

POVERTY DEFINITION, MAPPING, AND MEASUREMENT

I. MEASURING POVERTY

1. Because headcount measures are routinely used to estimate the poverty focus of a loan, it is first necessary to establish the poverty line against which the headcount will be made. Poverty line options are likely to include the following.

A. National Poverty Lines

2. Virtually all countries have developed national poverty lines to identify all citizens whose income falls below a level necessary to maintain a minimum acceptable standard of living. As a prioritizing tool, many countries have established both an absolute¹ and a relative poverty line.² Reliable expenditure surveys are normally only derived periodically from a national household expenditure survey or *living standards measurement survey*. For this reason, the local-level data required for a specific project or program might either be out of date or nonexistent. Then it may be necessary to use a suitable proxy that is locally accepted as a reasonable indicator of poverty (see below).

B. International Poverty Line

3. Because different countries define and measure poverty in a variety of ways, local expenditure levels are frequently converted to an international scale for comparing. On this basis, the *dollar-a-day*³ measure has become the most commonly accepted measure of absolute poverty. However, this measure is at odds with the significantly lower national poverty lines used by individual countries such as the People's Republic of China (PRC) and India. The measure also suffers from not distinguishing between rural and urban cost and consumption patterns.

C. Non-financial Poverty Indicators

4. Poverty and poverty lines are not restricted to financial definitions. ADB defines poverty as “a deprivation of essential assets and opportunities to which every human is entitled. Everyone should have access to basic education and primary health services. Poor households have the right to sustain themselves by their labor and to be reasonably rewarded, as well as to have some protection from external shocks. Beyond income and basic services, individuals and societies are also poor—and tend to remain so—if they are not empowered to participate in making the decisions that shape their lives” (ADB 1999).

5. In line with this definition, projects are classified as poverty interventions wherever their primary objective is the pursuit of *basic* health or education or is based on gender goals as specified in *International Development Targets for Poverty Reduction*.

D. Proxies

6. In line with the above definitions, most loan designs will seek to identify poverty according to headcount criteria, i.e., the percentage of people in a given area who fall below an income- or

¹ Absolute poverty is the degree of poverty below which the minimal requirements for survival are not being met. This is a fixed measure in terms of a minimum calorific requirement plus essential nonfood components. While absolute poverty is often used interchangeably with extreme poverty, the meaning of the latter may vary, depending on local interpretations or calculations.

² Relative poverty is normally defined as a fixed proportion above the absolute poverty line or, as in developed countries, as a proportion of average income per capita. Being a relative measure, it can differ across countries or over time.

³ \$1 per person per day measured at 1985 purchasing power parity prices. The accuracy of this figure remains dependent on the regular conduct of Living Standards Measurement Surveys and on regular updating of the [International \(Prices\) Comparison Program](#).

expenditure-based poverty line. In many project areas, however, income data may be unavailable, out of date, or of dubious quality. In such cases, a suitable proxy, e.g., rural landless laborers, may be used. In choosing a proxy, cultural and country or area expertise is required in the application of these variables and the assessment of their gender implications. More specific proxies can be developed through group discussion among knowledgeable individuals from the cultures, countries, or areas concerned. Creation of a composite proxy, using a number of weighted variables, will further increase targeting precision.

Table 2.1.1: Variables to Consider in Creating a Composite Proxy

Geography	<ul style="list-style-type: none"> • Frequency of natural disasters or <ul style="list-style-type: none"> - annual economic losses due to natural disasters - number of houses destroyed by natural disaster • Mountain-dwelling population or <ul style="list-style-type: none"> - above the ___ meter contour line (e.g., 3,000 m) • Population within the ___ millimeter isohyet (e.g., 200 mm) • Settlements most remote from local administrative center (e.g., 20 percent)
Social	<ul style="list-style-type: none"> • Settlement clusters of known poorer ethnic or other communities (e.g., caste, herder, or refugee groups)
Land Use	<ul style="list-style-type: none"> • Security of tenure • Upland and unirrigated proportion • Cropping pattern • Average per capita landholding • Annual rate of deforestation • Cultivation of slopes over 25 degrees
Service Provision	<ul style="list-style-type: none"> • Settlements lacking drinking water • Settlements without road access • Settlements requiring relief grain supplies • Settlements without technically qualified service providers • Settlements without grain-processing facilities
Enterprise	<ul style="list-style-type: none"> • Seasonal unemployment rate and retrenched workers • Landless laborers per 1,000 farmers or agricultural workers • Annual out-migration rate • Average informal debt service ratio
Health	<ul style="list-style-type: none"> • Areas of endemic disease (e.g., iodine deficiency, malaria, tuberculosis) • Mortality from diarrhea and acute respiratory tract infection in children under five years old • Absence of a primary health care service • Levels of child malnutrition
Housing	<ul style="list-style-type: none"> • Percentage of informal structures • Homelessness per 1,000 people
Education	<ul style="list-style-type: none"> • Absence of primary school • Female and male primary school attendance rate • Female and male primary school dropout rate
Household	<ul style="list-style-type: none"> • Roofing materials (purchased or raw material) • Drinking water source (connected or carried) • Months of grain shortfall • Lighting source (manufactured or raw material) • Heating source (purchased or collected) • Cash savings (savings accounts) • Number of households not connected to electricity or water supply

II. POVERTY MAPPING

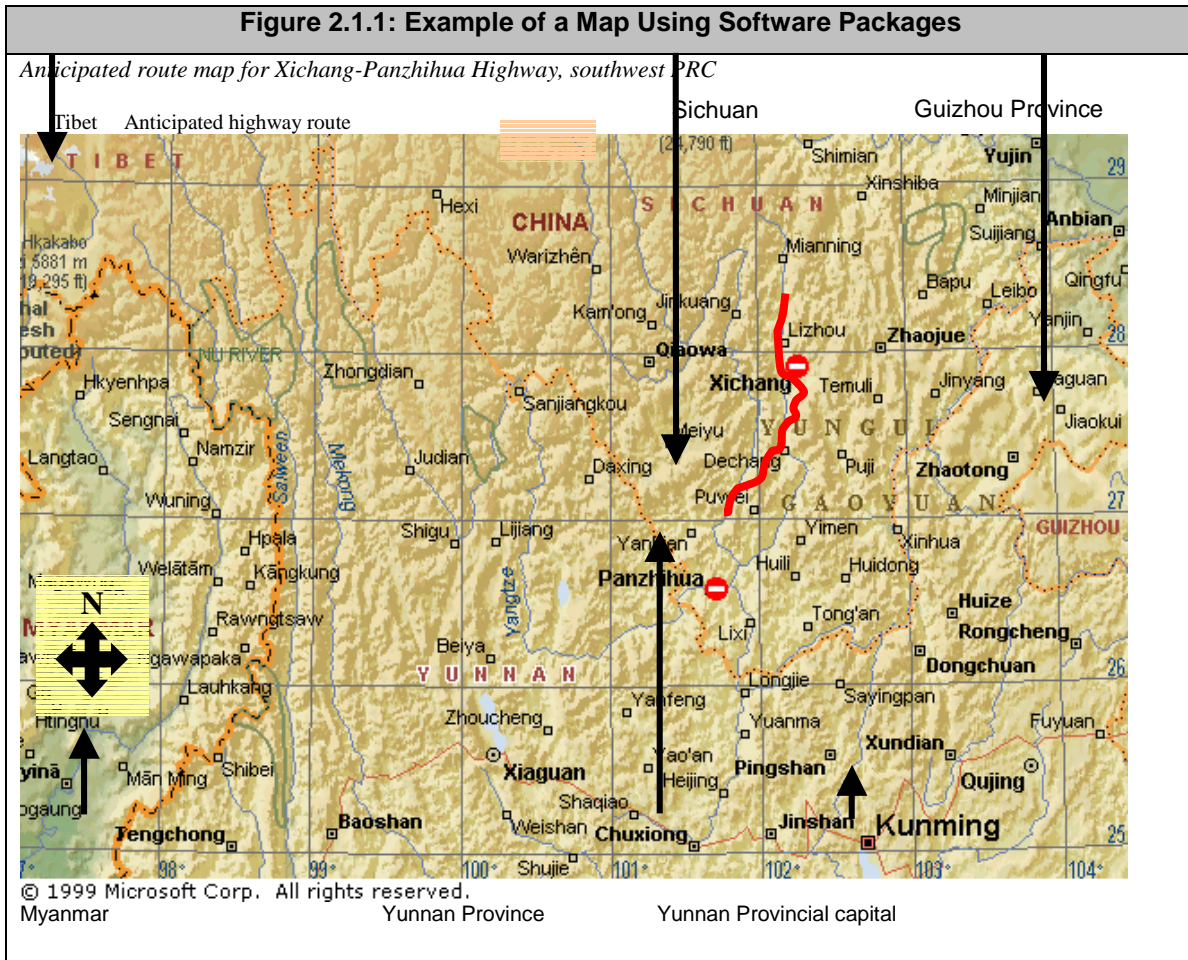
A. Guides for Making Poverty Maps

7. Existing administrative or topographic base maps can be used to depict the distribution and characteristics of poverty perceived by key informants or groups of knowledgeable specialists. This process can be conducted at the provincial, county, or city levels using the following topics as guides for discussion and sketching:

- (i) areas that frequently experience natural disasters, or officially designated disaster-prone areas (note any explanations given);
- (ii) regions of poverty (seek an explanation for the basis of categorization and any supporting statistical evidence);
- (iii) any officially designated poor counties;
- (iv) areas of concentrated settlement by indigenous peoples or ethnic minorities;
- (v) areas of concentrated settlement by vulnerable groups such as the unemployed, refugees, the elderly (noting any explanations given);
- (vi) areas of strong in- and out-migration, and reasons;
- (vii) proposed project locations, anticipated routes, etc.; and
- (viii) spatial policies for regional development, e.g., zoning for the development of particular resources, economic activities, etc.

8. ADB avails ADB-approved national maps. Computer map packages such as Microsoft Encarta Atlas 2000 can be used to create final versions of sketch maps for use in reports.

Figure 2.1.1: Example of a Map Using Software Packages



B. Poverty Maps

9. Poverty maps provide a geographic picture of poverty. They stratify poverty data from different topographic or administrative areas and then allocate patterns on a base map so that spatial differences become more visible (Figures 2.1.2 and 2.1.3).

10. Poverty maps are useful for obtaining general overviews and for undertaking or confirming general targeting. However, they also disguise local differences by averaging data across large areas. For most project design purposes, poverty maps should use data from the county level or lower, which may be available from agency databases, statistical yearbooks, censuses, etc.

11. Critical judgment is also required to ensure that the chosen data set best meets the needs of map users. World Bank research has indicated that different measures of rural poverty can produce broadly different poverty maps (Figures 2.1.2 and 2.1.3).

Figure 2.1.2: Incidence of Rural Poverty in the PRC



Source: State Statistical Bureau data for the percentage of households below the absolute poverty line in 1989.

Figure 2.1.3: Incidence of Rural Poverty in the PRC



Source: Ministry of Agriculture data for the percentage of rural people residing in lower-income counties in 1989.

12. Computer-generated maps based on poverty statistics may be available from ADB or the developing member country.⁴

III. POVERTY AREA RANKING

13. *Indicative poverty mapping* provides a rough and rapid group process for differentiating between poverty levels in different areas. *Area ranking* provides an alternate method where more time and statistical information are available for group consideration. It requires that key measures of poverty be identified and supporting annual data provided from each administrative unit in the area under consideration. These data are presented to the group for validation and comment in their original form (Table 2.1.2). Figures within each column are then weighted and converted to a ranked value. Row tallies indicate the overall ranking of composite poverty variables and can be used for identifying and prioritizing site visit locations, for example (Table 2.1.3).

⁴ Provincial- and county-level maps of the PRC, for example, are available from ADB. Provincial- and district-level maps of Indonesia, and municipal and provincial maps of the Philippines can be generated from the data dictionary and base maps of the 1999 Indonesia/Philippine Statistical Mapping Project.

Table 2.1.2: Sample of Raw Data for Area Ranking

Town Number	Villages	Villages Lacking Water	Households	Population	Ethnic Minority	Poor Households	Especially Poor Households	APCI ^a	Distance		Births Attended	Total Births
									Km	Hrs		
1	16	12	3,570	13,001	5,018	958	584	645	30	0.8	230	240
2	7	7	2,516	11,396	4,219	826	343	632	21	0.6	245	260
3	11	10	2,979	10,659	4,310	287	71	631	16	1	210	250
4	6	6	1,257	4,689	2,455	299	63	497	30	2	126	180
5	8	8	2,776	9,955	4,865	273	197	610	17	1	214	250

^a Average per capita net annual income

Table 2.1.3: Ranking Matrix

Town Number	Villages	Villages Lacking Water	Households	Population	Poor Households		APCI ^a	Distance		Ratio of Births Attended	Total Rank
					Poor (%)	No.		Km	Hrs		
1	1	1									
2	4	4									
3	2	2									
4	5	5									
5	3	3									

Note: Only shaded columns were used in calculating the overall ranking for this example.

^a Average per capita net annual income.

PRO-POOR GROWTH
(forthcoming)

POVERTY IMPACT ASSESSMENT FOR PROJECTS
(forthcoming)

POVERTY IMPACT ASSESSMENT FOR PROGRAM OR POLICY-BASED LOANS

1. According to the Staff Instruction issued by the President on 28 March 1995, concerned staff must prepare, for each Program Loan (PL) to be approved, an assessment of the impact of PL reforms on the poor. A summary of this assessment must be included in the Poverty Social Analysis Appendix of the draft RRP for the MRM.

2. A preliminary assessment should be made of the nature and magnitude of the likely impact on the poor of each of the reforms proposed under the program loan (both tranche conditions and supplementary program measures). This assessment should form the basis for selection of the conditionalities and measures (program loan reforms) that are expected to have the most significant impact on the poor.

3. Poverty impact tables should be prepared, following the procedure detailed below, for each of the selected main conditionalities and measures.

4. For each selected conditionality or measure, a list of crucial variables through which the reforms are expected to have an impact on the poor should be identified (see Table 2.4.1 of this appendix for a sample list of crucial variables).

5. The impact of the selected program loan conditionalities should be analyzed in terms of four main channels through which the supported policy changes can affect the poor:

- (i) the demand for unskilled labor;
- (ii) net public transfers (transfers minus taxes) to the poor;
- (iii) the prices of goods bought and sold by the poor; and
- (iv) access to public (e.g., education, health) and rationed (e.g., agricultural inputs, credit) goods and services.

6. The effects of the program loan on the poor through any of the above channels should be grouped into four categories: direct effects, indirect effects, macroeconomic effects, and effects on the nonpoor who become poor as a consequence of the policy changes. The direct effects of program loan reforms on the poor are the short-run results of compliance with conditionalities in the specific markets affected by the program loan (e.g., if consumer subsidies are removed, the direct impact on the poor is through changes in the prices of the affected products, and is commensurate with their consumption of the goods). The indirect impact on the poor is the second-round (or medium-run) effect of reforms (e.g., the removal of fertilizer subsidy may lead to reduced fertilizer use, resulting in lower demand for farm labor, lower agricultural output, and higher agricultural prices). The macroeconomic effects are the economy-wide consequences of policy changes. Finally, the impact on the nonpoor refers to those effects of program loan conditionalities that, while strictly speaking not affecting the poor, curtail (temporarily or permanently) the earning capacity of some individuals (e.g., retrenchment of public enterprise workers).

7. Steps in paras. 3, 4, and 5 will lead to the preparation of a set of tables, one for each major policy condition that, prima facie, is expected to have a significant impact on the poor. Each table (see Table 2.4.2 of this appendix for a sample) will contain the following:

- (i) a "four-by-four" matrix showing the impact of specific program loan policies on the poor for each channel and category of effects, as detailed in paras. 4 and 5 above;

- (ii) an assessment of whether the net effect on the poor will be positive or negative, large or small;
- (iii) a statement of the assumptions underlying the table; and
- (iv) a brief narrative explaining and justifying the findings.

8. The poverty impact assessment will provide a narrative assessment of the impact of the program loan on the poor. Both positive and adverse effects of program loans on the poor should be highlighted. In addition to the effect of individual measures, an assessment of the overall impact should be provided. In cases where a significant overall negative effect on the poor is found, compensatory or mitigating measures should be proposed.

Table 2.4.1: Sample List of Crucial Variables

Program Loan Type	Agriculture Sector Program Loan	Type of Information
Policy	Elimination of fertilizer subsidy	
Channel	Prices	
Variables	Scarcity of fertilizer at subsidized price Prices of crops to which fertilizer was, is, or is planned to be applied Expected use of savings from subsidy abolition: deficit reduction or Increased alternative spending? If increased spending, who Benefits? Magnitude of subsidy World price/domestic price of fertilizer	c a, b b a a
Channel	Labor market	
	Fertilizer intensity by farm size Production effects of fertilizer use for different products Employment elasticity of fertilizer use	a, m, b b, m b, m
Note:	Information generally can be derived from the following: a = actual, derived from current data b = before and after comparisons c = counterfactual, use of economic logic = multicountry comparison, experience of other countries	

**Table 2.4.2: Sample Table
Impact of Removal of Fertilizer Subsidy on the Poor**

Channel	CASE 1				CASE 2			
	TYPE OF EFFECT							
	Direct	Indirect	Macro	Non poor	Direct	Indirect	Macro	Non poor
Labor market	Na	Same fertilizer use = no effect	na	na	Na	Less fertilizer use = less labor	Minor	na
Prices	Higher prices for some, lower for poor	Same use + more efficiency = more production	Lower deficit = less inflation	na	Higher prices for poor	Less use + More efficiency = less production (minor)	Less production = more inflation (minor)	na
Access for poor	Increase	Increase d use by smallholder farmers = increased production	Reduced rural poverty	na	Less	Less use = less production (minor)	Increase d rural poverty	na
Transfers	Na	na	na	na	Na	na	na	na
TOTAL NET EFFECT								
Significant: Pro-poor: better access to fertilizer, lower inflation, increased agricultural production					Small: Anti-poor: fertilizer more expensive for them, higher inflation, less agricultural production			
ASSUMPTIONS ABOUT CRUCIAL VARIABLES								
(i) Fertilizer is scarce at the subsidized price. (ii) The government funds saved are used to reduce the deficit. (iii) Subsidy lowers the price to some consumers. (iv) No effect on transfers/taxes.					(i) Fertilizer is not scarce at the subsidized price. (ii) The government funds saved are used to pay for more security costs. (iii) Subsidy lowers the price to some consumers. (iv) No effect on transfers/taxes:			
BRIEF NARRATIVE								

^a na = not applicable or no effect

^b minor = small effect