Role of Community Preferences in Targeting of the Rural Poor: Evidence from Uttar Pradesh

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Introduction

Despite sustained high growth rates over past two decades, India still accounts for a large proportion of the world's poor, with almost 360 million people living below the poverty line. The country also has a long tradition of targeting poverty alleviation, including through government provided services in critical areas such as health and education for the poor. In addition, over the past several decades, the government has also attempted more directly targeted interventions for the poor, particularly in rural areas, to provide them temporary relief, for example from drought or flood, as well as various support schemes, such as food for work, food subsidies, and micro credit.. These targeted interventions have encompassed a wide variety of targeting mechanisms in program design, including self-selection, 'broad' or activity targeting, targeting using social indicators and geographical targeting. An earlier study (Srivastava (2005) documented the large numbers of such schemes that have been implemented for the rural poor in India, as well as the substantial resources committed to these interventions.

Yet, there are well known and documented problems with most of these schemes, which have persisted over long periods. A good example is the food-for-work based scheme for rural poor that is designed on the principle of self-selection. Started in the late 1960s, the scheme was based on a fairly successful employment guarantee scheme in the state of Maharashtra, and went through several *avatars* before culminating in the *Sampoorna Grameen Rozgar Yojana* (SGRY, comprehensive rural employment scheme). It has suffered from many problems that have been documented repeatedly, including exclusion of rightful beneficiaries and inclusion of ineligible households, outright theft through violation of norms, inflation in values of assets created, and falsification of rosters of workers. In the latest twist, this scheme has metamorphosed into a guarantee of a minimum of 100 days of employment to every eligible rural household that asks for it, at an estimated cost of Rs. 400 billion when fully implemented across the country.[1] According to many observers, the fiscal cost of the scheme aside, there are concerns it will go the same route as its earlier versions, and other schemes, resulting in severely eroded benefits on the ground for the poor.

Errors in targeting the poor are neither unique to the SGRY scheme nor to targeted poverty schemes in India. Experience across several interventions across different countries shows it is not easy to target the poor.[2] An important reason for the poor targeting is weaknesses in administrative machinery in developing countries that are ill equipped to devote substantial resources to identifying the poor. Institutional weaknesses are another problem, often resulting in corruption of the processes for identifying the poor. In both cases, the problem is compounded by the high density of poor households crowding around any poverty line that is demarcated for purposes of identifying the poor. In India, although the poor are defined by expenditure per person, the administrative process for identifying the poor also incorporates several other parameters such as ownership of land, livestock, tractors, motorcycles and other consumer durables. Arbitrariness in outcomes is natural in the absence of any specific methodology for combining the multiplicity of criteria used in judging a household as poor.

[1] The National Rural Employment Bill was passed by the Parliament in August 2005.
[2] For a review of experience with poverty targeting across some Asian countries, see Weiss (2005).

The objective of this chapter is to highlight another important issue in poverty targeting, namely, the importance of *how the poor are defined in the first place*. Although recent years have seen a wider understanding of poverty beyond mere income or expenditure norms, practice in many cases lags prescription. Consequently, identification of the poor for targeting specific intervention benefits continues to rely on income or expenditure norms. Most schemes for the poor in India specify 'BPL' (below poverty line) status for the household as a prerequisite to participation, combines with other criteria in many cases (such as belonging to a scheduled caste or being a widow or pensioner). The efficacy of poverty targeting is compared in this chapter using the income or expenditure criterion as well as a somewhat different criterion, namely, a definition of poverty based on the perception of the households in the community targeted, with substantially different results in terms of targeting effectiveness.

The analysis below also highlights a related issue that is important in the context of decentralization of delivery of targeted poverty programs, namely, the divergence in local community preferences compared to those of the government. Decentralization has been viewed as a powerful tool to enhance community participation in development, leading to better targeting and improved delivery of projects and services. The main advantage associated with decentralization is better knowledge of local conditions (including preferences) and constraints (environmental, social and economic) as well as the dense network of continuous, inter-individual interactions that constitute community life, often labeled 'social capital' in the recent literature (Platteau 2003).[3] Greater participation can contribute to the communities setting their own priorities, identifying deserving beneficiaries, designing projects, and choosing appropriate technology as well as monitoring implementation.[4] Following an amendment to the Constitution in 1993, government schemes for both development and poverty alleviation have become increasingly decentralized in implementation, with locally elected village governments at the bottom of the implementation hierarchy. Clearly, how effective targeting is perceived will depend upon how the poor are defined, and if local preferences are different from those funding the program, assessing the effectiveness of the intervention will also vary depending on whose perspective is adopted.

This chapter uses a unique methodology is tested for eliciting local preferences in identifying the poor that differs from other group information ratings based on participatory appraisal approaches. The most common tool in the latter is the use of an 'index cards' method, where names of specific households are written on separate index cards and informants are asked to rank them according to specific criteria such as wealth (Grandin 1994). Despite the considerable popularity of such methods, some studies have noted that the resulting rankings are often inconsistent with those obtained

[3] Additional arguments in favor of decentralization include the lack of flexibility and reach on the part of centralized, command and control "top-down" systems in providing information-intensive goods and services, particularly for the poorest segments and greater accountability of decentralized delivery due to direct contact between ultimate recipients of goods and services and the facilitators of the same, that is. elected local representatives.

[4] Offsetting the local knowledge and accountability advantage of decentralized delivery by local government is the potentially greater likelihood of capture by local elite, resulting in a deterioration in targeting performance and responsiveness to the poor. Dreze and Sen (1989), for example, note that in the absence of adequate motivation – or incentives – for community leaders to give adequate preferential treatment to the vulnerable groups, much will depend upon the nature and functioning of political institutions at the local level. These concerns have been emphasized particularly in relation to communities characterized by high levels of inequality in land, literacy and power relations, within which poor groups are embedded (Bardhan 2002).

from other methods such as household surveys. For example, Bergeron et al (1998) study group rankings for food security in Honduras and find considerable heterogeneity across groups in ranking the same households. The methodology in our study pools responses of a large sample of households and the results obtained show substantial consistency with rankings based on wealth (but not expenditure) data obtained from our household survey.

Our analysis is based on data generated by an original primary survey of 48 *Gram Panchayats* in the Fatehpur district of Uttar Pradesh (UP), one of the poorest states in India with an equally weak record of implementing targeted poverty programs. The focus is on the implementation of the food-for-work type poverty targeting scheme, the *Sampoorna Grameen Rozgar Yojana* (SGRY). The identification of beneficiaries in the scheme is left to local Gram Panchayats (elected village government), as is the selection of types of assets to be created under SGRY and their location. The Appendix gives details of the survey, which provides the data analyzed here.

The outline of this chapter is as follows. Decentralized delivery of targeted anti-poverty programs has been perhaps the most important experiment in poverty alleviation in India over the past decade.[5] The next section provides a brief context for the decentralized structure of program implementation in India. A third section explains how the poor are identified, including the methodology employed in the primary survey for eliciting local preferences relating to identifying poor households, and the fourth section assesses targeting efficiency from the survey data. An analysis of household attributes in addition to expenditure that 'explain' why specific households are identified as poor by the local community is also presented. A final section draws some conclusions.

Decentralization in India

India has a strong democratic tradition at the national level as well as a longstanding concern with the establishment of democratic governance at the local level. Article 40 of the Indian Constitution drafted at Independence mandates that "the State shall take steps to organize village panchayats and endow them with such power and authority, as may be necessary to enable them to function as units of self-government". The article was included in part IV of the Constitution as a Directive Principle, requiring state governments to enact the appropriate legislation.

The subsequent evolution of *Panchayati* Raj in India – uneven in implementation with considerable diversity across states – has owed as much to the traditional heritage of local democracy, as to the need to create appropriate institutions to facilitate attempts at economic development at local levels. The resultant conflicts between the 'self-governing' and the 'agency' function of the *Panchayati Raj* continue to this day, (Srivastava 2002).

The 73rd Constitutional Amendment, adopted in 1993, required all state governments to set up a three-tier structure of *Panchayati Raj* and take steps, which will ultimately enable them to assume the role of self-governing institutions. The Amendment leaves little choice for the states in terms of the basic structure of *Panchayati Raj* though some operational flexibility exists in how states frame suitable laws for regulating these

[5] Decentralization in the Indian context is best viewed as devolution, where sub-national units of government are either created or strengthened in terms of political, administrative and fiscal power; see Johnson (2003).

bodies.[6] The three tiers of *Panchayati Raj* comprise the *Gram Panchayat* at the village level, an intermediate tier *(Panchayat Samiti)* and *Zilla Parishad* at the district level. Underlying this structure are *Gram Sabhas* (village councils), consisting of all registered voters in the area of the *Gram Panchayat*. Members of the *Panchayati* at all three tiers are to be directly elected, though Chairpersons at the intermediate and district levels have to be elected indirectly by and from amongst the elected members.[7] A term of five years is provided for every *Panchayat* unless it is dissolved, in which case fresh elections will be held in accordance with state regulatory laws.

The basic unit of the *Panchayati Raj*, the *Gram Sabha* or village council is expected to make recommendations and suggestions on the development programs, community welfare programs, finances, and identification of beneficiaries of government programs. The *Gram Panchayat* is supposed to give "due consideration" to these recommendations (Srivastava 2001). The *Gram Panchayat* is to be chaired by the *Pradhan* (or chairperson**)** or and in their absence by the *up-Pradhan* (deputy). In many states the Pradhan is elected indirectly by and amongst the members of the *Gram Panchayat*, but in Uttar Pradesh the *Pradhan* is elected directly by the village electorate Each *Panchayat* area is divided into wards from which members are directly elected, consistent with reservations or quotas specified by state legislation.

Amongst other important provisions of the Amendment, quotas are reserved for Scheduled Caste (SC) and Scheduled Tribe (ST) members at the three levels of village government in proportion to their population in the area. One third of the reserved seats, to be filled by direct election, are reserved for women belonging to the SC or ST category. At least a third of all seats are to be reserved for women (including those in SC and ST categories). These seats may be allotted by rotation to different constituencies in a Panchayat. In addition, the Amendment also specifies a quota of one third of the total number of offices of Chairpersons (*Pradhans)* in the *Panchayats* at each level reserved for women, as well as quotas for Chairpersons from SC or ST categories. Villages subject to these quotas are to be chosen by rotation in different election cycles. This is an important provision to address concerns of capture of local government by the local elite and its effect on targeting is an issue that we examine below.

Identification of the Poor

A critical prerequisite to targeting any poverty program is the proper identification of the poor. Targeting often relies on different indirect mechanisms such as incentive-based program design, geographical or indicator targeting (Weiss 2005). In India, administrative identification of households into those below or above a poverty line is a common mechanism in the design of almost all poverty-targeted schemes. The practical implementation of administrative targeting has been considerably short of ideal, with the result households get classified as below the poverty line (BPL) when they are not, and many that are actually BPL are missed out (Srivastava 2005).

[6] States have some flexibility in provisions regarding powers and functions of the *Gram Sabha*, representation of Chairpersons of lower bodies in the higher ones, mode of election of Chairperson of the *Gram Panchayat*, powers and responsibilities of different Panchayat bodies, and mode of funding the *Panchayats*. (NIRD 2001).

[7] Mode of election of Chairperson of the *Gram Panchayat* has been left to the states.

In addition to institutional weaknesses that may lead to corruption of the administrative identification process, there are also structural limits to how efficient administrative targeting can be in the Indian context, where there exist large numbers of poor concentrated densely around any poverty line that may be drawn. Reliable data on income or expenditure are both difficult and expensive to collect and would perhaps, on their own, lead to far more people below the poverty line than the state wants to provide resources for. Consequently, the administrative directions for identifying the poor have also incorporated a multitude of criteria (such as ownership of a motorcycle, television or land, for example) for excluding households from the poor list. The result is outcomes that are as ad hoc as is the implementation process. Although our survey provides data on households having BPL cards (that is classified by the government as Below Poverty Line), this information is not used here due to the implementation limitations noted, which are perhaps particularly severe in Uttar Pradesh.[8] Instead, in the analysis below, households are classified as poor if their per capita monthly expenditure falls below the nominal poverty line suggested by the Planning Commission for 1999-2000 adjusted to 2005 prices. This poverty line equals a per capita monthly expenditure of Rs. 364 (or roughly USD 8.4 per month, slightly above US 0.25 cents a day at current nominal exchange rates).[9]

Another way to identify the poor is to use the distribution of the monthly expenditure per capita and look at the bottom one or two quintiles. For example, a relatively better off village may have few households below the official poverty line, and yet may be implementing targeted poverty programs, directed at the poorest households within the village. Since the official poverty line, at roughly a quarter of a US dollar per day is extremely low, households marginally above it nonetheless may be poor, and may benefit from targeted programs if the targeting is done well. So, a second measure of identifying the poor in the analysis below is the quintile measure, or the Q1(2) measure, defining households in the bottom (two) quintile(s) as poor.

Finally, our primary survey data for this analysis provide another mechanism for identifying the poorest of the poor, based on a fairly straightforward hypothesis. At an intuitive level, it is appealing to think villages are small, self-contained communities with frequent interactions amongst members in different market and non-market activities (that is high levels of some types of social capital). The resulting information flows should ensure that villagers themselves at least would clearly know who amongst them are (at least relatively) poor and who are not. Consequently, each of the households interviewed in every village was asked to name the five poorest households in the village to their knowledge. Names given by each household were subsequently collated for the village as a whole and 20 households selected that had the highest frequency of citations as amongst the poorest in the village.

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[8] From the sample only 9.9 percent households had BPL cards, about the same as those who had no cards (8 percent), while 3.8 percent had cards for the Antodyaya scheme (a scheme providing substantially subsidized food for the poorest of the poor) and 77 percent had cards denoting above poverty line status. If we use the expenditure per month per capita poverty line, roughly 40 percent of those with BPL cards would qualify as poor, while the others would be above the poverty line. The same proportion also applies to households with Antodyaya cards. Amongst the households with 'above poverty line' cards, 31 percent have expenditures below the poverty line.

[9] The Planning Commission's suggested poverty line in 1999-2000 for rural UP was a monthly per capita expenditure of Rs. 336.9, which for our analysis is adjusted to 2005 prices using the Consumer Price Index for Agricultural Laborers.

The selected twenty households were, thus, winners of a village-wide 'popularity contest' for who is the poorest? As noted above this approach, of ranking the poorest households in the village differs from other group information ratings based on participatory appraisal approaches, such as the use of 'index cards.'

In sum, therefore, three indicators are used for identifying the poor: the BPL (those with monthly expenditure per capita below the official poverty line), the Q1 (those in the bottom quintile) and the PC (winners of the who-is-the-poorest 'Popularity Contest'). In addition, the second indicator can be extended by looking at the lowest two quintiles instead of looking only at the lowest one.

Using the official poverty line and the monthly expenditure data from the survey, the headcount ratio of poverty in Fatehpur district is about one third (32.9 percent). It is difficult to assess this measure for two reasons. First, the latest official figures on poverty in India are under considerable dispute due to a change in methodology of the last survey, resulting in lack of comparability with earlier surveys. Second, data specific to Fatehpur is not available from the national household expenditure survey. Poverty for UP as a whole in 1993, measured by the head count ratio, was 44 percent, with the bulk of the population living in central and eastern UP (Kozel and Parker 2005)). According to the latest estimates of poverty in UP, the head count has declined by roughly ten percentage points between 1993 and 2003, which is consistent with the survey estimate for 2005 for Fatehpur.

Given a poverty head count ratio of 33 percent, the relationship between the BPL and Q1 indicators of poverty is straightforward.[10] All households in the bottom quintile are BPL and a fraction of those in the second quintile from the bottom are also BPL; there are no BPL households in the higher quintiles. It is thus more interesting to look at the relationship of the PC poor (that is those identified as poor by their fellow villagers) to the households identified as poor through expenditure comparisons with the poverty line or by quintile. This is documented in table10.1 below.

Table 10.1 Distribution of 'Popularity Contest' poor to below poverty line poor and different expenditure quintiles.

(percentages)

BPL	Q1	Q2	Q3	Q4	Q5
40.3	27.3	21.8	19.7	14.4	16.8

Source: survey

Nearly 60 percent of the PC poor has per capita monthly expenditures above the poverty line; only 40.3 percent fall below the expenditure poverty line. Similarly, amongst the households listed as the poorest according to the village respondents, only 27.3 percent are in the bottom quintile of the sample, and another 21.8 percent are in the second quintile. But slightly more than half the PC poor is in the three highest expenditure quintiles.

Clearly, therefore, the rankings by village households appear inconsistent with the other measures of poverty based on the household survey expenditure data. However, this inconsistency seems related to monthly expenditures, not household wealth. This is apparent in table 10.2 below. The top panel in the table shows average monthly

[10] This discussion is based on the whole sample; obviously, there are variations within individual villages.

expenditure for poor and non-poor households, using the PC and BPL criteria respectively, as well as for the five quintiles. The average expenditure per capita for the PC poor, at Rs. 415.8, is less than that for PC non-poor households (Rs. 452.2), but much higher than households deemed poor due to their expenditure being below the poverty line. It is also considerably higher than the average expenditure of the two lowest quintiles, and almost equal to the average of households in the third quintile. The picture is reversed though in the bottom two panels showing the average land holdings of households and the value of land and livestock owned by them. PC poor households have the lowest land on average (1.2 acres) compared to BPL poor households (2.3 acres) and even households in the lowest quintile (2.2 acres). Similarly, if we look at the value of the land, which adjusts for land quality, and that of livestock owned, PC poor households have an average wealth of Rs. 44,693, compared to more than Rs. 80,000 for the BPL poor and households in the poorest quintile.

Table 10.2:Expenditure and Wealth of Poor and non-Poor Households, by the three poverty indicators

Average Per Capita Monthly Expenditure *(Rupees)*							
Category	PC	BPL	Q1	Q2	Q3	Q4	Q5
Poor	415.8	302.6	275.2	355.5	414.8	487.2	686.1
Non-Poor[a]	452.2	516.2					
Land owned *(Acres)*							
Poor	1.2	2.3	2.2	2.7	3.6	5.0	6.3
Non-Poor[a]	4.5	4.8					
Value of land and livestock owned *(Rupees)*							
Poor	44693	86713	82772	105867	132664	202432	239279
Non-Poor[a]	175435	185723					

Source: Survey

Note a) Non-poor by alternatively the 'popularity contest' and 'poverty line' criteria.

Thus, PC rankings are inconsistent with expenditure rankings, but consistent with relative ranking by household assets. Whether ranking by assets should be given greater weight than ranking by expenditure is not obvious, but will affect how we interpret the distribution and incidence of benefits amongst the poor. It is not clear why participatory ranking should be consistent with wealth rankings but not expenditure rankings, and the reasons will need to be explored further in subsequent research. For now, it is worth noting that unlike some of the other studies noted earlier, the participatory ranking using the methodology adopted in this study generates results that are consistent with survey-based wealth rankings.

Effectiveness of Poverty Targeting

A perfectly targeted poverty scheme would channel all benefits to those who are poor and none to others. This of course is impossible in real life for various practical reasons; there are also theoretical arguments that may make it preferable to seek less than perfect targeting (Weiss 2005). Given less than perfect targeting, a key question of interest is how many of the beneficiaries are poor?

With the three definitions of the poor noted above, naturally this question will have three answers.
Let us accordingly define:

Measure 1 – Core Targeting: Percent of beneficiaries belonging to the poorest households in the village identified by the villagers themeselves, or the PC poor.[11]
Measure 2 – Administrative Targeting: Percent of beneficiaries that are poor by the administrative definition, namely with expenditures below the official poverty line (BPL indicator of poverty).
Measure 3 – Quintile Targeting: Percent of beneficiaries that are defined as poor by virtue of belonging to the bottom one or the bottom two expenditure quintiles.

Given the second and third measures are both expenditure-based and that the head count rate of poverty is around 33 percent, BPL households would be spread over the bottom two quintiles, implying Q1 households alone would be fewer than all BPL households. All beneficiary households that fall in Q1 would also fall in BPL, so Measure 2 has to be higher than Measure 3 (if confined to Q1 households). But what about Measure 1, based on the villagers' own ranking of households? If this ranking were purely expenditure-based, the 20 poorest households would roughly overlap with the bottom expenditure quintile (if a total of 100 households are interviewed in the village), so Measure 1 would be comparable to Measure 3 and less than Measure 2.

On the other hand, the ranking by the village households is not purely an income or expenditure based norm of poverty, but seems to incorporate other factors. We have already seen it matches asset rankings and it could also include factors such as income vulnerability and social liabilities. In this case, the PC poor would represent the core poor based upon a much broader norm of poverty than the typical expenditure norm. From the perspective of village households, a well-targeted poverty scheme would certainly cover all these households at the least, and only then spill over to other households in the village. At an extreme, if there were only 20 beneficiaries of the scheme in the village, a well-targeted scheme (in terms of local preferences) would cover an extremely high percentage of these households. Since there are roughly hundred households sampled in each village, and the percentage of SGRY beneficiaries for the entire sample is only 21.9 percent, the total number of beneficiaries in each village would be distributed around this mean. Consequently, if a higher percentage of these beneficiaries are PC poor, even if they are not below the official poverty line, this

[11] Note that the nomenclature (core targeting) of Measure 1 above assumes that identification by villagers of poorest households – the PC poor – actually is a valid poverty ranking, so that the inconsistency with expenditure rankings has no weight relative to that of wealth ranking. Otherwise, with the PC poor scattered across the upper three expenditure quintiles, it would be difficult to think of them as the core poor, the poorest in the village.

would be consistent with good core targeting in terms of village preferences (albeit not in terms of BPL-based targeting).

The three measures of targeting efficiency are summarized in the upper panel of Table 10.3, for the sample population as well as for the different sub-categories based on the type of village reservation of Chairs. We include this latter comparison to assess whether this reform of local government has had an impact on targeting effectiveness. Overall, almost half the beneficiaries are PC poor, which would suggest that the scheme is reasonably well targeted towards the core poor as perceived by the villagers. In contrast, if we consider M3, the poorest of the poor using expenditure criteria, only 25.8 percent of the beneficiaries are poor, implying much lower efficiency of targeting. Indeed, as evident from comparing the third and fourth rows, as many beneficiaries are in Q1 as in Q2.

If we take the poor as the bottom two quintiles roughly 50% of beneficiaries are poor, which is the same as for the poor as defined by the villagers' themselves (the PC poor). However as 100 households are interviewed in each village the bottom two quintiles by definition will be twice as numerous as the PC poor (who are the poorest 20 households in each village). Hence it will be much easier to achieve 50% of beneficiaries in the target group by the quintile poverty definition, so this result does not undermine the conclusion that targeting appears more effective if we consider the villagers' own perception of who is poor.

Table 10.3: Different measures of targeting efficiency – SGRY

Measure	All	SC	SCL	OBC	OBCL	UR	L	Women	Men
% of beneficiaries PC poor (M1)	50.6	53.6	45.6	41.0	45.5	61.2	42.5	44.4	52.7
% of beneficiaries BPL (M2)	37.0	39.6	39.7	31.6	38.2	39.6	37.1	38.2	36.6
% of beneficiaries:Q1 (M3)	25.8	28.6	27.5	27.7	21.0	26.5	17.5	21.3	27.2
% of beneficiaries:Q1 or Q2	49.0	49.1	50.9	53.5	42.9	48.6	41.8	44.6	50.5
% of PC poor benefiting	63.3	65.1	63.1	62.6	58.8	67.4	52.0	57.2	65.3
% of BPL benefiting	28.6	28.5	30.6	32.6	26.2	27.7	21.2	25.4	29.6

Source: survey

Note: M1 is Measure 1, M2 is Measure 2, M3 is Measure 3.

All covers all villages; SC covers villages reserved for a Scheduled Caste Chairperson; SCL covers villages reserved for a Scheduled Caste Female Chairperson; OBC covers villages reserved for Other Backward Caste Chairperson; OBCL covers villages reserved for Other Backward Caste Female Chairperson; UR covers villages with no reservation for Chairperson; L covers villages reserved for Female Chairperson: Women and Men cover villages with female and male Chairpersons respectively.

If we define the core poor using expenditure norms (Measures 2 and 3), SGRY expenditures are poorly targeted with between 26% and 37% of beneficiaries in the key target groups. On the other hand, if the core poor is defined as those identified by villagers, they are better targeted with about half of beneficiaries in the target group. This is further underlined in the bottom panel that shows the proportion of poor benefiting from SGRY according to the two criteria: PC versus BPL poor. Nearly two-thirds (63.3 percent) of the PC poor are beneficiaries of the SGRY scheme, and less than a third (28.6 percent) of the far more numerous BPL poor benefit.

Thus, despite not being the poorest by expenditure criterion, the poorest households identified by the village respondents are better targeted by the poverty schemes. Hence if one looks at the distribution of benefits by expenditure criteria, the schemes are relatively more poorly targeted than they are according to the local preferences.

We can also use the survey data and quantify targeting errors of undercoverage (Type I) and leakage (Type II) errors for the poverty schemes.[12] Denote by N the population of a given village, and let B denote the total number of beneficiaries; both B and N are numbers of households and $B \leq N$.

Let α denote the proportion of village population that is poor (by any definition), $0 \leq \alpha \leq 1$. Then $N(1-\alpha)$ households are above the poverty line.

Let γ be the proportion of scheme beneficiaries that are poor, $0 \leq \gamma \leq 1$, implying $(1-\gamma)B$ households are beneficiaries, but not poor.

Then Type I error is defined as the percentage of the population that is eligible (poor) but does not receive scheme benefits (false negative)

$$T1 = (\alpha N - \gamma B)/N$$

or

$$T1 = \alpha - \gamma \delta$$

where $\delta = (B/N)$ is the beneficiary ratio for the scheme in the village.

Similarly Type II error is defined as the percentage of the population that is ineligible yet benefiting (false positive)

$$T2 = (1 - \gamma) B/ N$$

or

$$T2 = (1 - \gamma) \delta$$

Ceteris paribus, T1 increases as the proportion of poor in the village (α) increases and decreases as proportion of scheme beneficiaries that are poor (γ) increases or if δ increases due to higher number of beneficiaries B. T2, in contrast does not depend on the poverty rate α and increases with higher number of scheme beneficiaries as long as $\gamma < 1$.

If the poor are defined as the poorest 20 households, α would be $(0.2/N)*100$, and γ would refer to the percentage of beneficiaries that are among the poorest 20 households. Similarly, for the poor defined as those in the bottom two expenditure quintiles, α would be 40 percent for all villages and γ the proportion of beneficiaries falling in these two quintiles. (Type I and II errors are not reported for the 20 poorest PC households, since they would not be very meaningful).

[12] These Type I and II errors are relatively narrow in scope, being based only on participation or non-participation in specific schemes. More refined measures would also include the amount of benefits obtained by the participants (for example 20 days employment versus 2 days).

Table 10.4: Type I and Type II Errors –SGRY
(percentages)

Error	All	SC	SCL	OBC	OBCL	UR	L	Women	Men
T1BPL	22.2	21.9	22.3	18.3	23.9	22.8	29.2	25.6	21.0
T2BPL	14.3	14.5	14.3	18.8	13.5	12.3	9.6	12.2	15.0
	36.5	***36.5***	***36.6***	***37.1***	***37.5***	***35.2***	***38.8***	***37.7***	***36.1***
T1Q12	28.3	28.4	28.0	25.2	30.6	29.5	30.7	30.0	27.8
T2Q12	11.1	12.4	11.6	12.5	12.9	9.9	8.5	10.8	11.2
	39.4	***40.8***	***39.6***	***37.7***	***43.4***	***39.4***	***39.2***	***40.8***	***39.0***

Source: survey
Notes: T1 BPL and T2 BPL are Type 1 and Type 2 errors, respectively, for the below-poverty -line definition; T1 Q12 and T2 Q12 are Type 1 and Type 2 errors, respectively, for bottom two quintiles poverty definition.
Headings are as for table 10.3.

Overall, slightly more than a fifth (22.2 percent) of sample population are the poor (by the BPL definition) who are excluded from the benefits of the SGRY, while 14.3 percent of households who are not below the poverty line benefit from the scheme. It is difficult to assess these magnitudes in relative terms due to lack of comparable data. In principle, a high type I error may simply reflect inadequate resources relative to the needs of the population. But this would make even more egregious the 14.3 percent leakage of resources to the households that do not belong to the poor category. The sum of the two errors, that is the percentage of the sample population that is eligible but not benefiting and the percentage benefiting without eligibility is more than a third (36.5 percent). There is not much variation in this total across different sub-categories, although there are variations within the individual errors. For example, villages reserved for a lady Chairperson have the lowest Type II error but the highest Type I error. This finding is statistically significant, since regressing these targeting errors on dummies for various reservation categories by village reveals only the dummy for female reservation of Chairperson is significant, negatively for Type II error and positively for Type I. Hence having a reserved female Pradhan is associated with less leakage of benefits to the ineligible, but with more omission of the eligible.[13]

If we look at a wider targeting, in terms of the entire bottom two expenditure quintiles of households, the Type I errors are higher as would be expected while Type II errors are lower, but the decline is less than the increase in type I error. The result is a higher total of the two errors. There is no significant variation in this across reservation categories

Household Attributes of the PC Poor

The identification of households as poor by the village residents themselves is positively correlated with per capita expenditure, but only weakly so, and has a much closer relationship with assets. This is suggestive that households residing in the village rely

[13] For example, this would be consistent with a situation where women *Pradhans* provided better targeting of the poor, but were in villages that received funds that were small relative to the needs of the village, as given by the number of poor households.

on factors other than mere income or expenditure in assessing the poverty of resident households. What are these other factors? To explore this further, Table 10.5 presents probit estimates of the likelihood of a household being classified as PC poor. The explanatory variables include per capita land ownership and a dummy for per capita expenditure, which equals 1.0 if the household per capita monthly expenditure falls in the poorest expenditure quintile. As would be expected, both are quantitatively and statistically significant, though land ownership has a much higher impact on the likelihood of being PC poor than expenditure per capita. In addition, the other variables include a range of occupation dummies that take a value of 1.0 for household relying primarily on agricultural labor, non-agricultural labor, family occupation (defined as a traditional specialist family activity) services typically handed down within family over various generations, such as barber, clothes washing, etc.), and other services. Separate dummies are also used for membership of a Scheduled Caste and for female-headed households. Educational attainment of head of household (in terms of years of schooling) is also included.[14]

Even after accounting for per capita expenditure and land ownership, almost all the other variables are significant in determining the likelihood of a household being viewed as poor by other village households. More interestingly, the relative impact of some of these variables is as large as that of per capita landholding. Thus, compared to the residual occupations, households relying on labor income as main source are more likely to be perceived as PC poor, as are households belonging to a Scheduled Caste. Educational attainment of the head of household is also statistically negatively related to the likelihood of a household being PC poor, while female-headed households are more likely to be perceived as PC poor at about the 12 percent level of significance.

Thus, the perception of the poor as reflected in the rankings by village households is dependent on the levels of per capita household expenditure and landholding, and also on the main source of household income (occupation), caste, educational attainment and sex of the head of the household. Households viewed as poor according to these variables are better targeted by the employment scheme than households defined as poor using only the expenditure norms.

Table 10.5: Household Attributes of the PC Poor

Variable	
Per capita land	-0.083*
	(0.011)
Poorest quintile	0.027*
	(0.012)
Agricultural labor	0.089*
	(0.021)
Non-farm labor	0.102*
	(0.015)

[14]In terms of the occupational dummies, the residual category is households that are engaged in farming but not as laborers for others, those with a government job or a job in the private sector with a salary, and households engaged in business.

Family occupation	0.080**
	(0.071)
Services and others	0.046
	(0.035)
Scheduled caste	0.091*
	(0.011)
Education of head	-0.006*
	(0.001)
Female head	0.032**
	(0.023)
Pseudo-R	12.71

Note: Figures in parentheses are standard errors.
*:Significant at 5 percent or less
**:Significant at 15 percent or less

Conclusions

Poor implementation and poor outcomes have been defining characteristics of targeted poverty programs in India and elsewhere over several decades. This is typically attributed to institutional constraints, poor governance and endemic corruption. The in-depth analysis of one food for work program in this chapter provides a detailed and rigorous assessment of targeting errors. Roughly half of beneficiaries of the SGRY are in the bottom two quintiles (see table 10. 3). Nonetheless, despite being a food-for-work program that by its nature is aimed at the very poor, the leakage implied by the fact that the other 50% of beneficiaries are in the top three quintiles is a significantly high proportion for what is meant to be a narrowly targeted scheme, with an element of self-targeting.

The perception of benefit leakage and beneficiary exclusion are dependent on how we define who is poor. The analysis has shown that this is not an easy task and, in particular, local preferences may differ from outside preferences. In that context, greater decentralization and autonomy for delivery of targeted poverty programs may create outcomes different from those intended. Whether or not these outcomes are worse would depend on whose preference is used for assessment.

There is also the question of whether one takes a poverty line estimate or focuses only on the bottom one or two quintiles. Calculating targeting errors as a proportion of sampled households and using the adjusted official poverty line the average type I error for the SGRY was 22.2 percent and for type II was 14.3 percent. Taking a wider poverty definition based on the bottom two quintiles the figures are 28.3 per cent and 11.1 per cent, respectively. However, defining the poor in terms of local community preferences throws a more benign light on effectiveness of poverty targeting, at least in relative terms. If we define the core poor using expenditure norms, SGRY expenditures are poorly targeted with between 26% and 37% of beneficiaries in the key target groups. On the other hand, if the core poor is defined as those identified by villagers, they are better targeted with about half of beneficiaries in the target group. This is further underlined by

comparing the proportion of poor benefiting from SGRY according to the two criteria: PC versus BPL poor. Nearly two-thirds (63.3 percent) of the PC poor are beneficiaries of the SGRY scheme, and less than a third (28.6 percent) of the far more numerous BPL poor benefit.

The perception of who is poor according to the village residents is related strongly to several factors, including the officially used household per capita expenditure, but also to per capita land holding, occupation, caste, educational attainment of the head of household and whether or not the household is headed by a female. The questions raised by the analysis presented in this chapter is: does relatively better targeting based on a wider definition of poverty over-ride poor performance based on narrower criteria such as income or expenditure? Does a wider definition of poverty by local community tend to vitiate a 'top-down' but narrower definition imposed by the government or a donor? Is this trade-off in implementation to be viewed as a positive development, reflecting the benefits of decentralized delivery of targeted poverty programs, in terms of 'ownership' of programs by the local community? Or is this a reflection of a dilution of government or donor objectives and a weakness in the design of targeted poverty programs? We do not claim to have answered these questions, but our survey results have provided a detailed insight into the targeting effectiveness of a particular scheme and have clearly highlighted the potential clash between official and community perceptions of poverty.

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Appendix: Sampling Design and Data Description

A primary survey the Governance, Institutions and Targeting Survey was undertaken for the purpose of this study in Fatehpur district of Uttar Pradesh (UP). Fatehpur is located between two major cities of Uttar Pradesh, Kanpur, an industrial center, and Allahabad, historically important for religious reasons, being the confluence of two important rivers, the Ganges and the Yamuna. The district marks the beginning of a transition from the relatively prosperous western half of the state to the much poorer eastern half. According to the 2001 Census, the district has a population of 2.3 million, which makes it rank 34th in population size amongst the 70 districts of the state. Overall literacy in Fatehpur is 59.7 percent, with a male literacy rate of 73 percent compared with 44.6 percent female literacy. The comparable percentage figures for the state are a bit lower: 57.4 percent overall, 70.2 percent for men and 43 percent for women.

The survey was undertaken between November 2004 and January 2005, covered 48 villages in the district and had three main components.[15]

- A *household survey* in each village targeting approximately 100 households. Total households covered by this survey equals 5081, implying an average of about 106 households per village.
- A *GP survey* covering six members of the Gram Panchayat (but excluding the Pradhan) in each village. A total of 288 GP members were interviewed.
- *Poorest household survey*, which identified and interviewed the poorest 20 households in each village, as identified by the villagers.

The household survey obtained social, demographic and economic data relating to the village households, while the GP survey focused on assessing governance indicators in each village. The poorest household survey collected data from the poorest households that was also collected from the other households but, in addition, sought details of their participation (if any) in two targeted poverty schemes: SGRY and IAY (here our analysis focuses only on the former).

A *three-stage sampling design* was adopted using the *probability proportional to sizemethod*. Fatehpur district is divided into 13 development blocks, of which four blocks were chosen at the first stage. The second stage consisted of selection of villages, and household selection constituted the last stage.

The selection of villages at the second stage used stratification sampling basing the strata on the reservation of the Pradhan post into six categories: Scheduled Caste (SC), Scheduled Caste Female (SCL), Other Backward Castes (OBC), Other Backward Castes Female (OBCL), Ladies (L), and Unreserved (UR). A central objective of these reservations is to ensure the empowerment of marginalized and poor groups in village governance. To ensure adequate coverage of villages in all categories, all villages of four selected blocks were classified into six categories or strata (SC, SCL, OBC, OBCL, UR, L) according to the criteria of the reservation of the *Pradhan* post. Subsequently

[15] More precisely, the survey covered 48 Gram Panchayats; a GP can have more than one village included in it. Further, a village may have more than one clusters of settlement (purva or majre), which may be physically distant. For convenience, village and Gram Panchayat are used interchangeably in this chapter.

eight villages were selected from each stratum through sampling with probability proportional to size cumulative total method. In all, the sample has forty-eight (6x8) villages from four blocks of the district. The distribution of villages, due to the use of this method, shows fewer villages from the smaller block (Teliyani) relative to the other three blocks; by design, half the sampled villages have a woman as a Pradhan, (9.A.1). As evident in the first two rows of the table, the percentage of villages in the district and those in the four selected blocks taken together are similar across the six strata used in the sampling design.

Table A.9.1: Distribution of villages by reservation status, Fatehpur, Selected Blocks and Sample

% of villages in given category	Reservation Status						
	SC	SCL	OBC	OBCL	UR	L	
Fatehpur	13	8	20	11	33	16	
Selected Blocks	13	8	21	12	33	14	
Block name	*Number of villages in sample by reservation status*						Total
Teliyani	2	2	1	1	1	2	9
Bhitaura	2	3	2	3	2	2	14
Khajua	2	2	2	2	3	2	13
Bijaipur	2	1	3	2	2	2	12
Total	8	8	8	8	8	8	48

At the third stage, households were selected in each village using systematic random sampling. A preliminary meeting with the Pradhan and other elders in the villages was used to estimate the total number of households and to draw a village map of infrastructure. About 90 households were targeted initially, and a detailed household questionnaire was canvassed from each. The questionnaire included at the end a request for the names of the poorest 5 households in the village according to the respondent. These names were collated after all household interviews were finished, and ranked in terms of the frequency of citation as poor. The twenty households with the highest frequency of citations were identified as the poorest and another questionnaire was canvassed from them focusing on their participation in government schemes and contractual details of participation. In case the poor household had not already been interviewed in the initial stage, the household questionnaire was also canvassed.

In addition, the survey also sought to obtain primary data from different government sources. These included data on actual allocation of funds to different villages, which was obtained from both the local Panchayat officials as well as from the district administration. The village administration also provided data on allocation of funds to different expenditures, in terms of roads, water and sanitation though the data were relatively incomplete in several cases. The district electoral authorities also provided data related to previous elections to the village government, held in 2000, as well as their records of transfers to villages under scheme considered here, namely, the SGRY.

The survey team in each selected village discussed with the villagers (including the Pradhan) and drew a map of all existing infrastructure in the village, which was classified as old or new relative to the term of the existing GP, and the new ones were further classified into repairs versus new assets. The village maps also located the investments undertaken in terms of the Pradhan's community, the SC community area, general area and so forth. Finally, at the end of the survey in each village, typically taking 5-7 days of interaction with villagers at all levels, the field teams provided detailed notes on governance and politics in the village.