitions, scopes.
- Do not start your project (operate on layer two of the pyramid, management organisation), unless you have a SMART (specific, measurable, achievable, relevant and time-bound) assignment for EIA (a clear scope).
- Before EIA: perform an informal explorative study into developments in the area- and market (reconnaissance-study, see Arts & Van Lamoen 2005) in order to clarify what the potential alternatives are and, in this way, reach a more focused EIA.

4. Successful project management

We have found that many projects emphasise project control, market involvement, and technical aspects of IA (RWS 2007). Also, the staffing of a project team rather seems to be the result of serendipity instead of well considered staffing based on complementary qualities. This results in an emphasis on traditional technical and control approach. Less prominent in staffing are competencies for stake- and shareholders communication and leadership mastering the project. However, if mastering a project comprises more than just internally controlling a project (as the pyramid suggests), this calls for a project team that consists of people that have more abilities than solely hard core project management skills. For staffing projects, the Dutch Ministry of Transport applies the so-called Integral Project Management (IPM) Model in which five different roles are defined that should be fulfilled in a project team. In this paper, we characterize each role according to the theory of management drives (Versnel and Koppenol, 2008), which states that people will have specific dominant mind-frames that determine largely how they will perform. Also with respect to cooperation of people within teams (as in a project team), it is the combination of the different drives that will determine how interaction will unfold. To characterize the drives, six different colours have been defined (see Box 1 and Figure 3). The five roles of the Model and their colours are:

Box 1: Management drives colours

- Yellow is the drive, which seeks to analyse, understand, explore in depth
- Green is the drive, which puts people and relationships first
- Orange is the drive, which wants to show progress, results, achievements
- Blue is the drive, which seeks to create certainty and clarity
- Red is the drive, which represents daring, pace, and force
- Purple is the drive, which seeks security and homeliness.

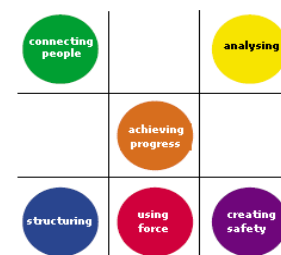


Figure 3: Management drives

- *Project manager* (leader) is the head of the project team, who makes decisions, who “owns” the project. The central figure with the dominant colours red and orange.
- *Project controller*: the bookkeeper, mostly associated with blue.
- *Stakeholder manager* (balancer), who is responsible for the bottom layer of the pyramid. In “getting to yes”, this person is politically sensitive, dynamic, and is able to connect people and their interests. Management drives colours of this role are green and yellow.
- *Technical manager*, who deals with the facts and figures of the project. The quality and timely delivery of IA studies are responsibilities of this role. One should have a sense for time, quality, and money. Usually, technical managers are well introduced in content, well-organized. Drives are blue and yellow.
- *Market manager* who is responsible for managing the market/contracts, colours are blue and orange.

Tips & tools

- Compose a team for your project that suits the scope and phase of the project. Aim for mean and lean teams.
- In a complicated, large project full of conflict, make sure to include a strong leader and a “balancer” (stakeholder manager), who can communicate and negotiate with stakeholders and has Harvard negotiation skills
- Make sure the team is mixed, include enough ‘orange’ and ‘green’ people.
- Every role-manager needs affinity with EIA and has to be experienced with a public and political context
- Every project should start with a project start-up with attention for: scope, external context, SWOT-analysis of the project and its team.
- Find people who are able to fulfill these roles (competencies), train employees in HRM development courses

The top layer of the pyramid has not been discussed extensively in this paper. For more information on involving the market, see Nijsten, Arts & De Ridder (2008), in which it is explained how innovations in process and procedure concerning market involvement can lead to product innovation.

5. Different kind of projects demand different kind of approaches

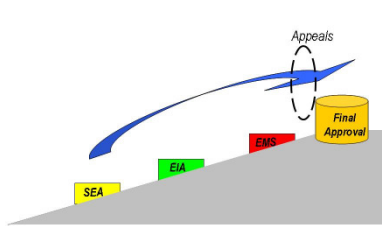
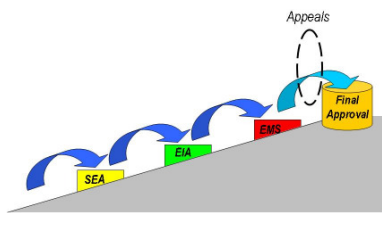
Reality is not always as linear as we would hope. Projects come in different sorts and sizes and are carried out in different contexts. Moreover, every project has its own kind of impact on stakeholders, technical complexities, and characteristics. Finally, also related projects (part of a program) might influence the project, just as the history of a project. Depending on the specific circumstances, choices have to be made and issues stressed.

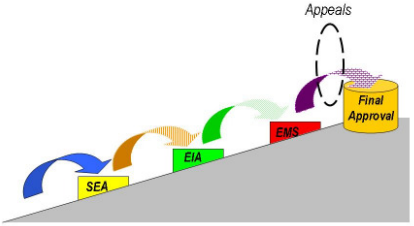
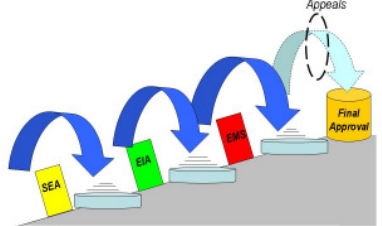
From the 75 projects that were studied, 65 appeared to be more standard, while 10 were technical and/or politically complex (RWS 2007). To categorize projects, we suggest two dimensions:

- Stable vs. not stable: stable refers to the stability of the context of a project (political sensitivity of a project, the amount of stakeholders who may influence the project or are against it)
- Complex vs. simple: technical complexity.

The strategy chosen to master a project should be based on the specific characteristics of a project. A strategy does not provide project managers in detail which steps to take, but clarifies which aspects should be emphasised. In the strategy, we use insights from the four previous sections (the pyramid, stakeholder management, and project staffing). We also use Arts and Morrison-Saunders (2006) who discuss three different routes for a project before final approval (process). This leads to the following table:

Table 1: choosing a project strategy

Projects	Simple	Complex
Stable	<p>Mass production / the long jump</p> <ul style="list-style-type: none"> - pyramid: all layers are just as relevant, but are not expected to cause problems - stakeholders: moderate objective analysis resulting in small selection of relevant stakeholders, focus on information - staffing: aim for a small and coherent team in which several roles are covered by one person (centipede) - process: “one giant leap”: achieve final approval directly from the start and fast approach 	<p>Freeze frame / triathlon</p> <ul style="list-style-type: none"> - pyramid: layers 4 and 5 will take most effort, the need to make good arrangements with the market is high - stakeholders: moderate objective analysis resulting in small selection of relevant stakeholders, focus on information. In communication, pay enough attention to technical complexity. - staffing: several roles can be covered by one person, but pay extra attention to a good technical and market manager. Colours needed most: blue and orange - process: “triathlon”; one main actor who has to train carefully for the various disciplines/stages. The Ministry itself addresses issues and invests effort at specific moments (tiers) guided by IA instruments that keep momentum. 
Not stable	<p>Balancing stakeholders and politics / relay race</p> <ul style="list-style-type: none"> - pyramid: layer 1 will take most effort, the need to reach committed stakeholders and politics and a SMART scope is highest (mass production in technical aspects, but extensive attention for stakeholder management) - stakeholders: extensive analysis resulting in big selection of relevant issues and stakeholders. Focus on dialogue and hold right attitude (e.g. open and reliable) - staffing: several roles can be covered by one person (esp. the more “blue” roles), but pay extra attention to stakeholder management. Colours needed most: green and red. - process: “running a smoothly relay race”; thinking through the whole process beforehand with the various co-players – 	<p>Extensive (custom made) approach / trampoline</p> <ul style="list-style-type: none"> - pyramid: all layers are relevant, layers 1 and 5 will take most effort. The interaction and timing between the dynamics of the stakeholders and technical developments is crucial. - stakeholders: extensive analysis resulting in big selection of relevant issues and stakeholders. Focus on dialogue and hold right attitude (e.g. open and reliable). Communicate about technical complexity of project. - staffing: all roles should be covered by different people. A strong leader and stakeholder manager are needed, have enough orange and red. - process: Avoid “hurdle jumping” but strive for enough energy and momentum by using a trampoline, so that not every step in

Projects	Simple	Complex
	<p>addressing issues and investing effort at specific moments especially in stakeholder issues. Typical for this process is that several parties take part, like a relay race in which the “baton” is passed from one party to another.</p> 	<p>the planning process is an obligatory hurdle (maximum costs and effort, and every time renewed discussion delaying development), but aim for a good and extensive pre-project stage (scope commitment) and subsequently with a fast remainder of the project.</p> 

The Maslow approach of mastering EIA Projects emphasises the different attention levels of project management and the order in which they have to be addressed in the different stages of the project. Table 2 summarizes success factors on mastering a project.

Table 2. Success factors on mastering a project and EIA

Level in Pyramid	Challenges	Tips & Tools for project manager (PM) and the EIA
1) Political/stakeholder context	Get commitment on project goals	PM - SOM Harvard negotiation EIA - Good reconnaissance study
2) Project scope	Formulate a smart scope for the EIA study	EIA - Clear internal EIA assignments PM - Clear division of responsibilities
3) Project staff / HRM	Choose the right people for the job	PM - Management drives and the IPM EIA - training / expert guidance
4) Project control	Focus on time and use the tools.	PM - Guidance on time and risk management (RISMAN) EIA - Internal EIA quality reviews
5) Market involvement	Know how to use the market	PM - standardized outsourcing contracts EIA - early market involvement

References

- Arts, J. and A. Morrison-Saunders (2006), *Beyond Hurdle Jumping: Managing the impact assessment process for environmental performance*, Paper presented at IAIA, Stavanger, Norway.
- Arts, J and F. van Lamoen (2005), 'Before EIA; defining the scope of infrastructure projects in the Netherlands', *Journal of Environmental Assessment Policy and Management*, Vol.7/No.1: 51-80.
- Caluwé, L. de & Vermaak, H. (2003), *Learning to change, A guide for organizational change agents*, Thousand Oaks.
- TCI, Tijdelijke Commissie Infrastructuurprojecten ("Committee Duivesteijn") (2004), *Grote projecten uitvergroet, een infrastructuur voor besluitvorming ("Megaprojects magnified, an infrastructure for decision-making")*, Tweede Kamer vergaderjaar 2004-2005, 29283, nrs. 5-6.
- Fisher, R. and W. Ury (1991), *Getting to yes*. Penguin Books London.
- Maslow, A. (1974), *Motivatie en persoonlijkheid*, Lemniscaat Rotterdam.
- Nijsten, R., J. Arts and A. de Ridder (2008), *Early contractor Involvement, new roads to innovation! Experiences and challenges in The Netherlands*, paper for the Transport Research Arena, April 2008, Ljubljana, Slovenia.
- Retief, F., R. Marshall and A. Morrison-Saunders (2007), *Avoiding extinction - proving the business case for IA & IA practitioners*, Paper presented at IAIA, Seoul, Korea.
- Ross, W., A. Morrison-Saunders, and R., Marshall (2006), "Common sense in environmental impact assessment: it is not as common as it should be", *Impact Assessment and Project Appraisal*, 24(1): 3-22.
- RWS, Rijkswaterstaat ("Department of Public Works & Water Management") (2005), *Integral Project Management (IPM) Model, Utrecht*.
- RWS, Rijkswaterstaat ("Department of Public Works & Water Management") (2007), *Tempo in Planstudies ("Tempo in projects in study")*, drafted by H.de Bruijne, C.Kempenaar, R.Nijsten, P.Jongejan, Delft.
- RWS, Rijkswaterstaat ("Department of Public Works & Water Management") (2008), *Werkelijke doorlooptijden infrastructuurprojecten, Achtergrondrapport voor Commissie versnelling besluitvorming infrastructurele projecten, ("Real duration of infrastructure projects, Background study for the Commission on quicker decision-making of infrastructure reports")*, drafted by Jos Arts, Robert van Winden & Jan Veeken, Delft.
- Versnel, H. and H. Koppenol, Management drives (2008), Pearson Education Amsterdam.
- Wesselink, M. (2007), *Fact sheet Proactive issue and stakeholder management (SOM)*, Twynstra Guddé.
- Wijnen, G. and R. Kor (2000), *Managing Unique Assignments, A team approach to projects and programmes*, Gower Aldershot.
- WRR, Scientific Council for Government Policy (1994), *Besluiten over grote projecten ("Decision-making on mega-projects")*, Sdu Publishers The Hague.