

Integrating Qualitative and Quantitative Approaches in Program Evaluation

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This chapter outlines some of the ways and means by which integrating qualitative and quantitative approaches in development research and program evaluation can help yield insights that neither approach would produce on its own. In assessing the impact of development programs and policies, it is important to recognize that the quantitative methods emphasized in this tool kit, while enormously useful, nonetheless have some important limitations and that some of these can be overcome by incorporating complementary qualitative approaches. An examination of the strengths and weakness of orthodox stand-alone quantitative (and qualitative) approaches is followed by a basic framework for integrating different approaches, based on distinguishing between data and the methods used to collect them. Some practical examples of “mixed-method” approaches to program evaluation are then given, and some conclusions drawn.

Mixed Methods and Program Evaluation

The advantages of quantitative approaches to program evaluation are well known. Conducted properly, they permit generalizations to be made about large populations on the basis of much smaller

(representative) samples. Given a set of identifying conditions, they can help establish the causality of the impact of given variables on project outcomes. And (in principle) they allow other researchers to validate the original findings by independently replicating the analysis. By remaining several steps removed from the people from whom the data has been obtained, and by collecting and analyzing data in numerical form, quantitative researchers argue that they are upholding research standards that are at once empirically rigorous, impartial, and objective.

The Case for Integrating Different Approaches

In social science research, however, these same strengths can also be a weakness. Many of the most important issues facing the poor—their identities, perceptions, and beliefs, for example—cannot be meaningfully reduced to numbers or adequately understood without reference to the immediate context in which they live. Most surveys are designed far from the places where they will be administered and as such tend to reflect the preconceptions and biases of the researcher; there is little opportunity to be “surprised” by new discoveries or unexpected findings. Although good surveys undergo several rounds of rigorous pretesting, the questions themselves are usually not developed using systematically collected insights from the field. Thus, while pretesting can identify and correct questions that show themselves to be clearly ill suited to the task, these problems can be considerably mitigated by the judicious use of qualitative methods in the process of developing the questionnaire.

Qualitative methods can also help in circumstances where a quantitative survey may be difficult to administer. Certain marginalized communities, for example, are small in number (the disabled, widows) or difficult for outsiders to access (sex workers, victims of domestic abuse), rendering them unlikely subjects for study through a large representative survey. In many developing country settings, central governments (let alone local nongovernmental organizations or public service providers) may lack the skills and (especially) the resources needed to conduct a thorough quantitative evaluation. Moreover, external researchers with little or no familiarity with even the country (let alone region or municipality) in question often draw on data from context-specific household surveys to make broad “policy recommendations,” yet rarely provide useful results to local program officials or the poor themselves. Scholars working from qualitative research traditions in development studies like to proclaim that their approaches rectify some of these concerns by providing more detailed attention to context, reaching out to mem-

bers of minority groups, working with available information and resources, and engaging the poor as partners in the collection, analysis, and interpretation of data (in all its many forms).¹

Furthermore, in conducting evaluations, quantitative methods are best suited to measuring levels and changes in impacts and to drawing inferences from observed statistical relations between those impacts and other covariates. They are less effective, however, in understanding *process*—that is, the mechanisms by which a particular intervention instigates a series of events that ultimately result in the observed impact. For example, consider a community-driven development (CDD) project that sets up a committee in a village and provides it with funds to build a primary school. Even if a perfect quantitative impact evaluation were set up, it would typically measure quantitative outcomes such as the causal impact of the CDD funds on increasing school enrollment or whether benefits were well targeted to the poor. With some carefully constructed questions, one could perhaps get at some more subtle issues, such as the heterogeneity in levels of participation in decisionmaking across different groups, or even more subjective outcomes, such as changes in levels of intergroup trust in the village. Nevertheless, the quantitative analysis would not be very effective at describing the local politics in the village that led to the formation of the committee or the details pertaining to deliberations within it: How were certain groups included and others excluded? How did some individuals come to dominate the process? These are called *process* issues, and they can be crucial to *understanding* impact, as opposed to simply *measuring* it. Qualitative methods are particularly effective in delving deep into issues of process; a judicious mix of qualitative and quantitative methods can therefore help provide a more comprehensive evaluation of an intervention.

Qualitative approaches on their own, of course, also suffer from a number of important drawbacks. First, the individuals or groups being studied are usually small in number or have not been randomly selected, making it highly problematic (though not impossible) to draw generalizations about the wider population. Second, because groups are often selected idiosyncratically (for example, on the basis of a judgment call by the lead investigator) or on the recommendation of other participants (as with “snowball” sampling procedures, in which one informant—say, a corrupt public official—agrees to provide access to the next one), it is difficult to replicate, and thus independently verify, the results. Third, the analysis of qualitative analysis often involves interpretative judgments on the part of the researcher, and two researchers looking at the same data may arrive at different interpretations. (Quantitative methods are

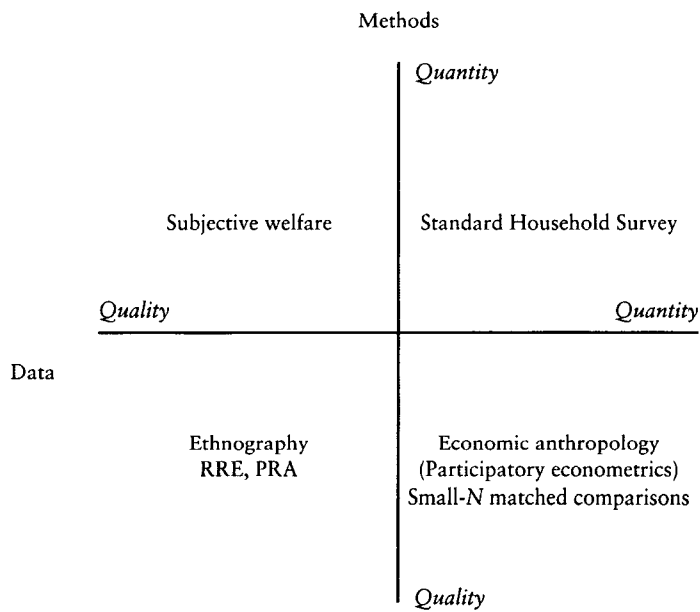
relatively less prone to such subjectivities in interpretation, though not entirely free of them.) Fourth, because of an inability to “control” for other mitigating factors or to establish the counterfactual, it is hard (though again not impossible) to make compelling claims regarding causality.²

It should be apparent that the strengths of one approach potentially complement the weaknesses of the other, and vice versa. Unfortunately, however, research in development studies generally, and program evaluation in particular, tends to be heavily polarized along quantitative and qualitative methodological lines. That is largely because researchers are recruited, trained, socialized, evaluated, and rewarded by single disciplines (and their peers and superiors within them) that have clear preferences for one research tradition over another. This practice ensures intellectual coherence and “quality control” but comes at the expense of discouraging innovation and losing any potential gains that could be derived from integrating different approaches. We are hardly the first to recognize the limitations of different approaches or to call for more methodological pluralism in development research—indeed, notable individuals at least since Epstein (1962) have made pathbreaking empirical contributions by working across methodological lines.³ What we are trying to do, however, is to take the strengths and weaknesses of each approach seriously and discern practical (if no less difficult) strategies for combining them on a more regular basis as part of the overall program evaluation exercise (see also Kanbur 2003 and Rao 2002).⁴ What might this entail?

Distinguishing between Data and Methods in Program Evaluation

A possible point of departure for thinking more systematically about mixed-method approaches to program evaluation is to distinguish between forms of data and the methods used to collect them (Hentschel 1999). This distinction posits that data can be either quantitative (numbers) or qualitative (text), just as the methods used to collect that data can also be quantitative (for example, large representative surveys) or qualitative (such as interviews and observation), giving rise to a simple 2×2 table (figure 8.1). Most development research and program evaluation strategies call upon quantitative data and methods or qualitative data and methods (that is, the upper right or lower left quadrants), but it is instructive to note that qualitative methods can also be used to collect quantitative data—as is seen in the detailed household data reported in Bliss and Stern (1982) and Lanjouw and Stern (1998) from a single village in

Figure 8.1 Types of Data and Methods



Source: Adapted from Hentschel (1999).

India over several decades—and that quantitative methods can be used to collect qualitative data—as when open-ended or “subjective” response questions are included in large surveys (Ravallion and Pradhan 2000, for example), or when quantitative measures are derived from a large number of qualitative responses (Isham, Narayan, and Pritchett 1995, for example). Other examples from development that fall into this latter category include comparative case-study research, where the number of cases is necessarily small, but the units of analysis are large (such as the impact of the East Asian financial crisis on Korea, Thailand, and Indonesia).

Having made this distinction, it is instructive to consider in more detail the nature of some of the qualitative methods that are available to development researchers before exploring some of the ways in which they could be usefully incorporated into a more comprehensive mixed-method strategy for evaluating programs and projects. Three approaches are identified—participation, ethnography, and textual analysis. The particular focus of this chapter is on the use of qualitative methods to generate more and better quantitative data and to understand the process by which an intervention works, in addition to ascertaining its overall final impact.⁵

The first category of qualitative methods can be referred to as participatory approaches (Mikkelsen 1995; Narayan 1995; and Robb 2002). Introduced to scholars and practitioners largely through the work of Robert Chambers (see, most recently, Kumar and Chambers 2002), participatory techniques—such as Rapid Rural Appraisal (RRA) and Participatory Poverty Assessment (PPA)—seek to help outsiders learn about poverty and project impacts in cost-effective ways that reflect grounded experience. Since the Rapid Rural Appraisal is usually conducted with respondents who are illiterate, RRA researchers seek to learn about the lives of the poor using simple techniques such as wealth rankings, oral histories, role-playing, games, small group discussions, and village map drawings. These techniques permit respondents who are not trained in quantitative reasoning, or who are illiterate, to provide meaningful graphic representations of their lives in a manner that can give outside researchers a quick snapshot of an aspect of their living conditions. As such, RRA can be said to deploy *instrumental* participation research—novel techniques are being used to help the researcher better understand her subjects. A related approach is to use *transformative* participation techniques, such as Participatory Rural Appraisal (PRA), in which the goal is to facilitate a dialogue, rather than extract information, that helps the poor learn about themselves and thereby gain new insights that lead to social change (“empowerment”).⁶ In PRA exercises, a skilled facilitator helps villagers or slum dwellers generate tangible visual diagrams of the processes that lead to deprivation and illness, of the strategies that are used in times of crisis, and of the fluctuation of resource availability and prices across different seasons. Eliciting information in this format helps the poor to conceive of potentially more effective ways to respond (in ways that are not obvious *ex ante*) to the economic, political, and social challenges in their lives.

A crucial aspect of participatory methods is that they are conducted in groups. Therefore, it is essential that recruitment of participants be conducted so that representatives from each of the major subcommunities in the village are included. The idea is that if the group reaches a consensus on a particular issue after some discussion, then this consensus will be representative of views in the village because outlying views would have been set aside in the process of debate. For this technique to work, the discussion has to be extremely well moderated. The moderator must be dynamic enough to steer the discussion in a meaningful direction, deftly navigating his or her way around potential conflicts and, by the end, establishing a consensus. The moderator’s role is therefore key to ensuring that high-quality data are gathered in a group discussion—a poor or inexperienced moderator can affect the quality of the data in a

manner that is much more acute than an equivalently poor interviewer working with a structured quantitative questionnaire.

Other often-used qualitative techniques that can be classified as ethnographic face similar constraints. Focus-group discussions, for example, in which small intentionally diverse or homogenous groups meet to discuss a particular issue, are also guided by a moderator toward reaching consensus on key issues. Focus groups are thus similarly dependent on the quality of the moderator for the quality of the insights they yield. A focus group differs from a PRA in that it is primarily instrumental in its purpose and typically does not use the mapping and diagramming techniques that are characteristic of a PRA or RRA. Here, however, it should be noted that divergence from the consensus can also provide interesting insights, just as outliers in a regression can sometimes be quite revealing. Another important ethnographic technique that uses interview methods is the key-informant interview, which is an extended one-on-one exchange with someone who is a leader or unique in some way that is relevant to the study. Finally, the ethnographic investigator can engage in varying degrees of “participant observation,” in which the researcher engages a community at a particular distance—as an actual member (for example, a biography of growing up in a slum), as a perceived actual member (a spy or police informant in a drug cartel, for example), as an invited long-term guest (such as an anthropologist), or as a more distant and detached short-term observer.⁷

A third qualitative approach is textual analysis. Historians, archaeologists, linguists, and scholars in cultural studies use such techniques to analyze various forms of media, ranging from archived legal documents, newspapers, artifacts, and government records to contemporary photographs, films, music, and television reports. (We provide an example below of the use of textual analysis in supplementing quantitative surveys in an evaluation of democratic decentralization in India.) Participatory, ethnographic, and textual research methods are too often seen as antithetical to or a poor substitute for quantitative approaches. In the examples that follow, we show how qualitative and quantitative methods have been usefully combined in development research and project evaluation, providing in unison what neither could ever do alone.

Mixed Methods Research and Project Evaluation: Pitfalls, Principles, and Examples

Having briefly outlined the *types* of qualitative methods available in our tool kit, we now sketch the different *methods of integration* between qualitative and quantitative techniques, providing examples

for each method. The examples presented below are drawn from attempts to combine different methodological traditions in evaluation and policy research, but we stress from the outset that there are several good (as well as bad) reasons why mixed methods are not adopted more frequently. First, integrating different perspectives necessarily requires recruiting individuals with different skill sets, which makes such projects costly in terms of time, talent, and resources. Second, coordinating the large teams of people with diverse backgrounds that are often required for serious mixed-method projects generates coordination challenges above and beyond those normally associated with program evaluation. Third, these challenges, combined with institutional imperatives for quick turnaround and “straightforward” policy recommendations, mean that mixed-method research is often poorly done. Fourth, we simply lack an extensive body of evidence regarding how different methods can best be combined under what circumstances; more research experience is needed to help answer these questions and guide future efforts.

These concerns notwithstanding, it is nonetheless possible to discern a number of core principles and strategies for successfully mixing methods in project evaluation. The most important of these is to begin with an important, interesting, and researchable question and to then identify the most appropriate method (or combination of methods) that is likely to yield fruitful answers (Mills 1959). If taken seriously, this principle is actually remarkably difficult to live up to, since it is rare to find a good question that maps neatly and exclusively onto a single method. Three fields in which faithful efforts have been made, however, are comparative politics, anthropological demography, and anthropological economics. The first concerns itself primarily with questions that give rise to small sample sizes and large units of analysis—most commonly case studies of countries or large organizations studied historically—and is not discussed in detail here.⁸ The second and third, however, are better suited to larger sample sizes and smaller units of analysis, and thus lessons from them are especially relevant to efforts to mix methods in poverty research and project evaluation.⁹

Methods of Integration

Qualitative and quantitative methods can be integrated in three different forms, which for convenience we call *parallel*, *sequential*, and *iterative*. In parallel approaches, the quantitative and qualitative research teams work separately but compare and combine findings during the analysis phase. This approach is best suited to very large projects, such as national level poverty assessments, where closer

forms of integration are precluded by logistical and administrative realities. In “Poverty in Guatemala” (World Bank 2002), for example, two separate teams were responsible for collecting the qualitative and quantitative data. Previous survey material was used to help identify the appropriate sites for the qualitative work (five pairs of villages representing the five major ethnic groups in Guatemala), but the findings themselves were treated as an independent source of data and were integrated with the quantitative material only in the write-up phase of both the various background papers and the final report—that is, while useful in their own right, the qualitative data did not inform the design or construction of the quantitative survey, which was done separately. These different data sources were especially helpful in providing a more accurate map of the spatial and demographic diversity of the poor, as well as, crucially, a sense of the immediate context within which poverty was experienced by different ethnic groups, details of the local mechanisms that excluded them from participation in mainstream economic and civic activities, and the nature of the barriers they encountered in their efforts to advance their interests and aspirations. The final report also benefited from a concerted effort to place both the qualitative and quantitative findings in their broader historical and political context, a first for a World Bank poverty study.

Sequential and iterative approaches—which we call more specifically *participatory econometrics*—seek varying degrees of dialogue between the qualitative and quantitative traditions at all phases of the research cycle and are best suited to projects of more modest scale and scope.¹⁰ Though the most technically complex and time consuming, these approaches are where the greatest gains are to be found from mixing methods in project and policy evaluation. Participatory econometrics works on the premise that

- The researcher should begin a project with some general hypotheses and questions, but an open mind regarding the results and even the possibility that the hypotheses and questions themselves may be in need of major revision.
- The researcher should both collect and analyze the data.
- A mix of qualitative and quantitative data is typically used to create an understanding of both measured impact and process.
- Respondents should be actively involved in the analysis and interpretation of findings.
- It is desirable to make broad generalizations and discern the nature of causality; consequently, relatively large sample sizes are likely to be needed (and thus the tools of econometrics employed on them).

This approach characterizes recent research on survival and mobility strategies in Delhi slums (Jha, Rao, and Woolcock 2002), in which extensive qualitative investigation in four different slum communities preceded the design of a survey that was then administered to 800 randomly selected households from all (officially listed) Delhi slums. The qualitative material not only helped design a better survey, but was also drawn upon in its own right to explore governance structures, migration histories, the nature and extent of property rights, and mechanisms underpinning the procurement of housing, employment, and public services.

The classical, or sequential, approach to participatory econometrics entails three key steps:

- Using PRA-type techniques, focus-group discussions, in-depth interviews, or all three to obtain a grounded understanding of issues.
- Constructing a survey instrument that integrates understandings from the field.
- Deriving hypotheses from qualitative work and testing with survey data. An intermediate step of constructing theoretical models to generate hypotheses may also be added (Rao 1997).

An example of the use of sequential mixed methods in project evaluation is a study of the impact of Social Investment Funds in Jamaica (Rao and Ibáñez 2003). The research team compiled case-study evidence from five matched pairs of communities in Kingston, in which one community in the pair had received funds from the Jamaica Social Investment Fund (JSIF) while the other had not—but had been selected to match the funded community as closely as possible in terms of its social and economic characteristics. The qualitative data revealed that the JSIF process was elite-driven, with decisionmaking processes dominated by a small group of motivated individuals, but that by the end of the project there was nonetheless broad-based satisfaction with the outcome. The quantitative data from 500 households mirrored these findings by showing that, *ex ante*, the social fund did not address the expressed needs of the majority of individuals in the majority of communities. By the end of the JSIF cycle, however, during which new facilities had been constructed, 80 percent of the community expressed satisfaction with the outcome. A quantitative analysis of the determinants of participation demonstrated that individuals who had higher levels of education and more extensive networks dominated the process. Propensity-score analysis revealed that the JSIF had a causal impact on improvements in trust and the capacity for collective action, but that these gains were greater for elites within the community.¹¹ This evidence suggests that both JSIF and non-JSIF communities are now more likely to

make decisions that affect their lives—a positive finding indicative of widespread efforts to promote participatory development in the country—but that JSIF communities do not show higher levels of community-driven decisions than non-JSIF communities. A particular strength of this analysis is that here a development project that is by design both “qualitative” (participatory decisionmaking) and “quantitative” (allocating funds to build physical infrastructure) has been evaluated using corresponding methods.

The Bayesian, or iterative, approach to participatory econometrics is similar to the sequential approach, but it involves regularly returning to the field to clarify questions and resolve apparent anomalies. Here, qualitative findings can be regarded as a Bayesian Prior that is updated with quantitative investigation. One example comes from an initial study of marriage markets among potters in rural Karnataka, India, which led to work on domestic violence (Rao 1998, Bloch and Rao 2002); unit price differentials in everyday goods, that is, why the poor pay higher prices than the rich for the same good (Rao 2000); and public festivals (Rao 2001a, 2001b). An initial interest in marriage markets thus evolved in several different but unanticipated directions, uncovering understudied phenomena that were of signal importance in the lives of the people being studied. Moreover, the subjects of the research, with their participation in PRAs and PPAs, focus-group discussions, and in-depth interviews, played a significant role in shaping how research questions were defined, making an important contribution to the analysis and informing the subsequent econometric work, which tested the generalizability of the qualitative findings, measuring the magnitude of the effects and their causal determinants.

Iterative mixed-method approaches to project evaluation are most likely to be useful in situations where task managers are overseeing projects that have a diverse range of possible impacts (some of which may be unknown or unintended), and where some form of “participation” has been a central component of project design and implementation. Ideally an orthodox difference-in-difference strategy of collecting both baseline and follow-up data and identifying comparable program and nonprogram groups should be followed. But it is not always self-evident, *a priori*, how exactly one should go about selecting communities for intensive qualitative work or what precise questions should be included on a household survey.

Two evaluations of participatory (community-driven development) projects currently under way in Indonesia demonstrate the benefits of using iterative mixed-method approaches. The first is concerned with designing a methodology for identifying the extent of a range of impacts associated with a project in urban areas

(known as the Urban Poverty Project 2, or UPP2); the second with assessing whether and how a similar project already operating for three years in rural areas (the Kecamatan Development Program, or KDP) helps to mediate local conflict.

UPP2 is a CDD project that provides money directly to communities to fund infrastructure projects and microcredit. To do this, the project organizes an elected committee called the BKM. In addition to poverty alleviation and improvements in service delivery, one of UPP2's goals is to create an accountable system of governance in poor urban communities. Here, again, both outcomes and process are of interest and therefore the evaluation is a prime candidate for a mixed-methods approach. The evaluation follows a difference-in-difference approach. A baseline survey is being conducted in a random sample of communities that will benefit from the intervention. These communities have been matched using a poverty score employed by the government to target UPP2 to poor communities. The "control" communities are those with low poverty scores in relatively rich districts, whereas the "experimental" communities are those with high poverty scores in relatively poor districts.

Two rounds of field work were conducted by an interdisciplinary team of economists, urban planners, and social anthropologists.¹² In the first round two to three days of field visits were conducted in each of eight communities that had benefited from a similar project (UPP1). The aim of this initial round of field work was to understand the UPP2 process, identify "surprises" that could be incorporated in the survey, and decide on a data collection methodology. Some of these unforeseen issues included the key role that facilitators played in the success or failure of a project at the local level, the inherent "competition" between BKMs and existing mechanisms for governance (such as the municipal officer, or *Pak Lurah*), and the crucial role that custom, tradition, and local religious institutions played in facilitating collective action. A quantitative survey methodology was developed that would give key informants such as the head of the BKM, the *Pak Lurah*, the community activist, and the local facilitator an in-depth structured questionnaire. In addition, a random sample of households within each community would receive a household questionnaire. When microcredit groups were formed in the experimental communities, they too would be given a household questionnaire.

To supplement this material, a qualitative baseline was also designed. The sample size of this baseline was limited by the high cost of conducting in-depth qualitative work in many communities. Therefore, it was decided to do a case-based comparative analysis: two "experimental communities" (one with a high degree of urban-

ization and the other with a low degree of urbanization) and two “control communities” (matched to the experimental communities using the poverty score) were chosen in each province. Since UPP2 is working in three provinces—Java, Kalimantan and Sulawesi—a total of 12 communities are in the sample. A team of field investigators will spend one week in each community conducting a series of focus-group discussions, in-depth interviews, and key-informant interviews in two groups. One group will snowball from the municipal office, focusing on the network of people who are centered around the formal government, while another group of investigators will snowball from the local mosque, church, or activist group to understand the role of informal networks and associations in the community.¹³ The idea is that the qualitative work will provide in-depth insights into processes of decisionmaking, the role of custom (*adat*) and tradition in collective action, and the propensity for elite capture in the community. Hypotheses generated from the qualitative data will be tested for their generalizability with the quantitative data.

Finally, the whole process will be repeated three years after the initiation of the project to collect follow-up data. The follow-up will provide a difference across control and experimental groups, and a second difference across time to isolate the causal impact of UPP2 on the community and to examine the process by which communities changed because of the UPP2 intervention.

The Kecamatan Development Program in Indonesia—the model on which the UPP2 program is based—is one of the world’s largest social development projects, and Indonesia itself is a country experiencing wrenching conflict in the aftermath of the Suharto era and the East Asian financial crisis. Although primarily intended as a more efficient and effective mechanism for getting targeted small-scale development assistance to poor rural communities, KDP requires villagers to submit proposals for funding to a committee of their peers, thereby establishing a new (and, by design, inclusive) community forum for decisionmaking on key issues (Wetterberg and Guggenheim 2003). Given the salience of conflict as a political and development issue in Indonesia, the question is whether these forums are able to complement existing local-level institutions for conflict resolution and in the process help villagers acquire a more diverse, peaceful, and effective set of civic skills for mediating local conflict. Such a question does not lend itself to an orthodox stand-alone quantitative or qualitative evaluation, but rather to an innovative mixed-method approach.

In this instance, the team decided to begin with qualitative work, since there was surprisingly little quantitative data on conflict in Indonesia and even less on the mechanisms (or local processes) by

which conflict is initiated, intensified, or resolved.¹⁴ Selecting a small number of appropriate sites from across Indonesia's 13,500 islands and 350 language groups was not an easy task, but the team decided that work should be done in two provinces that were very different (demographically), in regions within those provinces that (according to local experts) demonstrated both a "high" and "low" capacity for conflict resolution, and in villages within those regions that were otherwise comparable (as determined by propensity-score matching methods) but that either did or did not participate in KDP. Such a design enables researchers to be confident that any common themes emerging from across either the program or nonprogram sites are not wholly a product of idiosyncratic regional or institutional capacity factors. Thus quantitative methods were used to help select the appropriate sites for qualitative investigation, which then entailed three months of intensive fieldwork in each of the eight selected villages (two demographically different regions by two high/low capacity provinces by two program/nonprogram villages). The results from the qualitative work—useful in themselves for understanding process issues and the mechanisms by which local conflicts are created and addressed—will also feed into the design of a new quantitative survey instrument, which will be administered to a large sample of households from the two provinces and used to test the generality of the hypotheses and propositions emerging from the qualitative work.

A recent project evaluating the impact of "*panchayat* (village government) reform"—democratic decentralization in rural India—also combines qualitative and quantitative data with a "natural experiment" design.¹⁵ In 1994 the Indian government passed the 73rd amendment to the Indian constitution to give more power to democratically elected village governments by mandating that more funds be transferred to their control and that regular elections be held, with one-third of the seats in the village council reserved for women and another third for "scheduled castes and tribes" (groups who have traditionally been targets of discrimination).

The four South Indian states of Karnataka, Kerala, Andhra Pradesh, and Tamil Nadu have implemented the 73rd amendment in different ways. Karnataka immediately began implementing the democratic reforms; Kerala emphasized greater financial autonomy, Tamil Nadu delayed elections by several years, and Andhra Pradesh emphasized alternative methods of village governance outside the *panchayat* system. Thus, contrasting the experiences of the four states could provide a nice test of the role of decentralization on the quality of governance. The problem, of course, is that any differences across the four states could be attributed to differences in the culture and history of the state (for instance, attributing Kerala's

outcomes to the famous “Kerala model”). Things like culture and history are difficult to observe, so the evaluation design exploited the following natural experiment.

The four states were created in a manner that made them linguistically homogenous in 1955. Before 1955, however, significant portions of the four states belonged to the same political entity and were either ruled directly by the British or placed within a semi-autonomous “princely state.” When the states were reorganized, “mistakes” were made along the border regions, with certain villages that originally belonged to the same original political entity and sharing the same culture and language finding themselves placed in different states. Such villages along the border can be matched and compared to construct a “first difference,” which controls for the effects of historical path dependency and culture. Data on levels of economic development and other covariates that could affect differences across states are also being collected, as are data on several quantitative outcomes, such as objective measures of the level and quality of public services in the village and perceptions on public service delivery at the village level.

One challenge is to study the extent of participation in public village meetings (*gram sabhas*) held to discuss the problems faced by villagers with members of the governing committee. Increases in the quality of this form of village democracy would be a successful indicator of improvements in participation and accountability. Quantitative data, however, are very difficult to collect here because of the unreliability of people’s memories about what may have transpired at a meeting they may have attended. To address this issue, the team decided to record and transcribe village meetings directly. This tactic provides textual information that can be analyzed to observe directly changes in participation. Another challenge was in collecting information on inequality at the village level. Some recent work has found that sample-based measures of inequality typically have standard errors that are too high to provide reliable estimates. PRAs were therefore held with one or two groups in the village to obtain measures of land distribution within the village. This approach proved to generate excellent measures of land inequality, and since these are primarily agrarian economies, measures of land inequality should be highly correlated with income inequality. Similar methods were used to collect data on the social heterogeneity of the village. All this PRA information has been quantitatively coded, thus demonstrating that qualitative tools can be used to collect quantitative data. In this example the fundamental impact assessment design was kept intact, and both qualitative and quantitative data were combined to provide insights into different aspects of interest in the evaluation of the intervention.

Using Mixed Methods in Time- and Resource-Constrained Settings

Some final examples demonstrating the utility of mixed-method approaches come from settings where formal data (such as a census) is limited or unavailable and where there are few skilled or experienced staff and little resources or time. Such situations are common throughout the developing world, where every day many small (and even not so small) organizations undertake good-faith efforts in desperate circumstances to make a difference in the lives of the poor. Are they having a positive impact? How might their efforts and finite resources be best expended? How might apparent failures be learned from, and successes be appropriately documented, and used to leverage additional resources from governments or donors? In these circumstances, calls for or requirements of extensive technical project evaluation may completely overwhelm existing budgets and personnel, multiplying already strong disincentives to engage in *any* form of evaluation (Pritchett 2002). The absence of formal data, skilled personnel, and long time horizons, however, should not mean that managers of such programs should ignore evaluation entirely. If nothing else, managers and their staff have detailed contextual knowledge of the settings in which they do and do not work, as do those people they are attempting to assist. From a basic commitment to “think quantitatively but act qualitatively” and to “start and work with what one has,” local program staff have been able to design and implement a rudimentary evaluation procedure that is not a substitute for, but—we hope—a precursor to, a more thorough and comprehensive package (Woolcock 2001).

In St. Lucia, for example, the task manager preparing a social analysis had a budget to collect qualitative data from only 12 communities (from a sample size of 469) and wanted to ensure that those selected were as diverse as possible on seven key variables, namely, employment structure, poverty level, impact of a recent hurricane, access to basic services, proximity to roads, geography (regional variance, but with no two communities contiguous to one another), and exposure to the St. Lucia Social Development Program. How to choose these 12 communities so that they satisfied these criteria, with only a 10-year-old census to assist? The team decided to use the census data to make the first cuts in the selection process, using income data to identify the 200 poorest communities (on the assumption that over a 10-year period, the ordinal ranking of the income levels of the communities would not have changed significantly). The census also contained data on the number of households in each community receiving particular forms of water delivery and sewerage (public or private pipe, well, and so forth),

Box 8.1 Are Mixed-Methods Analyses Appropriate under Severe Budget or Time Constraints?

If the major objective of an evaluation is measuring the impact of the intervention, rather than understanding the processes by which the evaluation worked, then qualitative work may be unnecessary. Quantitative methods are not very effective at getting at process issues, however, so an exclusive dependence on them could give data that is incomplete for policy purposes. Mixed-methods evaluations can be conducted under a constrained budget—so long as there are enough funds to have a sample large enough to cover at least the primary heterogeneity in the population and in project impacts that are of interest. Be aware that the more time spent in the community, the better the quality of the qualitative data, so a brief visit of one or two days should not be expected to reveal anything more subtle than basic open-ended responses that could serve as a contextual accessory to quantitative findings. Participatory Rural Appraisal and Participatory Poverty Assessment methods can be especially useful under constrained circumstances because they can help the community encapsulate their points of view in a two-to-three hour group interview. The reliability of this information, however, is strongly affected by the quality of the moderator. Therefore, if the budget is severely constrained and skilled moderators are unavailable, it may not make sense to conduct qualitative work.

enabling a “quality of basic services” index to be constructed, and scored on a 1 (low) to 7 (high) scale. The 200 poorest communities could therefore be ranked according to their quality of basic services.

Finally, using geographical data, it was possible to measure the distance of all 200 communities from the main ring road that circumnavigates St. Lucia. Dividing the sample in half on the basis of their distance measure, those close to the road were labeled “urban,” and those far from the road “rural.” The team was thus able to construct a simple 2×2 matrix, with quality of basic services (high-low) on one axis, and rural-urban on the other. St Lucia’s 200 poorest communities now fell neatly onto these axes, with 50 communities in each cell.

This procedure was followed up the next day by a four-hour session with field staff—all St. Lucia nationals—narrowing the field down to 16 communities. Twenty field staff gathered for this meeting, and after a brief presentation on the task at hand and the steps already taken with the census data, they were divided into four groups. Each group was given the names of 50 poor communities from one of the 2×2 cells above and was then asked to select five

communities from this list that varied according to exposure to the recent hurricane, major forms of employment, and whether or not they had participated in the initial round of the St. Lucia Social Development Program. After two hours, the four groups reconvened with the names of their five communities, and over the final hour all field staff negotiated together to whittle the list of 20 names down to 16 to ensure that regional coverage was adequate and that no two communities were contiguous across regional boundaries. After an additional round of negotiation with senior program staff, the list was reduced to the final 12 communities, a group that maximized the variance according to the eight different criteria required by the task manager.

Reliance on quantitative or qualitative methods alone could never have achieved this result: formal data were limited and dated but nonetheless still useful; it was unrealistic and invalid to rely exclusively on local experts. Together, however, a superior outcome combining the best aspects of both methods enabled the selected sample to have maximum diversity, validity, *and* (importantly) full local ownership.

What Do Qualitative Methods Add to Quantitative Approaches?

There is clearly a large and important role for approaches to project evaluation that are grounded exclusively in sophisticated quantitative methods. This chapter has endeavored to show that these approaches nonetheless have many limitations, and that considerable value added can be gained by systematically and strategically including more qualitative approaches. By making a distinction between data and the methods used to collect them, we have shown that a range of innovative development research is currently under way in which qualitative data are examined using (or as part of) quantitative methods. The focus of this chapter, however, has been on the use of qualitative methods to improve, complement, and supplement quantitative data. By way of summary and conclusion, we outline six particular means by which qualitative methods demonstrate their usefulness in program evaluation.

By Generating Hypotheses Grounded in the Reality of the Poor

As the examples above demonstrate, when respondents are allowed to participate directly in the research process, the econometrician's work will avoid stereotypical depictions of their reality. The result

could be unexpected findings that may prove to be important. Thus, the primary value of participatory econometrics is that hypotheses are generated from systematic fieldwork, rather than from secondary literatures, or flights of fancy. More specifically, the use of PRA-PPA, focus-group, and other methods allows respondents to inform researchers of their own understandings of poverty, which are then tested for generalizability by constructing appropriate survey instruments and administering them to representative samples of the population of interest.

*By Helping Understand the Direction of Causality,
Locating Identifying Instruments, and Exploiting
Natural Experiments*

Participatory econometrics can be of great value in improving econometrics beyond its obvious utility in generating new hypotheses. It can be very helpful in understanding the direction of causality, in locating identifying restrictions, and exploiting natural experiments (Ravallion 2001). For instance, in a recent study, researchers discovered that sex workers suffer economically when they use condoms, because of a client preference against condom use (Rao and others 2003). The econometric problem here is that identifying such compensating differentials is very difficult, because they tend to be plagued by problems of unobserved heterogeneity and endogeneity. Qualitative work in this case helped solve the problem by locating an instrument to correct for the problem. It turned out that an HIV-AIDS intervention that instructed sex workers on the dangers of unsafe sex was administered in a manner uncorrelated with income or wages, but yet had a great influence on the sex workers' propensity to use condoms. Using exposure to the intervention as an exclusion restriction in simultaneously estimating equations for condom use and wages enabled the researchers to demonstrate that sex workers suffered a 44 percent loss in wages by using condoms.

*By Helping Understand the Nature of Bias
and Measurement Error*

In studying domestic violence, for example, a question in the survey instrument asked female respondents if their husbands had ever beaten them in the course of their marriage. Only 22 percent of the women responded positively, generating a domestic violence rate much lower than studies in Britain and the United States had shown. In probing the issue with in-depth interviews, researchers discovered that the women had interpreted the word *beating* to mean

extremely severe beating—that is, when they had lost consciousness or were bleeding profusely and needed to be taken to the hospital. Hair pulling and ear twisting, which were thought to be more everyday occurrences, did not qualify as beating. (Responses to a broader version of the abuse question, comparable to the questions asked in the U.S. and U.K. surveys, elicited a 70 percent positive response.) Having tea with an outlier can be very effective in understanding *why* they are an outlier.

By Facilitating Cross-Checking and Replication

In participatory econometrics, the researcher has two sources of data, qualitative and quantitative, generated from the same population. That allows for immediate cross-checking and replication of results. If the qualitative and quantitative findings differ substantially, it could be indicative of methodological or data quality problems in one or the other. In the Delhi slums project (Jha, Rao, and Woolcock 2002), for example, the focus-group discussions reveal several narratives of mobility, that is, of people leaving the slums, but this mobility is not reflected in the quantitative data because the sample does not include households who live outside slums. This finding indicates an important sample selection problem in the quantitative data that limits its value in studying questions of mobility. At the same time, the qualitative data gave the impression that religious institutions were an important source of credit and social support for the urban poor. That this finding is not visible in the quantitative data suggests that it may not be generalizable to all the residents of Delhi slums but is particular to the families participating in focus-group discussions and in-depth interviews.

By Providing a Sense of Context and Helping Interpret Quantitative Findings While Using Quantitative Data to Establish the Generalizability of Those Findings

Participatory econometrics allows the researcher to interpret the quantitative findings in context. The more narrative, personalized information provided by open-ended focus-group discussions and in-depth interviews, the better the researcher can understand and interpret a quantitative result. In the work on domestic violence, for instance, a strong positive correlation was found between female sterilization and risk of violence. This finding would have been very difficult to explain without the qualitative data, which revealed that women who were sterilized tended to lose interest in sex with their husbands. At the same time their husbands tended to suspect their fidelity, fearing (unjustly) that the women would be unfaithful

Box 8.2 Ten Principles of Conducting Good Mixed-Methods Evaluations

1. Use “participatory econometrics,” an iterative approach where qualitative work informs the construction of a quantitative questionnaire. Allow for findings from the field to broaden your set of outcome or explanatory variables. This broadening will improve the analysis of possible externalities to the intervention as well as reduce the number of unobservables.
2. Unlike quantitative questionnaires, qualitative questions should be open-ended to allow respondents to give relatively unconstrained responses. The question should be an opportunity to have an extended discussion.
3. The data analyst should be closely tied to the data collection process.
4. Qualitative work should follow principles of evaluation design similar to those for quantitative work; even when exclusively qualitative methods are used, the evaluator should “think quantitatively, but act qualitatively.”
5. The qualitative sample should be large enough to reflect the major elements of heterogeneity in the population.
6. Spend enough time in the community to allow an in-depth examination. This may sometimes mean anything from a week to several weeks depending upon the size and heterogeneity of the community.
7. Hypotheses derived from the qualitative work should be tested for their generalizability with the more representative quantitative data.
8. Use the qualitative information to interpret and contextualize quantitative findings.
9. A poor and inexperienced qualitative team can have a much larger adverse impact on the collection of good quality qualitative information than on quantitative data.
10. Qualitative methods should be thought of not as an inexpensive alternative to large surveys, but as tools to collect information that is difficult to gather and analyze quantitatively.

because they were now able to have sex without getting pregnant. This caused sterilized women to be at much greater risk for violent conflicts within the home. The strong correlation between sterilization and abuse observed in the quantitative data did not necessarily “prove” that the qualitative finding was generalizable, but, by demonstrating that the average sterilized woman in the population was in a more conflictual relationship, the quantitative findings were consistent with the qualitative.

By Identifying Externalities to an Intervention, Improving the Measurement of Outcomes, and Finding Ways of Measuring “Unobservables”

In recent work looking at the relationship between prices and poverty, qualitative work found that the poor were paying much higher unit prices for the same goods because the rich were able to obtain quantity discounts (Rao 2000). This finding led to the collection of a household-level consumer price index that corrected for the purchasing power of households affected by the variation in household-specific prices. The improved “real” income measures of inequality were found to be 17–23 percent higher than conventional inequality measures.

In the UPP2 evaluation in Indonesia, qualitative work helped emphasize the crucial role that project facilitators played in the effectiveness of CDD projects at the community level. This recognition led to a special quantitative questionnaire being administered to facilitators that would allow the team to examine the role of “street-level workers” in project effectiveness. “Unobservables” can also be made observable through field investigations. In the *panchayat* project, focus-group discussions proved to be effective at uncovering villages that were oligarchic and ruled by a small group of intermarrying families. This ability to see unobservables can be potentially very important in determining the effectiveness of democratic decentralization initiatives at the village level.

Notes

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1. On the specific role of qualitative methods in program evaluation, see Patton (1987).
2. On the variety of approaches to establishing “causality,” see Salmon (1997); Mahoney (2000); and Gerring (2001).
3. See, for example, Tashakkori and Teddlie (1998); Bamberger (2000); and Gacitua-Mario and Wodon (2001).
4. King, Keohane, and Verba (1993) and Collier and Adcock (2001) provide a more academic treatment of potential commonalities among quantitative and qualitative approaches.
5. For an extended discussion of the rationale for social analysis in policy, see World Bank (2002a). More details on the qualitative tools and techniques described in their application to project impact are available in World Bank (2002b).

6. The Self-Employed Women's Association (SEWA) in India has used a related approach with great success, helping poor slum dwellers to compile basic data on themselves that they can then present to municipal governments for the purpose of extracting resources to which they are legally entitled. On the potential abuse of participatory approaches, however, see Cooke and Kothari (2001) and Brock and McGee (2002).

7. See, for example, the exemplary anthropological research of Berry (1993) and Singerman (1996).

8. For a more extensive treatment of methodological issues in comparative politics, see Ragin (1987) and the collection of articles in Ragin and Becker (1992).

9. For more on methodological issues in anthropological demography, see Obermeyer and others (1997).

10. See Rao (2002) for more on participatory econometrics.

11. See chapter 5.

12. The manager of UPP2 is Aniruddha Dasgupta, and the evaluation team includes Vivi Alatas, Victoria Beard, Menno Pradhan, and Vijayendra Rao.

13. This refers to a snowball sample, where new respondents are contacted on the basis of information collected from previous respondents. This method of sampling is useful in studying network interactions.

14. The task manager for KDP is Scott Guggenheim, and the evaluation team includes Patrick Barron, David Madden, Claire Smith, and Michael Woolcock.

15. This project is a collaboration among Tim Besley, Rohini Pande, and Vijayendra Rao.

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