

# Challenges Of Mine Remediation Programmes In Developing Countries – A Life Cycle Perspective



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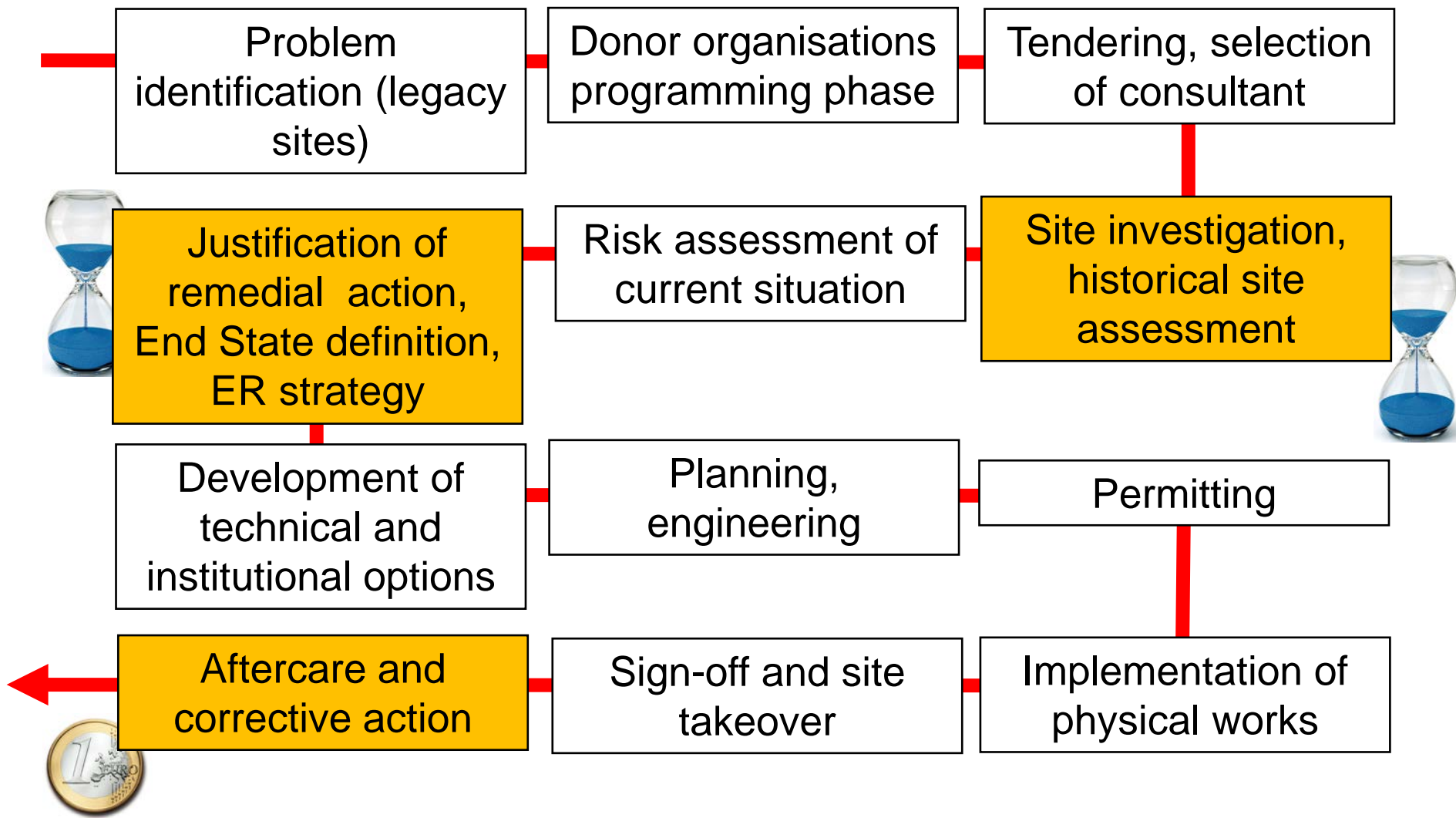
# Background and objectives

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- ▶ Experience and lessons learnt from 20 years as a consultant in mining/resource-related ER projects in developed and developing countries
- ▶ **Critical steps in ER projects that take many years and require substantial aftercare in developed countries cannot be fast-tracked and considered a walk-away situation in developing countries**
- ▶ This contribution aims to raise awareness among Project Beneficiaries and funding agencies alike
- ▶ Internationally funded projects in developing countries are often pilot projects – even more important to learn lessons



# Critical phases in the ER Project Lifecycle



# Lessons learned and recommendations

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- ▶ Site characterisation - decisive for entire ER Project
  - ▶ Usually no data available, or in insufficient quality
  - ▶ Historical site data often held back by host countries
  - ▶ Plan **15 months** for a best practice baseline and site characterisation
  
- ▶ Justification of remedial measures, End State definition
  - ▶ Despite exaggerated stakeholder expectations most often radiological risks **CANNOT** justify remedial action, but more mundane reasons can (geotechnical, erosion,...)
  - ▶ Legal framework often prescriptive, not ALARA/risk based
  - ▶ Discussion with all stakeholders requires substantial time - plan **12 months**
  
- ▶ Aftercare
  - ▶ Despite low-maintenance design, aftercare is required
  - ▶ Training programs and monitoring are useless without the means for corrective action
  - ▶ Most often developing countries are expected to provide for monitoring and maintenance but that's simply unrealistic – provide **funding for after-care**



# Summary

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Plan at least 3 years for ER project from contracting the consultants/engineers to delivery of a high quality remediation design accepted and understood by all relevant stakeholders

Build a long-term funding component into an ER project, otherwise it will just not be done and remediation success will be partly undone.