The Public-Private Infrastructure Advisory Facility (PPIAF),
the SADC-Development Finance Resource Center (DFRC) and
the Development Bank of Southern Africa (DBSA)
in collaboration with
John Deutsch International Executive Programs
Queen’s University, Kingston, Canada

The Program on the Appraisal of Infrastructure Projects with
Private Participation

May 11 – 29, 2009

The training was funded by the Public Private Infrastructure
Advisory Facility (PPIAF), a multi-donor technical assistance
facility aimed at helping developing countries improve the
quality of their infrastructure through private sector involvement.
(for more information see http://www.PPIAF.org)
The Program on the Appraisal of Infrastructure Projects with Private Participation

May 11 – 29, 2009

Course Description

• Faculty Biographies
• Syllabus
• Schedule
Faculty Biographies
Program on the Appraisal of Infrastructure Projects with Private Participation

May 11 – 29, 2009

FACULTY BIOGRAPHIES

Glenn P. Jenkins is Professor of Economics at Queens University, Canada, and Director of its Program on Investment Appraisal and Risk Analysis. He is also an Institute Fellow Emeritus, of Harvard University, and is President of Cambridge Resources International. In 1985, he founded the Program on Investment Appraisal and Management at the Harvard Institute for International Development (HIID), Harvard University, and was its Director from 1985 to 2000. Dr. Jenkins specializes in the fields of public finance, investment appraisal, and economic development. He has worked extensively on the appraisal and planning of major infrastructure investments around the world. He has published sixteen books, and over hundred articles in these subject fields.

Dr. Jenkins is the former Assistant Deputy Minister of Tax Policy and Legislation in the Department of Finance for the Government of Canada, and he has served as a consultant to many governments and private agencies, as well as to international organizations such as the World Bank, the Asian Development Bank, the African Development Bank, the Inter-American Development Bank, the Southern African Development Community, the Caribbean Development Bank, the Ford Foundation, and the North-South Institute. His educational background includes a B. Comm. in Economics from Carleton University in Canada, a M.A. in Economics from the University of Western Ontario, and both a M.A. and a Ph.D. in Economics from the University of Chicago.

Christopher Shugart is a consultant who specializes in the design and implementation of public-private partnerships. He is both a lawyer and an economist. From 1994 to 2002 Dr. Shugart worked for the European Bank for Reconstruction and Development (EBRD) in London, UK. His work was primarily focused on the privatization of water and sewerage utilities in the countries of Central Europe. Prior to joining the EBRD he worked in a number of advisory positions for the Harvard Institute for International Development and spent 10 years with the UN Capital Fund in francophone Africa. He earned a J. D. from the Hastings School of Law in California and a M.P.A. and PhD from Harvard University.

Abdulrezak N. Mohamed is Associate Professor of Construction Engineering and Management, of the Department of Civil Engineering, Eastern Mediterranean University and a Senior Fellow at John Deutsch Institute, Queen’s University, Kingston, Ontario, Canada. Dr. Mohamad received his MS degree in Construction Management from Middle East Technical University, Ankara. He obtained his Ph.D. degree in Construction Management at Eastern Mediterranean University. He is also an alumnus of Program on Investment Appraisal and Risk Analysis, John Deutsch International, Queen’s University, Canada in 2007. His main research interests are application of knowledge based systems in construction management, TQM in construction, value management, bidding and estimating, and construction productivity. He has served as a Lecturer with the Program on Investment Appraisal and Risk Analysis at Development Finance Resources Center-SADC, Botswana. In addition, he has served as the director of Construction Management Research and Practice Center at Eastern Mediterranean University.
**Aygul Ozbafli** is an Economist with the John Deutsch International Executive Programs at Queen’s University, Kingston, Ontario, Canada. Her area of specialization is Investment Appraisal, and in particular the use of stated choice techniques to evaluate willingness to pay for reliability of electricity supply. She has served as a Lecturer with the Program on Investment Appraisal and Risk Analysis, John Deutsch International Executive Programs, Queen’s University, Canada, since 2005. Ms. Ozbafli graduated with a B.Sc. in electrical engineering from the University of Colorado and also graduated from MBA from University of Colorado’s School of Business. She obtained an MA in economics from Bilkent University in Ankara, Turkey. At the present time she is also completing a Ph.D. in economics at University of Birmingham, UK.

**Blerina Mucaj** is currently working towards her Ph.D. degree in Economics at Eastern Mediterranean University, North Cyprus. She obtained her B.A. and M.A. in Banking and Finance from Eastern Mediterranean University in 2004 and 2006, respectively. Throughout the duration of her graduate studies she has held positions as lecturer, researcher and Teaching Assistant at the departments of Economics and Banking and Finance. She holds the professional certificate in Investment Appraisal and Risk Analysis from John Deutsch International Executive Programs at Queen’s University, Canada. Her research interests include; application of financial and economic analysis to public utility and infrastructure projects, cost-benefit analysis, public finance as well as management and administration of pension funds.

**Elisee Parfait Feudjio Foka** is an Investment Appraisal Analyst with the John Deutsch International Executive Programs at Queen’s University, Kingston, Ontario, Canada. He has worked on the preparation of a number feasibility studies for infrastructure projects. Mr. Foka holds a M. A. in Banking and Finance from Eastern Mediterranean University. In addition, he has earned a diploma in the 12 month Project Management Program at the University of Winnipeg, Manitoba, Canada. He has also earned a Certificate in the Program on Investment Appraisal and Risk Analysis, John Deutsch International, Queens University in 2007.

**Ahmad Haseeb Payab** is a research assistant in Department of Civil Engineering, Eastern Mediterranean University, North Cyprus. His area of interest is Construction Management, Value Management, Investment Appraisal, Project Finance, Risk Management, and Transportation Economics. Mr. Payab holds Bsc degree in Civil Engineering from Eastern Mediterranean University, North Cyprus, and is following Msc degree in Civil Engineering specializing in Construction Management, from the same University. He holds the professional certificate in Investment Appraisal and Risk Analysis from John Deutsch International Executive Programs at Queen’s University, Canada.

**Leonard Leung** is a doctoral candidate at Queen’s University, Ontario, Canada. He earned the profession certificate for the Program in Investment Appraisal and Risk Analysis at Queen’s University in August 2008. He also earned his MA in Economics from Queen’s University. He holds B.A. degrees in Political Science and Asian Studies and also in Economics from the University of British Columbia, Canada. His research interests include: development economics and public finance.
SYLLABUS
MONDAY, MAY 11

08:30 – 10:00 Integrated Investment Appraisal
Introduction to Integrated Financial-Economic-Distributive-Risk Appraisal of Projects

Readings/References:

10:00 – 10:15 Break

10:15 – 12:00 Alternative Investment Criteria and Estimation and Use of Debt Service Ratios

Readings/References:

12:00 – 13:00 Lunch

13:00 – 15:00 Case Study: Application of Integrated Project Appraisal for Evaluation of Privatization Prospects: Manila Metropolitan Waterworks and Sewerage Systems

Readings/References:
- Marin et al., “Executive Summary: Public-Private Partnership For Urban Water Utilities: A Review Of Experiences In Developing Countries”; the Energy, Transport, and Water Department of the World Bank, in partnership with PPIAF; December 2008

15:00 – 15:15 Break

15:15 – 18:00 Assignment: Alternative Investment Criteria
WEEK 1, DAY 2

TUESDAY, MAY 12

08:30 – 10:00  Micro-Economics I for Economic Valuation

Readings/References:

10:00 – 10:15  Break

10:15 – 12:00  Micro-Economics II for Economic Valuation

12:00 – 13:00  Lunch

13:00 – 15:00  Assignment on Measurement of Willingness to pay and Economic Resource Costs

15:00 – 15:15  Break

15:15 – 18:00  Samz Water Project Modelling for Financial Analysis

Readings/References:
- Handout of Financial and Sensitivity Analysis of Samz Water Case
WEEK 1, DAY 3

**WEDNESDAY, MAY 13**

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<td><strong>Principles Underlying the Economic Analysis of Projects</strong></td>
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<td>Readings/References:</td>
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<td>Underlying the Economic Analysis of Projects,” Cost-Benefit Analysis</td>
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<td>for Investment Decisions, Queen’s University, Canada, (2008).</td>
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<tr>
<td>10:00 – 10:15</td>
<td>Break</td>
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<tr>
<td>10:15 – 12:00</td>
<td><strong>Principles Underlying the Economic Analysis of Projects (Cont’d)</strong></td>
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<td>12:00 – 13:00</td>
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<td>13:00 – 15:00</td>
<td><strong>SAMZ Water Project: Sensitivity Analysis</strong></td>
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<td>15:00 – 15:15</td>
<td>Break</td>
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<td>15:15 – 18:00</td>
<td><strong>Participant Presentation of Financial and Sensitivity Analysis:</strong></td>
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<td><strong>SAMZ Water Project</strong></td>
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</tbody>
</table>
THURSDAY, MAY 14

08:30 – 10:00  Economic Opportunity Cost of Capital for PPPs / Economic Cost of Foreign Financing

Readings/References:
- Shugart C., “PPPs, The Public Sector Comparator, And Discount Rates: Key Issues For Developing Countries”, Revised version of a paper presented at the conference: Discount Rates for the Evaluation of Public Private Partnerships, John Deutsch Institute for the Study of Economic Policy, Queen’s University, Kingston, Ontario, 3 October 2008 (January 2009)
- Jenkins, G.P, “Economic aspects of foreign financing,” Queen’s University, Canada. (February 2001)

Supplementary:

10:00 – 10:15  Break

10:15 – 12:00  Economic Prices and Conversion factors for Tradable Inputs and Outputs

Readings/References:
- Teaching Note: “Estimation of Economic Prices for Traded Goods and Services,” Queen’s University, Canada, (March 2007).

12:00 – 13:00  Lunch

13:00 – 15:00  Measurement of Economics Values of Tradable Goods for SAMZ Water Project

- Handout of Economic Analysis for Samz Water Project

15:00 – 15:15  Break

15:15 – 18:00  Measurement of Economics Values of Tradable Goods for SAMZ Water Project
# Program on The Appraisal of Infrastructure Projects with Private Participation

**May 11 - 29, 2009**

## WEEK 1, DAY 5

### FRIDAY, MAY 15

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<tr>
<td>10:00 – 10:15</td>
<td>Break</td>
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</table>
• Teaching Note: “Senegal Water and Sanitation Project,” Queen’s University, Canada, 2005. |
| 12:00 – 13:00    | Lunch                                                                   |                                                                                     |
| 13:00 – 15:00    | Measurement of Economics Values of Water Services of Different Qualities for SAMZ Water Project |                                                                                     |
| 15:00 – 15:15    | Break                                                                    |                                                                                     |
| 15:15 – 18:00    | Measurement of Economics Values of Water Services of Different Qualities for SAMZ Water Project |                                                                                     |
SATURDAY, MAY 16

08:30 – 10:00  Economic Cost of Foreign Exchange

Readings/References:

- Arnold C. Harberger, Notes on the Premia for Foreign Exchange and Non-Tradables Outlays, University of California, Los Angeles, August 2002

10:00 – 10:15  Break

10:15 – 12:00  Stakeholder Analysis (Transportation, and Port Projects)

Readings/References:


END OF WEEK ONE
MONDAY, MAY 18

08:30 – 10:00  Cost and Benefit of Electricity Investments

Readings/References:

10:00 – 10:15 Break

10:15 – 12:00  Presentation on “Appraisal of El-Kureimat Combined Cycle Power Plant”

Readings/References:
- A Summary of the Integrated Project Appraisal Methodology in case of “El-Kureimat Combined Cycle Power Plant (Module II)” in Egypt, Queen’s University, 2005.

12:00 – 13:00 Lunch

13:00 – 15:00  Stakeholder Analysis of SAMZ Water Project

- Handout of Stakeholder Analysis of Samz Water Project

15:00 – 15:15 Break

15:15 – 18:00  Stakeholder Analysis of SAMZ Water Project

- PPP Issue: Profit versus revenue sharing mechanisms
TUESDAY, MAY 19

08:30 – 10:00  Public Private Partnerships: The Public Sector Comparator

Readings/References:

10:00 – 10:15  Break

10:15 – 12:00  Elements of Project Finance

Readings/References:

12:00 – 13:00  Lunch

13:00 – 15:00  Participants Presentation of Analysis: Economic and Stakeholder Analysis: SAMZ Water Project

15:00 – 15:15  Break

15:15 – 18:00  Structure and Overview of Financial and Sensitivity Analysis of Bright Light Electricity Generation Project

- Handout of Financial and Sensitivity Analysis of Bright Light Electricity Generation Project
WEDGEHALL, MAY 20

08:30 – 10:00 Project Finance and Managing Project Risks
Readings/References:

10:00 – 10:15 Break

10:15 – 12:00 Security Arrangements
Readings/References:

12:00 – 13:00 Lunch

13:00 – 15:00 Financial Analysis of Bright Light Electricity Generation Project
- PPP Issue: Determining the maximum gearing to be permitted for a project.

15:00 – 15:15 Break

15:15 – 18:00 Participants Presentation of Financial Analysis of Bright Light Electricity Project
08:30 – 10:00  Project Contractual Structure

Readings/References:

10:00 – 10:15 Break

10:15 – 12:00 Limited Recourse Financing of the Sofia Water System Concession: Dealing with Risks

Readings/References:
- Shugart, C., Private Sector Participation in Water and Wastewater Services in Central and Eastern Europe; Brief Case Studies: Sofia And Brno, December 2004.

12:00 – 13:00 Lunch

13:00 – 15:00 Structure and Overview of Economic Analysis of Bright Light Electricity Generation Project

Readings/References:
- Handout of Economic Analysis of Bright Light Electricity Generation Project

15:00 – 15:15 Break

15:15 – 18:00 Economic Analysis of Bright Light Electricity Generation Project

Readings/References:
- PPP Issue: Structuring a Public Sector Comparator Analysis
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WEEK 2, DAY 5

FRIDAY, MAY 22

08:30 – 10:00 Project Finance and Loan Agreements

Readings/References:
- Lecture Notes

10:00 – 10:15 Break

10:15 – 12:00 Lenders Financial Model

Readings/References:
- Lecture Notes

12:00 – 13:00 Lunch

13:00 – 15:00 Structure and Overview of Stakeholder Analysis of Bright Light Electricity Generation Project

Readings/References:
- Handout of Stakeholder Analysis of Bright Light Electricity Generation Project.
- PPP Issue: Sharing gains from refinancing.
- PPP Issue: Determining the economic value of penalties (deductions, liquidation damages) in the case of delay in and of less than promised capacity.

15:00 – 15:15 Break

15:15 – 18:00 Review
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May 11 - 29, 2009

WEEK 2, DAY 6

SATURDAY, MAY 23

08:30 – 10:00  Preparation for Participants Presentation on Economic and Stakeholder Analysis of Bright Light Electricity Co.

10:00 – 10:15  Break

10:15 – 12:00  Participants Presentation of Economic and Stakeholder Analysis of Bright Light Electricity Generation Project

12:00 – 13:00  Lunch

END OF WEEK TWO
MONDAY, MAY 25

08:30 – 10:00    Participant Evaluations

10:00 – 10:15    Break

10:15 – 12:00    Economic Opportunity Cost of Labor

Readings/References:

12:00 – 13:00    Lunch

13:00 – 15:00    Structure and Overview of M-12 Toll Road Financial Analysis

- Handout of Financial and Sensitivity Analysis of M-12 Toll Road Project

15:00 – 15:15    Break

15:15 – 18:00    M-12 Toll Road Financial Analysis: Traffic Demand and Toll Design
TUESDAY, MAY 26

08:30 – 10:00 Costs and Benefits of Transportation Investment

Readings/References:

10:00 – 10:15 Break

10:15 – 12:00 Presentation of a case on Road Upgrading

Readings/References:
- Lecture Notes

12:00 – 13:00 Lunch

13:00 – 15:00 M-12 Toll Road Financial Analysis: Financing Units, Exchange Rates and Toll Design

15:00 – 15:15 Break

15:15 – 18:00 Participants Presentation M-12 Toll Road Financial and Risk Analysis
WEEK 3, DAY 3

WEDNESDAY, MAY 27

08:30 – 10:00  Cost Effectiveness
Readings/References:


10:00 – 10:15  Break

10:15 – 12:00  M-12 Toll Road Economic Analysis
Readings/References:

- Handout of Economic Analysis of M-12 Toll Road Project.

12:00 – 13:00  Lunch

13:00 – 15:00  M-12 Toll Road Economic Analysis

15:00 – 15:15  Break

15:15 – 18:00  M-12 Toll Road Stakeholder Analysis
Readings/References:

- Handout of Stakeholder Analysis of M-12 Toll Road Project.
- PPP Issue: Alternative rules for determining termination payment to the concessionaire in the case of public sector default in convenience termination.
Program on The Appraisal of Infrastructure Projects
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WEEK 3, DAY 4

THURSDAY, MAY 28

08:30 – 10:00 Parameterization of Risk

Readings/References:
- Lim, Henry and Jenkins, Glenn, Appendix of “An Integrated Analysis of a Power Purchase Agreement.”

10:00 – 10:15 Break

10:15 – 12:00 Parameterization of Risk Variables in Toll Roads

Readings/References:
- Lecture Notes

12:00 – 13:00 Lunch

13:00 – 15:00 M-12 Toll Road Risk Analysis

- Handout of Risk Analysis of M-12 Toll Road Project
- PPP Issue: Dealing with Traffic Risk

15:00 – 15:15 Break

15:15 – 18:00 M-12 Toll Road Risk Management
Program on The Appraisal of Infrastructure Projects with Private Participation

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WEEK 3, DAY 5

FRIDAY, MAY 29

08:30 – 10:00 Managing Contingent Liabilities

Readings/References:


10:00 – 10:15 Break

10:15 – 12:00 Presentation Preparations M-12 Toll Road Economic, Stakeholder and Risk Analysis

12:00 – 13:00 Lunch

13:00 – 15:00 Participants Presentation M-12 Toll Road Economic and Risk Analysis

15:00 – 15:15 Break

15:00 – 18:00 Closing ceremony

END OF THE PROGRAM
Schedule
# Program on The Appraisal of Infrastructor Projects with Private Participation

**May 11 - 29, 2009**

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### May 11 - 29, 2009

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<tr>
<td>08:30</td>
<td>Cost and Benefit of Electricity Investments</td>
<td>Public Private Partnerships: The Public Sector Comparator</td>
<td>Project Finance and Managing Project Risks</td>
<td>Project Contractual Structure</td>
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<td>Preparation for Participants Presentation on Economic and Stakeholder Analysis of Bright Light Electricity Co.</td>
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<td>Stakeholder Analysis of SAMZ Water Project</td>
<td>Participants Presentation of Analysis: Economic and Stakeholder Analysis: SAMZ Water Project</td>
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### May 11 - 29, 2009

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<td>08:30</td>
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<td>Costs and Benefits of Transportation Investment</td>
<td>Cost Effectiveness</td>
<td>Managing Contingent Liabilities</td>
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