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## **Fiscal Reform and Economic Governance**

in partnership with



*Duke University*  
*Duke Center for International Development*



present

***A Training Program in***

**Applied Cost-Benefit and  
Cost-Effectiveness Analysis**

**June 28 – July 23, 2010**



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## Guidelines for Preparation for the Training Program:

### Introduction to Applied Cost Benefit and Cost-Effectiveness Analysis

On behalf of the USAID's Office of Economic Growth and the Fiscal Reform and Economic Governance task order, we at Duke University's Center for International Development welcome you to the USAID Training Program in Introduction to Applied Cost-Benefit and Cost-Effectiveness Analysis. We look forward to seeing you this summer and welcoming you to our campus.

To get the most practical benefit from this Training Program, we recommend that prior to the course, participants take some time as necessary to refresh their personal computer skills in using MS Excel, MS Word, PowerPoint and the Internet, with a focus on the use of spreadsheets.

Furthermore, for those of you who have not been exposed to economics, or have not used your economics training in a long while, it might be a good idea to obtain an introductory text on microeconomics (with exercises) locally before coming. This type of book allows you to read and work out some basic examples. Principles of Economics: Microeconomics, by E. Davis Emery, would be a good example.

#### ACADEMIC PREPARATION

##### I. MAJOR CASE STUDIES

The application of the theories and methods taught during the course of the Program forms a major part of the learning experience. Program participants complete a number of assigned case studies to illustrate specific points. Major case studies are also completed during the Program.

It is our objective that during the course, each participant will have the opportunity to prepare a feasibility study for an investment project that is of policy/decision-making relevance to his or her host country or broader Agency priorities. To facilitate this objective, **we strongly encourage participants to bring with them background materials and data that will form the basis of a project cost-benefit exercise.** Ideally, these data and materials will be in electronic form, and will relate to a case that the participant is particularly interested in analyzing. As an example, if you have a feasibility or pre-feasibility report that you want to appraise during the course, this is a very good opportunity to use the training experience to help you evaluate your project or program. We realize that this may not be possible for some participants, so



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teams of two or three people will be formed to prepare the financial-economic-social evaluations of selected investment projects.

In the past, participants have found the major case study to be one of the most rewarding aspects of the Program. The project appraisals undertaken by previous participants involved all types of investment projects and programs at different stages of development and negotiation. They ranged from projects still in the feasibility stage to reappraisals of projects already in the operational stage where a decision has to be made about its continuation or expansion. Many other cases involved the reworking of appraisals already conducted by the participant or by some other party. The projects were also being used to conduct negotiations on different forms of Public Private Partnerships and the role of regulation and pricing formulas. To give you an idea about the range of projects, the following is a list of some of the major case studies undertaken at similar training programs conducted by Duke in the past:

- A road build operate and transfer project
- An inter-ocean transportation project
- An urban bus transportation system
- A rapid train system
- An inter-oceanic corridor highway project
- A telecommunications network
- A water supply system in concession
- A waste water treatment plant
- A deep sea water pipeline project
- A new hotel for tourism and convention center
- A hospital services project
- An irrigation project
- A fertilizer plant project
- A sheet glass factory project
- A soft drink beverages company
- A garment-making project
- A cattle feed project
- A fishing port and market development project
- A poultry project
- A wood-fired power plant project
- A gas power project
- A hydropower plant
- A hollow-glass factory project
- A cement plant project
- A gas exploration project
- A mining project
- An education component in a Highland Water Project
- A concession contract for school provision and maintenance

This list is by no means exhaustive and should not restrict your case selection.

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In order to conduct a thorough and meaningful cost-benefit appraisal, we recommend that you bring as much data and other background information as possible to the Program. While additional information can possibly be gathered during the course of the Program from sources available here, time constraints generally create additional demands on your time.

To assist with your data gathering, the following is a list of types of data you should attempt to collect:

1. **Engineering data** or the quantities of inputs required to produce the desired output levels of the project.
2. **Product market data:** quantities and prices of the products or services that the project will produce. Where possible, both domestic market prices and international prices (import or export prices) should be obtained.
3. **Cost data:** prices for each of the direct material and service inputs (domestic and international, if applicable and possible); taxes, tariffs and transportation costs, where applicable.
4. **Labor requirements and wage data** by skill types and labor sources (e.g., unskilled labor sources from a local rural labor market earning x currency/month, foreign professional labor, etc.).
5. **Capital investment requirements** by type of asset and the construction plan for the project.
6. **Sources of capital funds:** loans (terms, interest charges), equity (government or private), grants, soft loans, supplier credits, and terms of the credits, etc.
7. **Money market information:** past and expected rates of inflation, interest rates on recently issued domestic and foreign debt, information on interest rate controls or credit rationing, data on national savings and investment.
8. **Foreign exchange market information:** exchange rates and foreign exchange controls, general information on tariffs, tariff revenues, quotas and export taxes.
9. **Taxes, tariffs and other charges:** (i) sales taxes, excise taxes and subsidies apply to any of the output or inputs of the project; (ii) income taxes faced by labor employed by the project; (iii) corporation and property taxes payable by the project; and (iv) trade taxes that apply to outputs and inputs of the project.

Much of this information may already have been gathered for your project and is available in project documents. Other information is probably available in national statistical publications. Obviously the collection of a complete set of data is a major and time-consuming task. We can only rely on your own judgment as to how much time you devote to ensuring that you bring a reasonably complete set of data. While assumptions can and have to be made to fill in missing pieces of information, you should recognize

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that the real value of your appraisal will depend upon the quality of your data. More general financial and economic data is now available on the internet. Relevant domestic sources sometimes provide data via websites or on CDs that you might want to bring with you.

## **II. BASIC SKILL PREPARATION**

Program participants often ask about what preparations they should undertake, such as reading a particular text, before they come to the similar training programs. This Program covers a wide range of skills drawn primarily from the fields of finance, economics, accounting, management and computer techniques. Not all participants are equally strong in all of these fields. Hence, it is best to concentrate on the basic skills in which you are weakest. This Program includes training in all these areas. Some pre-Program review, however, can save time and make your training experience more rewarding.

If it is many years since you last took an economics course or if you do not have a strong background in economics, we recommend that you review some of the basic chapters of an introductory text on microeconomics, particularly the basic concepts behind supply and demand curves, and the operation of competitive markets and effects of taxes. Again, Principles of Economics: Microeconomics, by E. Davis Emery, would be a good example.

If you have little or no background in accounting, we recommend that you review some of the basic concepts involved in accrual and cash flow accounting required to produce income and cash flow statements.

Additionally, if you have had limited experience with using and managing spreadsheets in Microsoft Excel, there will opportunities to deepen and broaden your Excel skills at sessions organized outside of the regular daily schedule. These skills will be applied intensively by all participants in the course of completing the training program.

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On a final note, **if you are unsure of what to do or bring, do not hesitate to contact us to seek guidance.** Email Prof. Joseph Tham at [thamjx@duke.edu](mailto:thamjx@duke.edu) with your questions.