

Use of alternative materials in civil engineering – Handbooks, experiences and future development in a Swedish context

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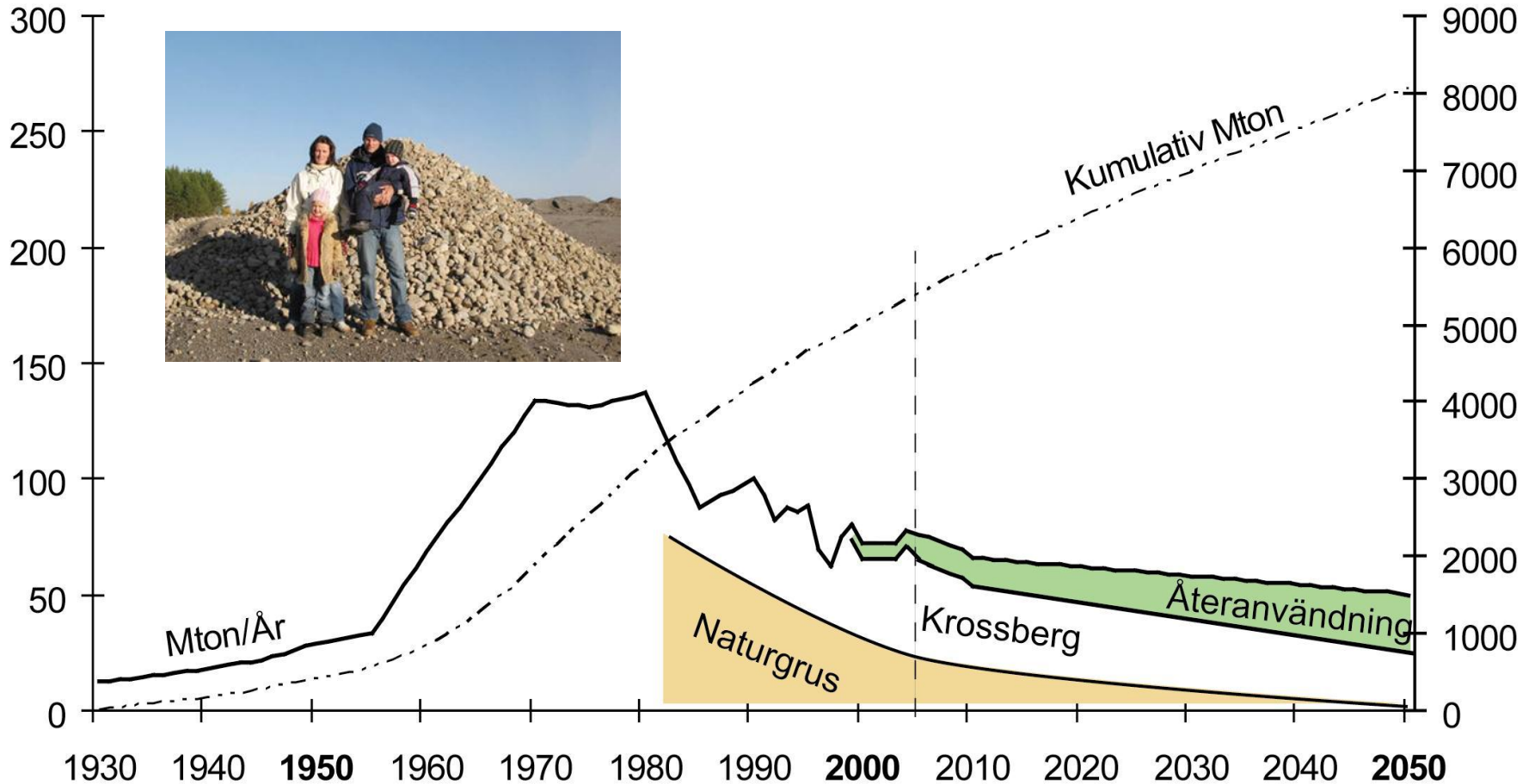
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Handbooks and alternative materials

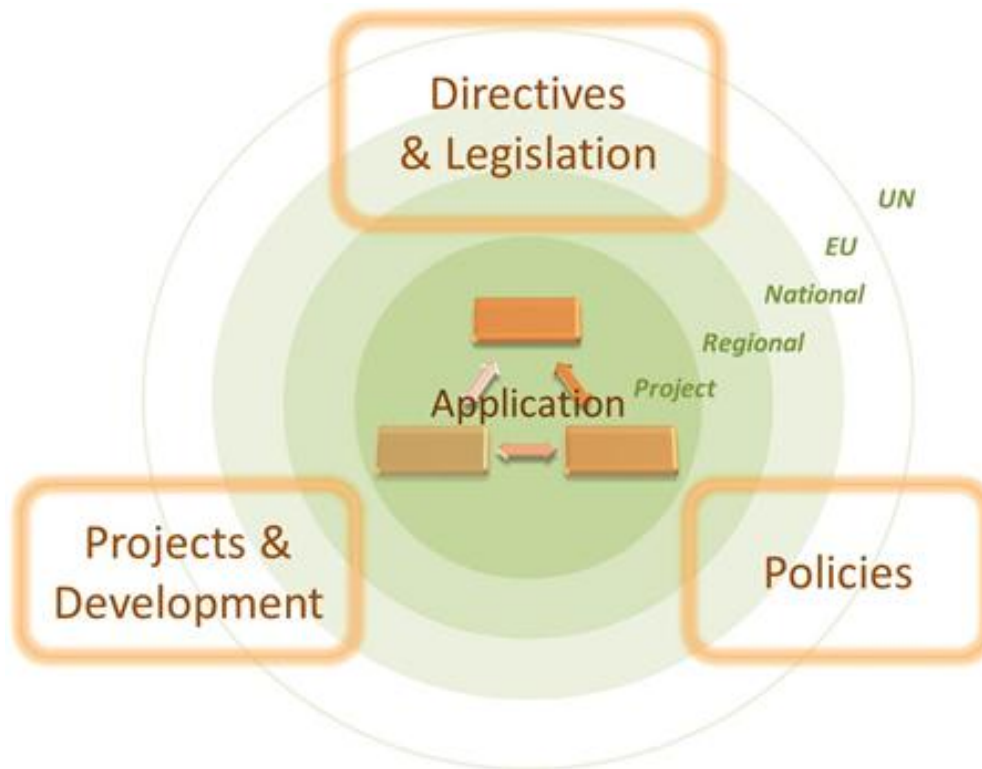
- Do the handbooks change the use of alternative materials?
- Are there technical or environmental issues that need to be further elaborated to either promote or limit the use?
- Are there any key success factors where the provided guidance has supported the key stakeholders?

Urban Material Supply

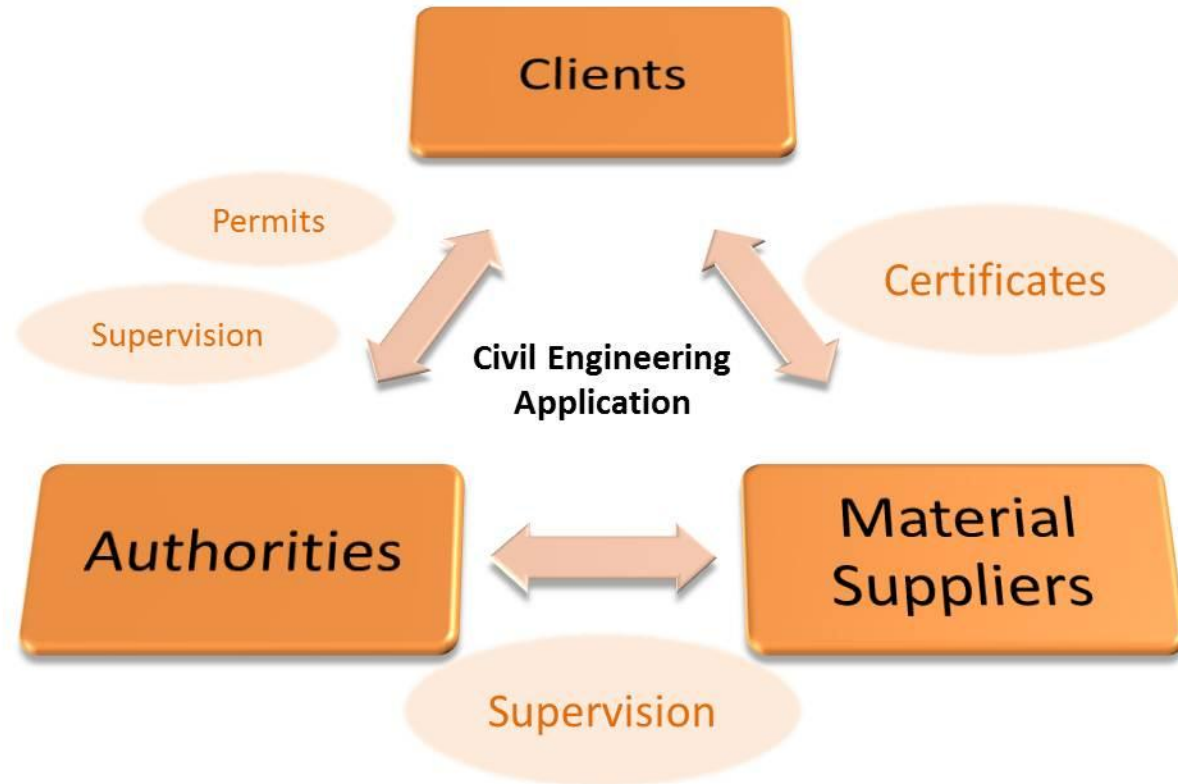


Svedberg B., Frostell B., 2010

Multi level decision perspective



Key stakeholders



Handbooks, guidelines



Theme - Experiences of the practical use

- Authorities - has given more advice and transparency about permitting
- Clients – guidelines suitable contract situation, lacking practice of LCA and resource perspective
- Suppliers – technical part satisfying, base for communication, contracting, independent data, difficult to get acceptance

Theme - Legislation and Policies

- Authorities – End of waste criteria, CPR, REACH, SEPA handbook recycling of waste
- Clients - highlight in early stages, need for permit, non-toxic environment vs resource aspects
- Suppliers – complications, not used as proposed, not provide enough guidance, non-toxic environment vs resource aspects, Helpful-End of waste criteria, Waste hierarchy, CPR, REACH

Theme - Challenges for the Future

- Authorities – increase if independent data, QA, quantify impact on environment, remediation soils
- Clients – potential for e.g. ashes for stabilisation, excavated soils from remediation areas
- Suppliers – legislation will promote recycling, higher end value products, landfills decrease – new solutions

Theme - Opportunities and threats

- Authorities - reduce costs for transport, landfill taxes, landfill fee, improve the interaction between stakeholders
- Clients - knowledge, tendering, LCA, responsibility
- Suppliers - energy prices, LCA, non-toxic environment vs resource aspects, bringing cases to the higher court

Proposed responsibilities

- Authorities - policies for LCP, support decisions on hazardous substances and resource aspects, demand material supply plans
- Clients - enable new applications, LCA/LCC, material supply plans
- Suppliers - QA, beneficial applications, client perspective
- All - cooperation, communication, information

Further knowledge transfer and common issues

- Expand the stake holder analysis, nationally
 - Authorities
 - Material suppliers
 - Clients
 - Others
- Introduce the issue internationally
 - Looking forward to your participation

Thank you !

