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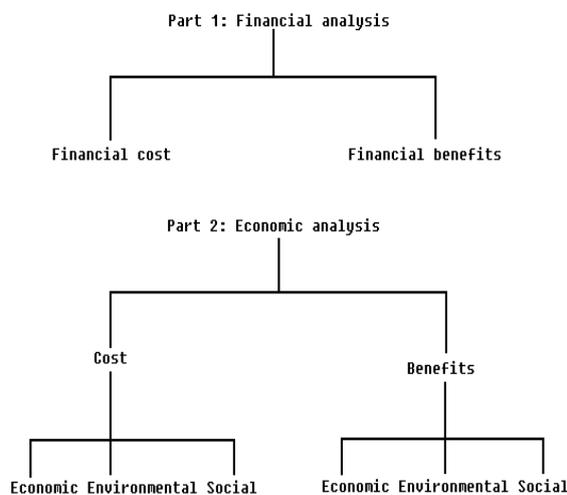
# The Use of Economic Science in SWITCH

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## Introduction

The research tries to explore the financial and economic implications of alternative approaches by making a comparison between the cost and benefits of these alternatives. The aim of the research is to find out whether the proposed technological options in the SWITCH project are viable alternatives to the existing one. The expected results of the research should help decision makers to select the more suitable solutions.

## Conceptual Framework and Demo Projects



Evaluating the relevant infrastructure in demo projects and selected cities requires cost-benefits analysis to determine the point of view of society and from the point of view of the investor a financial analysis of the project is carried out.



Beijing



Alexandria



Accra

The methodology developed for the analysis of demonstration projects is actually used for three Demo projects in Beijing: the Qing project (a grey water reclamation project), the BNU project (same technology) and the An project (a rainwater harvesting project). Financial and economic analysis of additional demo projects is under way and in particular it is expected to look at projects in Accra and Alexandria in 2009.

## Financial instruments

From more traditional finance	To more alternative finance
Loans or bonds Municipal Infrastructure Development Funds, for example ● Investment/capital funds ● Trust fund ● Endowment fund BOT (Build Operate Transfer) Subsidized entry fees Higher levels of government financed out of general or specific tax revenues State Level Finance Institutions	Microcredit to finance water connections Rotating savings and credit associations (ROSCAs) to link traditional savings with credit Private sector involvement Project finance Design, Finance, Build and Operate (DFBO) and ROT (Rehabilitation Operate Transfer) Hedging (futures/options) to cover risks Pooled Finance Development Fund

The table provides an overview of the financial instruments that could be used for financing infrastructure. In this research we will bring together the experiences with these instruments in different projects in SWITCH cities and rank the advantages and disadvantages of each one.

## Conclusion

The research will be the first opportunity to find out how different research projects within SWITCH have dealt with economic and financial issues related to the innovations that are suggested. By using a uniform cost benefits framework it may be possible to compare the results and to indicate the advantages of certain solutions.



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