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MEGA-PROJECTS: DEALING WITH PITFALLS

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Mega-projects: something for ambitious politicians?

**Or mega-projects as destroyers of political careers?
(Flyvbjerg et al; 2003; Pickrell, 1992; Wachs, 1989).**

Hall (1981): 'Great Planning Disasters.'

General theme:

- Underestimation of costs.
- Overestimation of transport benefits.

Flyvbjerg (2007): 'Survival of the unfittest' : the project with the most underestimated costs and the most overestimated benefits, will win political approval at an early stage.

Remedy: reference class forecasting (Kahneman, 1994). Comparable completed projects as reference in stead of an interim budget forecast for the project.

There are many more pitfalls. This paper presents an overview.

A SUMMARY OF PITFALLS

**Absence of an adequate problem analysis.
Lobby groups push a specific solution.**

Seldom a comparison of alternatives.

Solution searching for a problem to be solved.

LACK OF ALTERNATIVES

Calculate costs and benefits of alternatives.

Design alternatives to strengthen the democratic quality of the decision-making process.

ABSENCE OF A FUNCTIONAL PROGRAMME

Define programme, minimum performance and public values.

Leave openings for the creativity of those competing in a tender.

AMBIGUITIES ABOUT THE SCOPE OF THE PROJECT

Scope optimisation: more than the line infrastructure. Include a wider area. Develop nodes near and around stopping places or junctions: anticipate increasing land value. Value capturing.

One mega-project or splitting the project in manageable components; political decision in phases. Flexibility; keep options open (Miller, 2008).

FLAWED PROCESS ARCHITECTURE

Role of the public, local authorities, private players?

Define sustainable stakeholders.

**Design & Construct. Tender, level playing field.
Transparent public decision-making can damage the
market position of the government.**

**Not only concern for costs, but also for quality and
innovation.**

QUESTIONS ABOUT COST-BENEFIT ANALYSIS

Methodological shortcomings in ex-ante appraisal of mega-projects. Underestimation of network effects. Internal interest rate. Aspects of sustainability, CO₂-emissions. Particulate Matter, health, safety.

CONTESTED INFORMATION

Misinformation is disseminated on a large scale (Wachs, 1989; 1990; Flyvbjerg et al; 2003). Leijten and De Bruijn (2008) call this 'contested information.'

Try to reach agreement beforehand on how the parties will deal with the available information.

PRIVATE LAND POSITIONS

Land positions can undermine market forces in the construction sector. Self-realisation under the Expropriation Act. Bias in zoning plans and allocation plans.

NATURE OF TECHNOLOGY

Dilemma: innovative, relatively unknown technologies or proven, less risky technologies. Technological sublime (Trapenberg Frick, 2008).

CHANGING MARKETS

During long preparation and development periods markets may change (traffic demand, construction market, labour markets, including availability of engineers, building materials, energy prices, interest rates, valuta, land prices). This may change the balance of costs and benefits.

POLITICAL DISCONTINUITY AND INCONSISTENCIES

Several elections in the preparation phase: national and local governments. Some mega-projects play a crucial role in election time. International negotiations and treaties. Role of European Commission. (Trans European Networks). Lack of political continuity. Connecting political agendas. Be alert at all times!

CHANGING NORMS AND STANDARDS

Changing safety norms (Alp tunnels experience). Air quality standards. Changing spatial policies or not?

PRIORITISATION OF MEGA-PROJECTS

Organise a certain competition of alternatives. Prevent passivity among market players by promising 100% public finance. Motivate private finance.

HOW TO DEAL WITH PITFALLS?

Five phases of decision-making:

1. **The problem analysis: what is the problem and whom does it affect?**
2. **The compilation of a functional programme of requirements: what criteria does the project have to meet?**
3. **Elaborate the technical, functional and economic aspects and designate the project as ready for execution.**
4. **The realisation of the project from the moment the first spade hits the soil to the handover.**
5. **The operation of the infrastructure after completion.**

Consider the decision-making process as learning process.

DO NOT START WITH A SOLUTION

What is the problem? For whom? Try to reach consensus.

Values and criteria.

Objectives of the actors.

Boundaries and constraints.

PROJECT ALTERNATIVES

Dutch Ministry of Transport: utilisation, pricing, building.

Not always is an investment the right answer.

Different routes, different modalities, different cross-sections, different forms of spatial accommodation.

Alternatives: recognition at an early stage.

PROGRAMME OF REQUIREMENTS

Which criteria? Which public values to be secured? An intelligent functional programme creates space for a tendering procedure in which candidates compete with quality, innovation and price.

SCOPE OF THE PROJECT

**Look at the intersections and junctions.
Look at spatial accommodation. Organise
value capturing of increased land values.
Phases in implementation or not.**

PROCESS ARCHITECTURE

Public-private partnership with intelligent allocation of risk.

Private actors: entrepreneurship, creativity, risk-awareness. Contracted alliances to reduce the total risks.

Innovate tendering: are there sufficient candidates? Role of insurance companies?

SCB ANALYSIS

Ongoing improvement of SCB analysis techniques.

CONTESTED INFORMATION

Decide together in the beginning how information will be collected and used. Which sources of information are authoritative. Mediating to prevent stalemates. No-regret policies. Who bears the risk of under- and overestimations?

PRIVATE LAND POSITIONS

Negotiations to reach solutions.

Legislation on cost recovery.

Perhaps: disconnect land ownership from building. Public land ownership to safeguard competition on construction markets.

TECHNOLOGY

**Beware of the technology sublime
(Trapenberg Frick, 2008). Reduce risks
by adopt proven technologies.**

CHANGING MARKETS

Apply scenario techniques. Try to hedge some risks. Insurance: possibilities and limitations. Pricing of risks. Impact of the introduction of user charge. Allocate risks.

POLITICAL DISCONTINUITY AND INCONSISTENCY

Sometimes: try to depoliticise parts of the decision-making. Make contracts going beyond the cabinet period. Let political bodies pay the price for political inconsistency and discontinuity as much as possible.

CHANGING NORMS AND STANDARDS

Try to change absolute norms in relative norms. Compensate anyone who suffers from new norms and standards.

Information and communication about new standards. Training of public officials and private actors.

OPERATION OF THE PROJECT

Tender DBFM: investment + decades of operation. Promotes sustainability. Anticipate public and private roles and risks during operation. Is there a business case in operation?

CONCLUSION: MANY PITFALLS

- no adequate problem analysis;
- lack of project alternatives;
- no functional programme;
- uncertainty about the scope of the project;
- inadequate process architecture;
- questions on the SCB analysis.

- **contested information;**
- **private land positions;**
- **type of chosen technology;**
- **changing markets;**
- **political discontinuity and inconsistencies;**
- **changing norms and standards.**

Reality: decision-making as an Echternach process. Pretty chaotic. Five stages in decision-making:

go/no go decision after each stage.

Sometimes part of a phase repeated.

Keep open as many options as possible.

Maintain flexibility to deal with surprises.

After 70 years without lessons learned, it is time to get down to some serious work.