STAKEHOLDER INVOLVEMENT IN THE DECISION MAKING FOR DEVELOPMENT PROJECTS USING 'EDUCATED TRADE-OFFS'

By

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DECLARATION

I, Withanage Bhadranie Mangalika Thoradeniya, hereby declare that the content of this thesis is the output of the original research work carried out over a period of 51 months at the Department of Civil Engineering, University of Moratuwa. Whenever any work by others is included in this thesis, it is appropriately indicated as a reference.

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ABSTRACT

The premise of this research is that unless stakeholders are able to engage in **educated** (technically, economically, environmentally informed) **trade-offs** between the different uses/issues of a common resource, the stakeholder involvement in decision making will be emotional and not rational.

The objectives of this research study are to develop and validate a decision making methodology based on 'Educated Trade-offs' for effective stakeholder involvement through participation and consultation, in development projects. The term 'Educated Trade-offs' means that stakeholders are able to engage in technically, economically and environmentally (including socially) informed (educated) decision-making between the critical uses/issues (trade-offs) of a resource.

The research hypothesis is that with improved access to technical, economical and environmental information stakeholders can make rational decisions based on 'Educated Trade-offs' on competing resource uses/issues that affect them as interests of the multiple stakeholders for a resource is complementary than conflicting.

The theoretical component of the research study involves the development of the five step 'Educated trade-off' framework and two methods (models) for the stakeholder consultation sessions required in the application of the framework for decision making in development projects.

The case study application of the framework to a development project of the Ma Oya River Basin in the North Western Sri Lanka showed that the developed framework in application was robust and the methodology was validated by accepting the research hypothesis at 95% level of significance.

The first step of the framework identified resource uses, impacted sections and stakeholders effectively. The second, third and fourth steps educated stakeholders in technical, economical and environmental spheres to make rational decisions, on development projects. A significant association was found in the responses of stakeholders between 'Pre' and 'Post' stakeholder education sessions concluding that the education session using 'Educated Trade-off' framework is an effective tool in improving stakeholder decision making ability.

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List of Abbreviations

ADB	-	Asian Development Bank
B/C	-	Benefit Cost ratio
CBO	-	Community Based Organisations
DRA	-	Demand Responsive Approach
DSD	-	Divisional Secretariat Division
EC	-	Environmental Costs
EcoNPV	-	Economic Net Present Value
EIRR	-	Economic Internal Rate of Return
FIRR	-	Financial Internal Rate of Return
FSC	-	Forum on Stakeholder Confidence
GIS	-	Geographic Information System
GN	-	Grama Niladhari (Village officer)
GND	-	Grama Niladhari Division
GWP	-	Global Water Partnership
ICH	-	International Center for Hydropower development, Norway
ICIS	-	International Center for Integrative Studies, University of Maastricht, the Netherlands
ICPDR	-	International Commission for the Protection of the Danube River
IIMI	-	International Irrigation Management Institute
IUCN	-	International Union for Conservation of Nature
IRR	-	Internal Rate of Return
IWRM	-	Integrated Water Resources Management
MARR	-	Minimum Acceptable Rate of Return
MSL	-	Mean Sea Level
MCM	-	Million Cubic Meters
NGO	-	Non Governmental Organisation
NPV	-	Net Present Value
NWSDB	-	National Water Supply and Drainage Board
ODA	-	Overseas Development Administration
OECD	-	Organization for Economic Co-operation and Development
PP	-	Public Participation
PRA	-	Participatory Rural Appraisal
PV	-	Present Value
RBM	-	River Basin Management

RBMP	-	River Basin Management Planning
RIZA	-	Institute for inland water management and waste water treatment, the Netherlands
RRA	-	Rapid Rural Appraisal
TCM	-	Travel Cost Method
TEV	-	Total Economic Value
UN	-	United Nations
UNCHS	-	United Nations Center for Human Settlements
WDF	-	European Water Framework Directive
WMA	-	Water Management Association
WP	-	Work Package
WTA	-	Willingness to Accept
WTP	-	Willingness to Pay
WUA	-	Water User Association
WWAP	-	World Water Assessment Programme