IS INCREASING COMMUNITY PARTICIPATION ALWAYS A GOOD THING?

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Abstract
This paper considers the impact of community participation on outcomes of development projects. It first offers a theoretical framework for participation by using the property rights literature to model how participation in an activity, in addition to involving information exchange, also results in greater influence in the activity. The model predicts that community participation may not always be desirable. The paper then uses primary data on development projects in Northern Pakistan to provide empirical support for this prediction. It shows that while community participation improves project outcomes in nontechnical decisions, increasing community participation in technical decisions actually leads to worse project outcomes. (JEL: D23, D78, H40, O12, O20)

1. Introduction

The past several decades of development funding (e.g., World Bank in Africa) has demonstrated the failures of top-down approaches to development. Not only does the provision of public goods remain low in developing nations, most projects suffer from a lack of sustainability.[1] A possible reason for these failures is attributed to the lack of local participation. Since the 1980s the new development slogan has been "participatory or community-led development" and there has been a rush to jump on the participatory bandwagon.[2] Such community-based approaches to development "are among the fastest growing mechanisms for channeling development assistance (and) according to conservative calculations, the World Bank's lending for CDD (community-driven development) projects has gone up from $325 million in 1996, to $2 billion in 2003" (Mansuri and Rao 2003). This trend is supported by anecdotal and empirical

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1. Estimates by multilateral development agencies show that, in the last decade alone, $12 billion in regular maintenance expenditure could have prevented an actual $45 billion spent on road reconstruction in Africa.

2. In fact the first "wave" of participatory development happened as early as the 1950s through USAID development programs but died out by the early 1960s. See Mansuri and Rao (2003) for an excellent and comprehensive review of the history of participatory development and the recent literature on it.

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evidence suggesting community participation is an unqualified good in terms of project outcomes and sustainability (Narayan 1995; Isham, Narayan, and Pritchett 1996). However, despite such interest there is much less understanding of, and even lesser agreement on, what community participation means and entails, and under what conditions is it necessary. There is a real danger that like most slogans, participation too will be misunderstood, misapplied and eventually discarded.

This paper draws on some of my recent work (Khwaja 2003a, 2003b) to make the following two contributions: First, it offers a theoretical framework to model aspects of participation. While this is by no means the only such formalization, it provides a simple benchmark to consider the effects of community participation on development project outcomes. In particular, I obtain the result that community participation may in fact not always be desirable, at least in terms of project sustainability. Second, this paper presents empirical evidence that illustrates the ambiguous effect of community participation. Specifically, these findings show that while increased community participation is beneficial in decisions that require relatively more local inputs/knowledge, it is detrimental to project success in decisions requiring investments that the community is at a disadvantage at providing. While this sounds intuitive, it is far from obvious, as one may expect a community could remedy its lack expertise in a decision by contracting out to an expert. The paper is structured as follows: Section 2 develops a theoretical framework to formalize this intuition. Section 3 presents the empirical results and Section 4 concludes.

2. Formalizing Participation

An examination of the literature on community participation suggests it leads to development projects that are "more responsive to the needs of the poor . . . more responsive government and better delivery of public goods and services, better maintained community assets, and a more informed and involved citizenry" (Mansuri and Rao 2003). An obvious aspect highlighted in these benefits is the role of participation as a means of providing and accessing information. When a community participates, it both provides information about its preferences,[3] and gains information that may influence its optimal choice.[4] Both types of information are likely to lead to increased welfare for the community, and in our case of interest, better development projects. However, the sense one obtains

3. The development literature abounds with instances of projects built without local consultation—drinking water schemes that failed because having a regular social space away from home outweighed time saved by the in-house tap.

4. Field anecdotes suggest communities often choose a particular type of project not based on need, but because they (incorrectly) believe the external agency provides a limited type of projects and asking for anything outside that would result in not receiving a project at all.

from the field is that this notion of participation is incomplete as it misses the role participation plays as a means of affecting the distribution of power and ownership. Case studies emphasize that it is key the communities have control over project initiatives, decisions, (financial) resources, and upstream planning (World Bank 1996; Narayan 1995). Moreover, if information transfer were indeed the only role participation played, it could be replaced by simply "asking and telling," which would not require a community to really participate but simply that its preferences be elicited and it be informed. Such a view would typically imply that participation is always a good thing,[5] and as we show in the next section, this is not empirically supported.

The contribution of this paper is to offer a theoretical framework that highlights the additional "ownership" aspect of participation suggested above, i.e., that participation is also a means of exerting influence or bargaining power. To do so, I borrow from the property rights literature in economics (Grossman and Hart 1986; Hart and Moore 1990)—that defines ownership of a physical asset in terms of residual control rights over the asset—to also include less tangible assets such as the decisions undertaken in a development project. The idea is fairly simple—the greater a community participates in an activity, the more likely it is to have a say in this activity. Introducing this aspect of participation underscores that while an agent may be able to share information perfectly, unless it has the ability to influence the decision and moreover, knows that it has this ability, it may have little incentive to either provide or gain the requisite information. The basic property rights model then suggests that ownership over a decision should be given to the agent whose effort/investment is more important in the decision. By giving the agent whose investment matters more for the decision greater influence in the decision, we ensure that this agent has high incentives to make the investment leading to greater benefit for all. This insight is illustrated below.

2.1. Model

Consider two groups that are involved in a development project: The community, C, and an external agency, E. The current project outcome depends on a series of decisions taken before, during and after project construction. Let $\{d_1, \ldots, d_M\}$ denote these M project decisions, ranging from deciding the type of project to its usage rules and maintenance system. We assume that the project outcome is an increasing function of the "value," D_i, generated under each

5. Given that both the community and agency providing the development project care about the project, increased provision of and access to information should generally be beneficial, barring possible strategic reasons that may arise under asymmetric information (e.g., increased information worsening commitment).

decision, that is, project benefit/current state $= f(D_1, \ldots, D_M)$.[6] D_i is increasing in investments c_i by the community and e_i by the external agency that is, $D_i = d_i(c_i, e_i)$ is a concave and increasing function in both arguments. Wlog each party incurs a cost, c_i^2 and e_i^2 respectively in incurring these investments. An important assumption is that the investments are noncontractible since it is this inability to commit to these investments that will give rise to the importance of participation in the decision.[7]

For simplicity let us now assume that there is only one decision in the project and therefore wlog interpret D_i as the benefit/state of the project and drop all subscripts. The timing of the events is as follows: In the first stage the level of participation—ownership—in the decision is agreed on. Next both parties undertake their respective investments for the decision. Finally, based on these investments, both parties bargain and a choice is made. While both parties obtain the value D if an agreement is reached, in the event of a disagreement the two parties reap different values, δ^C and δ^E,[8] from the decision based on the investments made and their level of influence in the decision. The community's influence is indexed by its participation level, $P^C \in [0,1]$, in the decision and it is assumed that an increase in the participation by one party increases the relative likelihood that the decision it favors will be taken in case there is a disagreement. Specifically, the marginal return to investment is higher if it's more likely that the party has greater influence in the outcome of the decision. A simple way to model these features is to have the community's disagreement payoff be $P^C * \delta^C(c, e)$ and the external agency's be $(1 - P^C) * \delta^E(c, e)$ for participation level P^C.[9] In addition we also assume that $d_1(c, e) = \delta_1^C(c, e)$ and $d_2(c, e) = \delta_2^E(c, e)$ subscripts denote partial derivatives with respect to each argument, that is, the marginal returns to investment for either party is at least as good in the case of disagreement (and when they have complete influence) as when there is no disagreement. This is not a crucial assumption for our claim

6. This function is wlog interpreted as reflecting either current level of benefit generated by the project, or the current condition/state of maintenance of the project since it is likely that the latter is an increasing function of the former. I also abstract from all other inputs (capital, labor, etc.) to illustrate the basic model.

7. Noncontractability of investments is the standard assumption in property rights and arises from a realization that contracting is incomplete. The development literature also emphasizes this incompleteness as an important consideration in development projects—project contingencies cannot be foreseen and have to be dealt with as and when they arise and therefore exante, parties cannot commit on how much to invest.

8. The different payoffs in the case of disagreement arise as the community may value aspects other than just project outcomes (such as whether road project passes through a cemetery) or incorrectly value project components (buy an unbranded mechanical pump since it makes less noise without realizing its poorer quality). Similarly, the external agency may disagree by overvaluing technical attributes of the project (such as making concrete culverts in roads when they are not needed), a tendency noted amongst agency engineers in the field (Tendler 1993, 1996).

9. In this formulation of "expected value" we are assuming that the party gets no value from the decision if it does not have at least some say in it. This can be relaxed by allowing for each party to obtain some nonnegative value, as long we retain that the expected disagreement return is increasing in the parties' participation in the decision.

below but gives the usual inefficient underinvestment result, that is, both parties underinvest relative to the social optimum.

As is standard in the property rights literature, I assume that in the case of a disagreement the parties Nash-bargain and split the expost surplus from reaching an agreement equally. Thus each party chooses its investment level by maximizing its exante expected return arising from the decision, given by the expressions below:

$$\text{community:} \quad \frac{2d(c, e) + P^C\delta^C(c, e) - (1 - P^C)\delta^E(c, e)}{2} - c^2$$

$$\text{external agency:} \quad \frac{2d(c, e) + (1 - P^C)\delta^E(c, e) - P^C\delta^C(c, e)}{2} - e^2$$

In contrast, the social planner would maximize $2d(c, e) - c^2 - e^2$, that is, $c^* = d_1(c, e)$ and $e^* = d_2(c, e)$.

CLAIM: *An increase in community participation in nontechnical project decisions improves project maintenance while such an increase in technical decisions worsens project maintenance*.

This claim is fairly intuitive once we recognize that decisions requiring local information are more likely to be sensitive to the community's investment, whereas those that require technical information, more responsive to the external agency's investment. The claim then follows after some simple algebra. For a given participation level in a decision, investments by both agents are less than the social optimum;

$$c^{SB} = 1/2d_1(c, e) + 1/4P^C * \delta_1^C(c, e) - 1/4(1 - P^C) * \delta_1^E(c, e)$$

and similarly for e^{SB}. It is easy to see that as P^C increases, c^{SB} increases towards c^* and e^{SB} decreases away from e^*. Thus for decisions such as non-technical ones that are more responsive to the community's investment, this trade-off is beneficial since the gain in c^{SB} more than compensates for the fall in e^{SB} in terms the overall valuation, $D = d(c^{SB}, e^{SB})$. The opposite holds for a decision where the external agencies investment matters more, as is likely for technical decisions.

3. Empirics

3.1. Data

The data used for this study is described and analyzed in detail in Khwaja (2003a) and the reader is referred to that paper for details. In this paper we use part of the data to illustrate the effects of community participation on project performance.

The data was collected through a series of community-, individual-, and project-level surveys conducted by the author in 1999. These surveys provide detailed information on both communities and projects for 132 infrastructural projects in 99 randomly selected rural communities in Northern Pakistan (Baltistan).[10] Only infrastructure projects from a limited set of types[11] were selected so as to allow for cleaner and comparable outcome measures. These projects were all externally provided, primarily by the local government and a local NGO, and varied in the extent to which community participation was sought, with government projects generally being less participatory.

The study took great care in measuring the main outcome measure, the current state of project maintenance. This measure is on a 0-to-100 scale, and based on independent information obtained through the group and technical questionnaires for three aspects of project maintenance: Physical score (the percentage of the project in its initial physical state), Functional score (the percentage of initial project purpose satisfied—for example, what percent of the area to be irrigated is receiving water), and maintenance-work score (the percentage of required maintenance needs carried out[12]). Since all three scores were highly correlated (0.8–0.9) and the results robust to using any one, we use a simple average of the three as the primary outcome measure of project success/sustainability.[13]

The main covariate of interest for this paper is community participation. While I use a simple measure of participation—the fraction of five randomly selected respondents in each community who responded that their household had participated in a particular project decision—the contribution of this study is that separate responses were elicited from each household for several decisions that are likely to be made from the inception of a project to its operation. Table 1 provides a list of these decisions and the mean level of community participation in each. These decisions, for reasons suggested in the previous section, have been grouped into nontechnical and technical decisions.

10. Baltistan is in the Himalayan region and is a relatively poor area with a per-capita income estimated at $216 (Parvez and Jan 1998). The communities in this region are generally small ranging from 10 households (with six to eight members per household), to 200 or more households.

11. Projects were limited to irrigation, road, protective wall, and microelectric projects.

12. Maintenance needs vary for each project and this was taken into account using engineer-based technical judgments.

13. While the data also estimated returns generated for each project, these measures are very noisy and hard to compare across projects and therefore typically not used as outcomes measures. Nevertheless, it is worth noting that a 10 percentage-point increase in the maintenance measure for a project is associated with a $26 annual household gain.

TABLE 1. Community participation levels in project decisions (%) and outcome impact[a]

Action/decision	(1) Mean P^C (%)	(2) Coeff. on Maintenance	(3) Std. error
Nontechnical decisions (direct participation)			
Selecting project	80	6.6	(7.8)
Deciding community labor contribution in project construction	36	−1.7	(7.4)
Deciding community nonlabor (cash) contribution in project construction	24	8.5	(8.0)
Deciding wage to be paid for community labor in project construction	36	0.9	(7.0)
Deciding compensation for nonlabor community resources in project construction	13	19.1*	(10.8)
Labor work for project construction	85	22.0**	(9.9)
Monetary contribution for project construction	36	3.8	(5.5)
Deciding project usage/access rules	13	16.5	(10.9)
Deciding sanction measures for project misuse	14	5.2	(11.1)
Raising internal (to community) funds for project construction and maintenance	9	−2.9	(12.1)
Deciding on distribution of project benefits	19	8.6	(7.8)
Deciding on maintenance system, policies and rules	20	9.5	(7.8)
Deciding on community monetary contribution in project maintenance	17	17.3**	(8.4)
Deciding on community labor work in project maintenance	28	11.5*	(6.8)
Deciding on sanctions imposed for not participating in project maintenance	22	9.3	(7.9)
Technical decisions (direct and indirect participation)			
Deciding project site	44	−12.0**	(5.6)
Deciding project scale (length, capacity)	43	−5.6	(6.0)
Deciding project design	34	−5.2	(5.9)
Deciding time frame for project construction	35	−5.0	(6.1)
Raising external (to community) funds for project construction and maintenance	69	6.1	(6.2)

Notes: Columns (2) and (3) give the results of separate regressions of Maintenance on the given participation measure.
[a]Technical decisions have higher participation as they also include indirect participation that is, whether the household responded that it participated through a representative. Indirect participation is included for technical decisions since both direct and indirect community participation will have a negative effect on maintenance, as they crowd out external organization participation. In the case of nontechnical decisions, only direct participation is considered, as indirect participation is not a good measure of maximizing community participation and knowledge. Nevertheless, including or excluding indirect participation in either decision category, does not significantly affect the results.

3.2. Findings

Table 1 presents a first look at the effect of community participation on the main project outcome, maintenance. The last two columns provide coefficient estimates and standard errors from separate regressions of the outcome measure on community participation in a specific project decision. Section 2 claimed that community participation in decisions that require (i.e., are more responsive to) community investment should improve outcomes, but worsen them for com-

munity participation in decisions that require greater investment by the external agency. While admittedly the classification we offer—nontechnical decisions for the former and technical decisions for the latter—is crude, it does offer a reasonable proxy for making this distinction. Moreover, it is based on independent and reasonable priors. For example, it is likely that in choosing what project to construct (i.e., what need is foremost), deciding how to use and manage the project etc. the community's role will be important. In other words these decisions are likely to involve less technical/engineering input and a greater knowledge of the community. In contrast, decisions such as selecting the particular site for the project, its scale and design are likely to require expert technical knowledge and, given the context of our study area, that is, relatively poor and small rural communities, probably better provided by the external agency.

The results in Table 1 show that for the most part, our crude classification does provide evidence supporting the theoretical claim, that is, greater community participation in nontechnical decisions is associated with higher project outcomes whereas the opposite holds for community participation in technical decisions.[14] Given how coarse these measures are, it is not surprising that the standard errors are large for most decisions. Moreover, these regressions do not control for confounding factors and as such should be taken as suggestive evidence. Table 2 puts the claim in Section 2 to more rigorous tests.

Based on the previous classification of decisions, I construct aggregate measures of community participation separately by averaging participation levels in nontechnical and technical decisions respectively. These measures better exploit the information content and decrease the classification errors inherent in any one single-decision-based measure.

The first column in Table 2 presents the results from the basic regression where project maintenance is regressed on the two participation measures and a basic set of controls such as project age, type, and external agency. Column (1) shows that the predictions of the theory are borne out: A 10% increase in community participation in nontechnical project decisions is associated with a 3.9 percentage-point increase in maintenance, but the same increase in participation in technical decisions is associated with a 2.1 percentage point decrease in maintenance. Column (2) then shows this result is robust to a variety of community level controls such as community location, wealth, inequality etc. and project characteristics. Column (3) subjects the finding to an even more demanding test: A concern is that the causal effect of participation is hard to

14. Recall the theory assumes that that community participation has a real influence on the decision, i.e., greater community participation makes it less likely that the decision is determined by the external agency. Khwaja (2003a) checks for this assumption and shows that it is indeed true—higher community participation in a decision also implies a lower likelihood that the external organization rather than the community is identified as the main decision maker.

TABLE 2. Nontechnical and technical participation as determinants of project outcomes

Variable	(1) Maintenance	(2) Maintenance	(3) Maintenance	(4) Log benefit
Community participation in nontechnical decisions	38.6***	39.5***	55.4*	1.9**
	(15.0)	(15.4)	(28.3)	(0.8)
Community participation in technical decisions	−20.5**	−18.0	−38.5*	−1.1*
	(9.7)	(12.6)	(18.6)	(0.6)
Controls	Basic[b]	Full[b]	Basic[b], project complexity, benefit distribution Community FEs	Basic[b]
R^2	0.20	0.56	0.93	0.14
N	132	132	64	126

Notes: Huber-White robust standard errors (clustered at community) in parentheses.
***, **, * Significantly different from zero at 1%, 5%, and 10%.
[b]Basic controls: project type, age, external agency, whether project was built on existing project or not. Full controls: Basic + Community land-inequality, social heterogeneity, size, total land, cropping zone, remoteness, human capital measures (commercial activity, skilled workers, education levels), mean off-farm income, real estate value, wage-levels, mechanical assets, access to electricity, health, potable water, and project leadership (for details see Khwaja 2003a).

identify since participation is a possible outcome of community unobservables; that is, "better communities" both choose participation levels optimally and do well in projects. In order to address this, column (3) only permits within-community comparisons by introducing community fixed effects for a smaller set of communities where more than one project was surveyed. The results show that not only do our main effects remain, but they are strengthened: A 10% increase in community participation in nontechnical decisions results in a 5.5 percentage-point rise in maintenance, but the same increase in participation in technical decisions results in a 3.8 percentage-point fall in maintenance.[15] Column (4) reestimates the regression in column (1) but now using logarithm of project benefits as the outcome measure. While this measure is far noisier, it nevertheless upholds our main result on community participation. Thus, these results provide reasonable evidence that community participation helps in nontechnical, but hurts in technical, decisions.

4. Concluding Remarks

The purpose of this paper has not been to provide a complete theory of participation or a comprehensive explanation for the poor performance of development projects. Instead, the intention is to raise a note of caution by

15. Since participation measures are based on recall, even if a decision occurred prior to project maintenance, individuals may falsely report participation (no participation) if the project is currently doing well (poorly) due to "halo effects." While, this would overestimate the participation effect and therefore not incorrectly give the negative effect of community participation in technical decisions, Khwaja (2003a) nevertheless discusses this issue in detail and uses individual survey data to show that halo effects are not a concern.

offering both theoretical and empirical support for why community participation may not always be a good thing. This by no means suggests a move back to autocratic systems or that communities should never be given ownership over certain decisions, but a just concern that, in light of the increasing importance of community-driven development and decentralization of public services, there may currently be too large a burden placed on community participation as a cure-all. Instead, we need to recognize both its benefits and limitations.

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