3.6.0

SERIES 3
Building Resilience

PARTICIPATORY COST-BENEFIT ANALYSIS

CLIMATE RESILIENCE FRAMEWORK
ISET-INTERNATIONAL

Contents of Set

Participatory cost-benefit analysis differs from a traditional cost-benefit analysis by not requiring as much technical knowledge and allowing input from many different community groups. Participatory cost-benefit analysis (CBA) uses participatory research appraisal (PRA) methods to ensure that financial, social and environmental benefits and costs of an activity are identified. As a result, the participatory cost-benefit analysis both captures information that is often unavailable from traditional data sources or is unincorporated in traditional analyses, and is relatively quick and inexpensive to implement. Participatory cost-benefit analyses are particularly effective with diverse groups of stakeholders and can be facilitated via shared learning dialogues at virtually any level (community, city, state, national). Because they capture different information, a participatory CBA should be completed even when a quantitative cost-benefit analysis is also completed.

IN THIS SET YOU WILL:

- ✓ Learn how to use participatory cost-benefit analysis to identifying whether your proposed climate resilience projects are feasible.

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Overview

As discussed in Set 3.5: Introduction to Cost-Benefit Analysis, participatory cost-benefit analysis is always useful for delivering an initial evaluation of a project.

- It can be implemented relatively quickly and inexpensively with the information and people on hand;
- There is little or no need to assemble outside technical expertise; and
- The results will incorporate a broad spectrum of non-monetary input (social and environmental concerns, community input, information on the distribution of benefits and harm from the project, etc.) that a more formal analysis will likely miss.

Implementing a participatory CBA can be broken down into seven steps. If you have been systematically working through the CRF:TM steps one through three will have already been completed. If not, we suggest you complete steps one through three with guidance from Series 2 and Series 3 (3.2 and 3.3).

FIGURE 3.6.1: PARTICIPATORY CBA STEPS
Steps 1–3 will have been completed in Series 2, Set 3.2 and 3.3.

STEP 1

GATHER NECESSARY BACKGROUND INFORMATION

If possible, background information should be collected concerning potential resilience strategies or actions and the costs and benefits associated with them. Background information could include climate information, hazard impact information, socio-economic data, or other data directly related to assessing the costs or benefits of the proposed action. Assembling data in advance generally allows for a somewhat more quantitative assessment. However, assembling data in advance is not critical. Background information can be filled in later as needed, though a second meeting of the group may be needed if the background information contradicts assumptions made in the first meeting.

STEP 2

CONDUCT COMMUNITY BASED VULNERABILITY ASSESSMENT

Series 2 of these training materials describes options for conducting a climate change vulnerability assessment. You will use this assessment now to identify who might be impacted, positively or negatively, by your proposed activities, and who will be left out of possible benefits. You will want to include representatives of all these groups in your discussion group conducting the cost-benefit analysis.

STEP 3

IDENTIFYING ADAPTATION/RESILIENCE ACTIONS

In Sets 3.2 and 3.3 you explored ways to identify potential adaptation and resilience actions. Ideally, you will focus in on 2 or 3 of these actions for your participatory cost-benefit analysis. If you have more than two or three actions to evaluate, it is probably better to conduct a series of cost-benefit analyses. If more than three or four options are evaluated at one time, the time and complexity of the review rapidly increases.

STEP 4

IDENTIFYING THE COSTS AND BENEFITS

Your stakeholder group will meet, through either an SLD or group discussions, and identify the economic, social, and environmental costs and benefits of each strategy. The costs and benefit should be described qualitatively at this point, not

quantitatively. It is important to initially explore the costs and benefits without assigning value to them to avoid steering the discussion in one direction or another, and to ensure that you include all the costs and benefits. These costs and benefits will be quantified, relative to one another, in the next step.

The economic costs of most projects are the upfront implementation costs. There may also be social and environmental costs, such as relocation of people or inability to use land for certain other productive purposes. The benefits of adaptation interventions are both economical—the cost that are prevented by the adoption of the proposed intervention (i.e. value of the damages or losses that might occur in absence of the intervention)—and social and environmental. Some of the social and environmental benefits may be associated with building resilience, such as improving forest health and developing forest products that locals can sell to diversify household income. However, many of the social and environmental benefits may not be associated with resilience building. These benefits are referred to as "co-benefits", such as a storm shelter that can also be used to house a school or dispensary when there is no storm.

In Da Nang, Vietnam, the SLD included members from:

- Da Nang's People's Committee
- Da Nang's Women's Union
- Ward Households

STEP 5

VALUATION AND BENEFIT COST RATIO

In the valuation stage the group scores each cost and benefit from one to five according to perceived cost and benefits. The lowest costs are scored as 1, the highest costs as 5. The lowest benefits are scored as 1, and the highest benefits as 5. For example, promotion of minimum tillage might have no environmental cost because it's improving the environment therefore ranking a 4. Economic costs associated with training and/or potential future output of the land might be significant and therefore rank a 2. If an issue is particularly contentious, or the group is for any reason having trouble scoring a cost or benefit, the team can use participatory rural appraisal ranking methods. After ranking each option from one to five, it is necessary to compare the costs and benefits and determine the benefit cost ratio by dividing the cost into

the benefit. This is done by simply summing the economic, social and environmental costs as well as the economic, social and environmental benefits. Once these are summed, total benefits are divided by the total costs to obtain the cost-benefit ratio.

STEP 6

DISTRIBUTIONAL CONCERNS

When you aggregate results to obtain the cost-benefit ratio, distributional concerns —information about who benefits, who is negatively impacted, and who is left out—may be lost. For example, large losses in a few wealthy households may have higher monetary value than smaller losses amongst a larger number of poor families. Yet, it may be preferable to choose strategies that are focused on the poorer families and larger number of households. One way to recapture this information is to review your vulnerability analysis and identify which households may be targeted or excluded by the proposed actions. If distribution issues do appear, multi-criteria analysis can be used to weight these factors in a final ranking of proposed actions. This is addressed in Set 3.8: Multi-criteria Analysis.

STEP 7

FINDINGS

In presenting the cost-benefit analysis results, results for each of the steps above should be presented, and how and why different options are ranked the way they are should be reviewed. If actions were removed from consideration as a result of the analysis, why they have been removed from consideration should be clearly explained. Similarly, if the analysis clearly identified either the most appropriate resilience action for a given situation or information gaps that must be addressed before a decision can be made, this information should be presented and discussed (Khan et al., 2012).

To Think About

A participatory cost-benefit analysis can be conducted with several smaller groups rather than one large group if it is necessary to ensure that participants can participate freely and equally. However, advance thought and planning will be needed if you then want to combine the costs and benefits rankings from each sub-group. In some cases, it may not be appropriate to combine the priorities of one group with another. Social and environmental costs and benefits

vary from one location or context to another, and in some situations, aggregated figures may be meaningless. A careful review of disaggregated results should be made before results are aggregated, and final rankings should be verified against individual concerns, vulnerabilities, and distributional issues presented in earlier discussions.

Resilience Principles: In Set 1.4 you identified the key principles that inform your resilience planning process. These principles should be reviewed along with your vulnerability assessment, and used to inform your cost-benefit analysis. For example, if equity is a core principle, actions that increase equity should rank higher than those that increase inequity.

Distributional affects of an action can strongly impact how it is ranked. If an action will cost a large number of people even a small amount, but will deliver benefits only to a select few, it is unlikely that those that do not benefit will be interested in supporting it. This also means that if people can not see how they will benefit from an action, they may reject its implementation, even if, in fact, they would benefit. If benefits of a proposed action are not clear to the communities they will affect, it will be necessary to educate those impacted before including them in your participatory cost-benefit analysis meetings.

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Mr. Fawad Khan, senior economist based in Islamabad, has been collaborating with ISET-International on a number of projects since 2006. Mr. Fawad Khan has extensive experience working on the economics of major policy and implementation projects from his period as a staff member with the World Bank. Along with partners at IIASA he has also played a lead role in the methodology design and implementation of ISET-International's prior research on the costs and benefits of climate related disaster risk reduction interventions for the Risk to Resilience project. Formalities to establish ISET-Pakistan as an independent, sister organization to ISET, are ongoing. ISET's office in Islamabad can be found on the very preliminary website, still under construction: www.isetpk.org

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