EPFL

Global Infrastructure Basel

The Governance of Infrastructure

Building expertise on sustainable and resilient infrastructure

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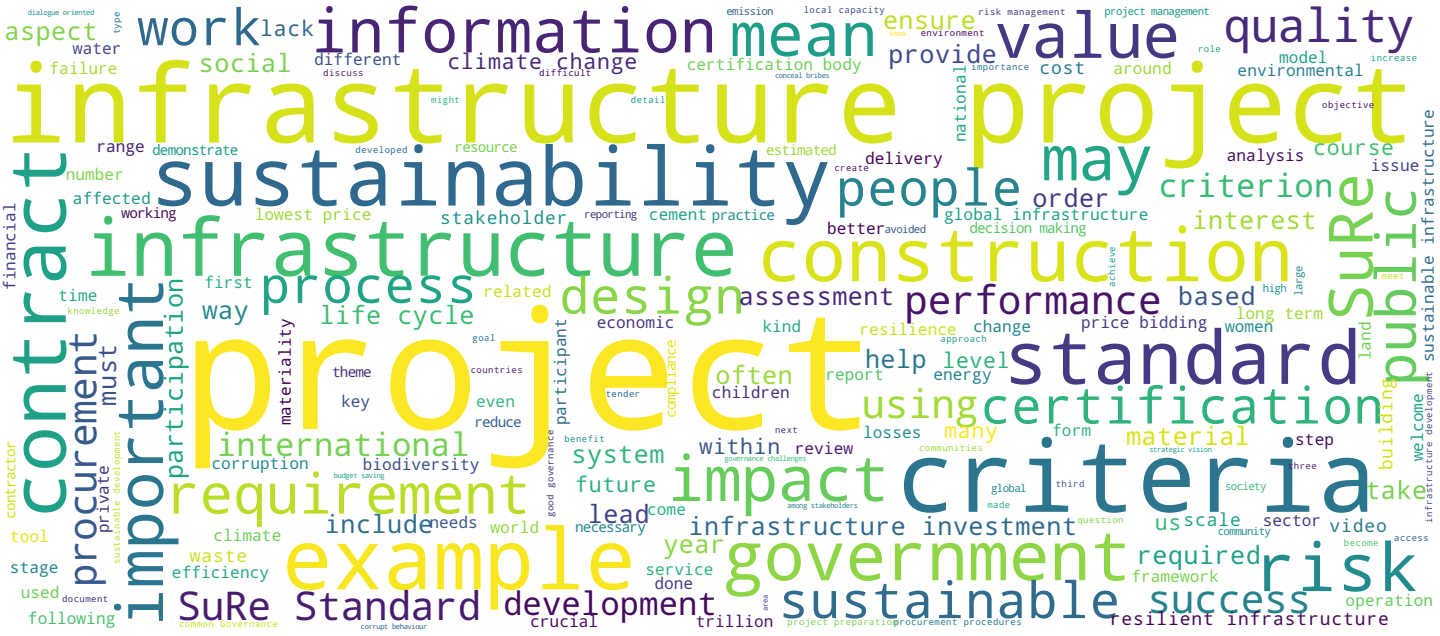

Search MOOC

Video

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Content

- Introduction
- Governance Challenges
- Increasing Efficiency through Effective Governance
- Engagement & Participation
- Corruption
- Conclusion

Hello and welcome to the third week of our course. This week is dedicated to the governance of sustainable and resilient infrastructure. From an institutional perspective, sustainable and resilient Infrastructure is aligned with national and international commitments and is based on transparent and consistent governance systems over the complete project cycle. Robust institutional capacity and clearly defined procedures for project planning, procurement, and operation are enablers for institutional sustainability. The development of local capacity—including mechanisms of knowledge transfer, promotion of innovative thinking, and project management—is critical to enhance sustainability and promote systemic change.

Notes

Summary

0m 05s

Introduction

"Poor governance of infrastructure remains one of the most fundamental bottlenecks to achieving long-term development objectives." (OECD 2017)

The governance aspect of sustainable infrastructure projects cannot be over emphasized. The success or failure of an infrastructure project depends in large measure on whether good governance practices and tools are adopted or not.

Notes

Summary

1m 01s

Large-scale projects face many challenges.

Planned
Actual

Example	Budget vs actual, € billion	Delays and start-up problems	Incorrect capacity and revenue plans	Total value lost vs plan, € billion
Eurotunnel	7.5 / 15.0	• 6-month delay • 18 months of unreliable service after opening	• Overestimated market-share gain in freight and passengers by 200%	~7.5
High-speed rail Frankfurt-Cologne	4.5 / 6.0	• 1-year delay of construction • Legal and technical issues	• Unforeseen capped government funding	~1.5
Betuwe Line NL (cargo rail)	2.3 / >5.0	• 1.5-year[1] delay of construction • Technology choices still not finalized	• Annual revenue shortfall of €20 million	~3.0
Kuala Lumpur Airport	2.0 / 3.5	• Initial issues with connectivity to downtown area • Complaints about facility hygiene levels	• Handles only ~60% of current capacity • Losing market share to Singapore	~1.5

[1]Project still not finalized and costs could go even higher.

Source: Annual reports; Jane's Airport Review; McKinsey analysis; Reuters

McKinsey (2013): A risk-management approach to a successful infrastructure project: https://www.mckinsey.com/industries/capital-projects-and-infrastructure/our-insights/a-risk-management-approach-to-a-successful-infrastructure-project

In the "Framework for the Governance of Infrastructure" the OECD points out that: "poor governance of infrastructure remains one of the most fundamental bottlenecks to achieving long-term development objectives." Every one of us has probably seen examples of unsuccessful infrastructure projects such as those expensive "white elephants" or "bridges-to-nowhere." The Project Management Institute estimates that fewer than two-thirds of projects meet their goals and business intent. The financial costs of failure can be enormous and they can be more than purely financial. An investment overrun on budget or time can hurt the tax-payer, delay essential improvements, lead to civil unrest and even bring down governments. This graph gives you an idea of problems major infrastructure projects have been facing: Cost overruns, delays, failed procurement, or unavailability of private financing seem to be most common.

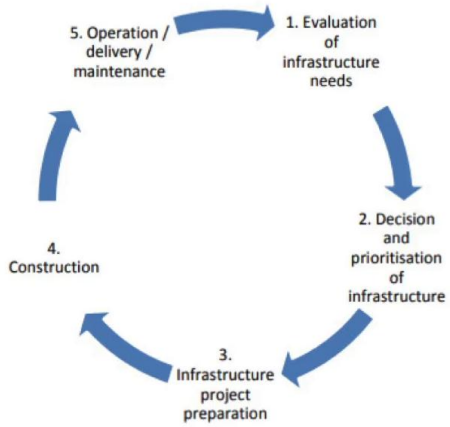
Notes

Summary

1m 19s

Governance Challenges

- Governance Challenges throughout the Life-Cycle



Governance covers the entire life cycle of the project, which includes the following five phases: evaluation, decision making and prioritization, project preparation, construction and last but not least operation and maintenance.

Notes

Summary

2m 38s

Governance Challenges

Common governance challenges include:

- Not designing a strategic vision
- Political dynamics that undermine decision making
- Corruption, mismanagement and wrong prioritizing investments
- Poor coordination across different levels of government that leads to waste of resources
- Uncertainty of revenue flows, unstable regulatory frameworks and lack of long-term decisions
- Lack of systematic data collection on performance and lack of disclosure of data on contracts which reinforces concerns about fraud and lack of transparency

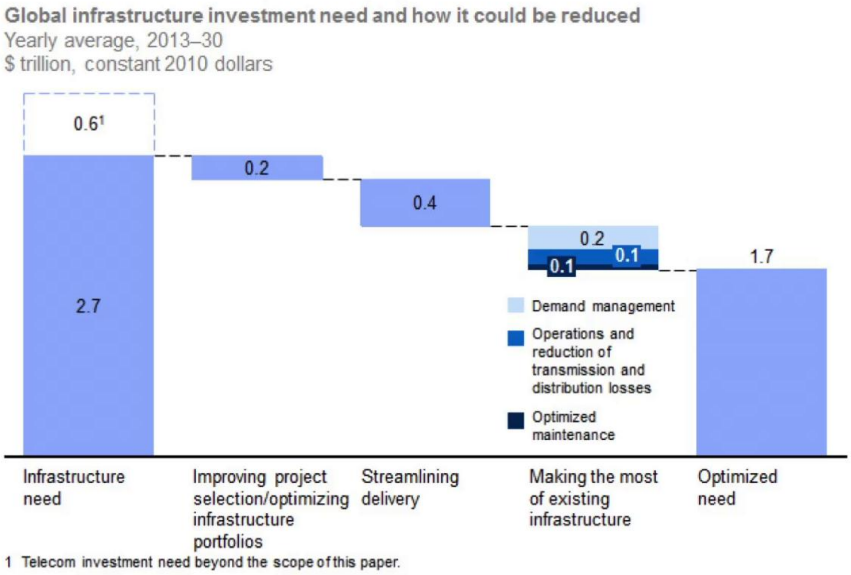
See http://www.oecd.org/governance/governance-of-infrastructure.htm

(show picture of life cycle) Infrastructure projects are immensely complex involving multiple stakeholders and are therefore prone to many governance challenges and pitfalls that can occur at any time throughout the life cycle. According to the OECD common governance challenges include: •Designing a strategic vision •Political dynamics that undermine decision making •Corruption, mismanagement and prioritising investments •Coordination across different levels of government that leads to waste of resources •Uncertainty of revenue flows, unstable regulatory frameworks and long-term decisions •Systematic data collection on performance and lack of disclosure of data on contracts which reinforces concerns about fraud and lack of transparency As the number of potential risks and challenges seems to be extensive and hard to predict, a solid and thorough risk management is crucial.

Notes

Summary

2m 55s



McKinsey (2013): Infrastructure Productivity: How to save $1 trillion.
http://www.sefifrance.fr/images/documents/mgi_infrastructure_full_report_jan2013.pdf

McKinsey (2013) emphases that most failures and budget or time overruns of infrastructure projects are foreseeable and avoidable but happen because of a lack of professional, forward-looking risk management. Successful governance requires insight into all the risks that may affect service delivery or system performance. The inability to deal with unanticipated changes is one of the biggest threats to the on-budget and on-time completion of infrastructure projects. Effective governance is not only crucial for the success of infrastructure projects it is also essential for boosting their efficiency or productivity especially under tighter budget controls and budget constraints. Based on an analysis of 400 success-case studies around the world, the potential budget saving through higher governance productivity and efficiency is estimated to be $1 trillion a year. Improving project selection and optimizing infrastructure portfolios would lead to a better allocation of resourced and could help to save about 8% of the global infrastructure investment need. Streamlining and improving the delivery would add another 16% of investment saving. Finally, optimizing the already existing infrastructure and using it more effectively, is the third area of budget saving potential.

Notes

Summary

4m 04s

Increasing Efficiency through Effective Governance

- Designing a strategic vision through engagement and participation
- Fighting corruption

Slide 7 In the following we will discuss two of these common risks in more detail. This is designing a strategic vision through engagement and participation and fighting corruption.

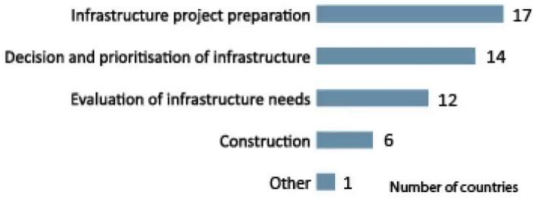
Notes

Summary

5m 44s

Engagement and Participation

- Dialogue and engagement preferentially happen in the preparation phase of the infrastructure project



Source: OECD Survey of Infrastructure Governance (2016)

Infrastructure projects regularly fail or meet great challenges because of serious conflicts among stakeholders. The interests of stakeholders can be contrary and complex. One great dilemma of infrastructure projects usually is that there are stakeholders who generally benefit while others will be negatively affected, at least temporarily through construction noise, a changed landscape or falling property prices for example. In such situations, communication and an early and effective engagement and participant of stakeholders play a critical role for the success of projects as a dialogue-oriented strategy can prevent resistance. The process should be broad-based, inspire dialogue and draw on public access to information and users' needs. According to a survey conducted by the OECD, most often the dialogue and engagement takes place in the preparation phase of the infrastructure project.

Notes

Summary

6m 06s

Engagement and Participation

- Groups of Stakeholders
- Governmental and non-governmental organisations
- Loosely-organised or non-organised groups and individuals interested in participating as they are affected by specific areas
- Members of the public whammy or may not participate, but need to remain informed about the project along with other stakeholders

In general, stakeholders who need to be informed and being engaged belong to one of those groups: Governmental and non-governmental organizations Loosely-organized or non-organized groups and individuals interested in participating as they are affected by specific areas Members of the public who may or may not participate, but need to remain informed about the project along with other stakeholders Effective stakeholder engagement and participation in infrastructure development requires a process that is based on mutual education, effective communication about the project and its impacts, identification of all of the interests that will be affected and open discussion about how to address those interests.

Notes

Summary

7m 20s

Engagement and Participation

- Successful stakeholder engagement can lead to
- Support by stakeholders for the planning process
- Improved, sustainable outcomes
- Transparency that leads to higher credibility and predictability of the project
- Creation of a sense of shared ownership

Such a process can create benefits such as •Support by stakeholders for the planning process through shared data, perspectives, ideas, challenges and alternatives as well as funding, and political support •Improved, sustainable outcomes, because the final plan builds on local capacity and knowledge and addresses local and regional issues that may require resolution in order to move forward •Transparency that leads to higher credibility and predictability of the project •Strengthened relationships among stakeholders leads to a sense of shared ownership and the creation of advocates that is crucial for moving forward on the project.

Notes

Summary

8m 22s

Engagement and Participation

While consultation and citizen engagement is necessary for good governance, it is not an easy undertaking. Therefore, consultations must be structured in such a way that the process can be finished in a timely manner and that policy capture and other distortions are avoided. In order to secure the success of infrastructure projects, it is important to seek engagement and participation at an early stage of the project. Experience shows that the involvement of all actors and a strategic and dialogue oriented communication is crucial. Confrontation should be avoided at all costs.

Notes

Summary

9m 19s

Corruption

- Estimates tend to range the loss because of corruption between 10-30% of the value of a project

Scholars and practitioners alike have often pointed out that “Corruption is one of the key issues for public policies. It is one of the major impediments to the development of emerging countries and to further improve the quality of life in developed countries.” It is difficult to determine precisely the value of losses through corruption, but analyses tend to range the loss between 10-30% of the value of a project. Taking into account that the value of global infrastructure investment need is estimated to be $94 trillion by 2040, this would mean that 10 to 30 trillion USD could be lost through corruption. Losses on this scale cannot be tolerated in any sector, but losses in infrastructure investment have particular significance as they underpin almost every aspect of economic growth, human development and environmental safeguarding.

Notes

Summary

10m 04s

Corruption

- Aspects why infrastructure projects are particularly prone to corruption:
  - Uniqueness
  - Complex transaction chains
  - Work is concealed
  - Official bureaucracy
  - The scale of infrastructure investments

According to the Global Infrastructure Anti-Corruption Centre there are a couple of aspects that make infrastructure projects particularly prone to corruption. As you can see on that slide •(Uniqueness) No two construction projects are the same making comparisons difficult and providing opportunities to inflate costs and conceal bribes. •(Complex transaction chains) The delivery of infrastructure involves people from different professional disciplines having different education backgrounds. These numerous contractual relationships often make control measures difficult to implement. •(Work is concealed) Materials and workmanship are often hidden, for example steel that reinforces the stability is cast in concrete, masonry is covered with plaster and cables and pipes are enclosed in service ducts. •(Official bureaucracy) Numerous approvals are required from government in the form of licenses and permits at various stages of the delivery cycle, each one providing an opportunity for bribery. •(The scale of infrastructure investments) Investments in economic infrastructure such as dams, airports and railways can cost tens of billions of dollars making it easier to conceal bribes and inflate claims.

Notes

Summary

11m 08s

Corruption

- Competitive Tendering Process
  - Lowest price bidding process encourages corrupt behavior
  - As a response the World Bank (2016) initiated new procurement framework that allows contracts to be awarded on other criteria than price.

In some instances, procurement procedures can also inadvertently encourage corrupt behaviour. One common practice is for example the competitive tendering process based on the lowest price. However, evidence shows that lowest price bidding process encourages contractors to bid for work at unrealistically low levels. It then becomes difficult for them to maintain standards and make profits, the quality of their work falls and they become more likely to make unjustified claims, delay payments to subcontractors and indulge in corrupt behaviour to reduce their losses. As a response to that dilemma, a review of World Bank procurement procedures resulted in a new procurement framework that for the first time allows contracts to be awarded on criteria other than price. That means, in order to reduce corruption, we should avoid focusing on the lowest price bidding and rather emphasis the need to ensure a thorough project preparation applying standards and this is again, where the SuReStandard for example comes in. The price bidding procedure is just one simple example of the relevance of the procurement and contracting process. Procurement and Contracting are in fact extremely crucial for the sustainability of a project and we will dedicate week 5 completely to these aspects.

Notes

Summary

12m 49s

Conclusion

We have discussed several aspects to demonstrate that the governance of infrastructure projects to ensure their sustainability and resilience cannot be underestimated. Governing bodies at national, regional and city levels will be instrumental to the shaping of sustainable infrastructure. Addressing integrity and promoting transparency in infrastructure policy is not only a political and legal issue; it also makes economic sense. Getting infrastructure governance right helps to deliver the intended economic, social and environmental benefits and to create a predictable and equitable business environment for firms, investors and the workers.

Notes

Summary

14m 38s