



Monitoring and Evaluation

Prof. Jay Aronson

Carnegie Mellon



Monitoring

- **Monitoring**

- Goal: assess progress of project/program at regular intervals; find out what's going on (budget, personnel, deadlines, progress, areas needing more work, etc.)
- Internal process conducted by people conducting intervention
- Iterative
- Allows for mid-project corrections and modifications and gives early indication of success or failure
- Improves day-to-day decision making



Evaluation

■ Evaluation

- “Identifying and reflecting upon the effects of what has been done, and judging the value of it.”
- Assesses relevance, effectiveness, efficiency, impact, sustainability, lessons learned, etc.
- Can be done either by people carrying out project (internal evaluation) or by external (presumably independent) evaluators
- Increased recognition that participatory evaluations tend to be the most accurate and useful
- Depends on deciding upon desired impacts **before** project gets going
- Often required by funders for additional money or future opportunities to work with them

(quotation from Taylor 2001, p. 1)



Planning Planning Planning

- Both monitoring and evaluation required advanced planning and need to be written into projects **FROM THE VERY START!**
 - Who (intervention groups and control groups)
 - What (will be monitored/evaluated: inputs, outputs, goals, metrics for change, etc.)
 - How (methods and collection of data)
 - When (baseline data, various points in midst of project, at the end)



Data collection I

- What is your level of analysis?
 - individuals, families, communities, villages, cities, kiosks, business centers, etc.
 - gender, age, ethnic groups, location
- sampling techniques (random sampling vs. purposive sampling)
- Sample size and statistical significance



Data collection 2

- Need to make sure that people in your control group and intervention group are equivalent
 - People who participate in technology projects are often self-selecting, so you can't just use people who do NOT participate as the control group.
- Randomization is the gold standard, but not likely to happen in the kinds of projects you are undertaking
 - See MIT's Poverty Action Lab (www.povertyactionlab.org) for more on this subject



Four Types of Evaluations

- Simple Pre-Post (Type I)
- Pre-Post with Control Groups (Type II)
 - Allows assessment of extent to which change observed can be attributed to project
- Pre-Post with Treatment of Determinants and Known Confounding factors (Type III)
- Pre-Post with Control Groups and Treatment of Determinants and Known Confounding factors (Type IV)



Methods

- Structured questionnaires
- Direct observation by researchers
- Closed question surveys
- Economic impact assessments (audits)
- Semi-structured individual interviews
- Focus groups
- Participatory methods such as public forums, invitations to the community to submit comments, etc.



Things to keep in mind

- Data from various monitoring periods must be comparable—you have to collect it the exact same way each time
- Good monitoring and evaluation plans incorporate quantitative and qualitative methods
- You should plan to share results with the community



Resources

- M&E can require significant human and material resources
 - If you're undertaking an evaluation of a project that affects several villages, you may need to locate and train 20+ data collectors, several data entry specialists, more than one person who can analyze the data properly, plus someone to manage these people and interact with other members of the project team
 - Most of these people will require some degree of training
 - From a material standpoint, you may need to design and validate a survey, arrange for transportation for data collectors (which in the absence of good public transportation systems can be difficult), gain access to office space, computers and basic supplies
 - The local organizations that you're working with may be able to provide you with many of these resources



Conceptual Framework

- How to start your M&E process (before you begin implementation):
 1. Write description of planned steps (in the order that you will carry them out)
 2. Note **assumptions** that you are making (cause/effect; cost/benefit; who will benefit; what will happen; etc.)
 3. Identify **indicators** of the progress you expect, so that you can begin considering how to monitor and evaluate them



Conceptual Framework

ULTIMATE GOAL (BENEFITS)



IMPACTS



OUTPUTS



WORK/ACTIVITIES



INPUTS

Economic and Social Development and Poverty Alleviation (everybody benefits, especially the poorest of the poor)



Improved Communication, Access to Information and Markets



Function Cell Network



Installation, Training, Capacity Building



Cell phones, Infrastructure, Villagers, Companies, Teachers, NGO \$\$, etc.



Assumptions and Metrics

- **Four Questions:**

1. What are some assumptions in my very crude framework?
2. What needs to be measured in order to do monitoring and evaluation?
3. When do I need to start measuring?
4. What will my control group look like (if I include one)?



A Few Traps in M&E

- On-the-ground realities (muddy roads, social stratification, local skepticism, etc.)
- Incomplete models
- Inadequate BASELINE data collected
- Failure to collect adequate data on potential confounders and effect modifiers (externalities that might affect the outcome of your project *either* positively or negatively)
- Bias from internal M&E
- No plan to incorporate monitoring results into project as it is taking shape
- No local use of data gathered during M&E



The Politics of M&E

- Like just about everything else, M&E is inherently political
 - Who gets to define the indicators, methods, and sampling techniques (can be mitigated to a certain extent by making M&E participatory)
 - M&E is often done in the context of obtaining funding or reporting back to funders
 - Nobody wants to be part of a failed project, so there may be a tendency to gloss over negative aspects
 - M&E does not automatically aid community members—just like technology, it needs to be designed with peoples needs and desires in mind



Suggestions

- Look around for projects similar to the one you are doing and examine M&E plans
 - There may be standardized instruments available for use
- Ask funders for information about what kinds of M&E they require, as well as examples of good evaluations they have received
- For more resources, see: World Bank's: "Monitoring and Evaluation: Some Tools, Methods, and Approaches"

Note: web address is very long, so use a search engine to find it



An exercise

Get into your simulation groups and:

1. Create a conceptual framework for your project
2. Note assumptions made in framework
3. Come up with most relevant indicators
4. Chose a type of evaluation from the four just presented, and defend your choice



Reminders

- Don't forget to analyze *distribution* of benefits, especially among poor, women, and other marginalized groups
- Don't forget to evaluate sustainability and exit strategies → these areas are in great need of improvement in technology-based development

