

Annex L

Rural Poverty: Technical Notes

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Technical Note L.1 Impact and Illustrative Indicators for Monitoring Rural Poverty and Hunger

Table L.1. Eradicate Extreme Rural Poverty and Hunger Millennium Development Goals (MDG #1)

<i>Impact Indicator</i>	<i>Outcome indicator</i>	<i>Program objective/entry points</i>
<p>Rural poverty</p> <ul style="list-style-type: none"> • Share in rural areas with <1\$US • Rural poverty rate • Severity and depth • Inequality: land/income Gini coefficient or share owned or cultivated by income level <p>Rural malnutrition indicators</p> <ul style="list-style-type: none"> • Prevalence of underweight children (height/age) (weight for age) • Proportion of population below minimum level of dietary consumption 	<p>Agricultural production (for basic food/cash crops):</p> <ul style="list-style-type: none"> • Yields (rain-fed/irrigated/region) • Production by region and season • Milk production trends • Livestock mortality rates <p>Farm profitability:</p> <ul style="list-style-type: none"> • Marketing transaction costs by region • Output price trends by region and season • Input price trends by region and season • Basic food prices by region and season <p>Non-farm income:</p> <ul style="list-style-type: none"> • Wage rate for laborer by region and income decile • Share of income from non-farm labor by income decile • Sector of employment by income decile <p>Household food security indicators:</p> <ul style="list-style-type: none"> • Per capita household food production by income decile • Amount of dietary diversity (different items consumed) by income decile • # of missed meals reported/HH by income decile <p>[Education outcomes in rural areas]</p> <p>[Rural health services outcomes in rural areas]</p>	<p>Increase agricultural production and reduce production risk, especially of poor farmers and women, by improving:</p> <ul style="list-style-type: none"> • Land security, access to land and efficiency of land markets • Access to quality irrigation • Availability and use of inputs & extension • Availability of credit and savings • Soil conservation practices • Livestock health programs, including vaccinations • [Education and health outcomes] <p>Increase farm profitability particularly in poor areas by improving:</p> <ul style="list-style-type: none"> • Access to paved roads and communications • Availability of transportation • Incentives for trade (trade liberalization) • Regulatory framework to promote local markets • Access to market information, as appropriate <p>Improve household food security through:</p> <ul style="list-style-type: none"> • Targeted social protection programs in rural areas • Food stock management initiatives in rural areas • Child nutrition programs • Improved agricultural production and marketing <p>Develop non-farm income by improving/changing:</p> <ul style="list-style-type: none"> • [Education and health outcomes] • Access to paved roads and transportation • Taxes/subsidies on capital inputs and purchases • Access to electricity and potable water <p>[Improve rural health/education outcomes by increasing access to and quality of health/education services in rural areas]</p>

Table L.2. Illustrative Indicators for Monitoring Rural Poverty

<i>Program objective</i>	<i>Final output indicator</i>	<i>Intermediate output indicator</i>	<i>Inputs</i>			
Health and education assets						
Universal coverage of primary education in rural areas	<ul style="list-style-type: none"> Gross enrollment in rural areas Net enrollment rates in rural areas Gender-disaggregated enrollment rates 	<ul style="list-style-type: none"> Number of primary school facilities per 10,000 rural households Number of teachers per school age population in rural areas Number of pupils per classroom Classroom construction in rural areas Rural adapted curriculum 	<ul style="list-style-type: none"> Public expenditures allocated to construct and maintain rural schools Public expenditures for incentives to teachers to serve in rural areas Develop community committees to promote parental involvement in schools 			
				Reduce child mortality	<ul style="list-style-type: none"> Percentage of rural children immunized Percentage of rural households with access to health care within 5-10 kms of home Anthropometric indicators for boys and girls (stunting and wasting) 	<ul style="list-style-type: none"> Doctors per 10,000 rural residents Health extension workers per 10,000 rural residents by gender of health worker Number of visits made by rural health workers per year per 10,000 Access to potable water (see below) Maternal health education programs
Reduce HIV/AIDS, malaria and other diseases in rural areas	<ul style="list-style-type: none"> Increase in use of condoms Awareness of HIV transmission mechanisms among rural households Percentage of sex workers tested and counseled by public health officials Percentage of pregnant women screened for HIV infection Percentage of infected rural individuals treated with HIV suppressant drugs Awareness of malaria prevention mechanisms among rural households Adoption of mosquito-nets by rural households 	<ul style="list-style-type: none"> Expenditures allocated to rural areas to increase AIDS awareness and prevention, to enable testing for presence of HIV infection, and to train health care professionals in HIV/AIDS issues Expenditures to drain swamps and public health campaigns to prevent malaria and other diseases 				

(Table continues on the following page.)

Table L.2. Illustrative Indicators for Monitoring Rural Poverty (continued)

<i>Program objective</i>	<i>Final output indicator</i>	<i>Intermediate output indicator</i>	<i>Inputs</i>
	Natural assets		
Improve land security and access to land, particularly for the poor, and strengthen efficiency of rural land markets	<ul style="list-style-type: none"> • Percentage of individual and collective land that is titled by region • Percentage of land disputes resolved • Percentage of beneficiaries of land dispute services satisfied with transparency of dispute resolution mechanisms 	<ul style="list-style-type: none"> • Strengthen efficiency of rural land markets • Implementation of land titling program: number of titles issued by region • Availability of maps, cadastral and registry information • Length of time to resolve disputes 	<ul style="list-style-type: none"> • Public expenditures on land titling, maintenance of cadastre and registry, and dispute resolution mechanisms
Access to land	<ul style="list-style-type: none"> • Average landholdings/cultivated by income level (irrigated/rain-fed) • Distribution of land by income decile/land Gini coefficient • Percentage of households by income level renting in/out land 	<ul style="list-style-type: none"> • Implementation of land reform program: number of parcels redistributed • Laws allowing for female inheritance of land 	<ul style="list-style-type: none"> • Public expenditures for land reform (e.g., market negotiated land reforms)
Market efficiency	<ul style="list-style-type: none"> • Percentage of registry users satisfied with services 	<ul style="list-style-type: none"> • Tax rates on farm land • Legal framework allows for land transactions 	<ul style="list-style-type: none"> • Public expenditures on registry, dissemination of legal framework
Improve access to quality irrigation for the poor	<ul style="list-style-type: none"> • Percentage of smallholders (disaggregated by gender and region) with different types of irrigation (tubewells, hand pumps, irrigation canals, etc.) 	<ul style="list-style-type: none"> • Price charged for water use disaggregated by size of land holdings • Off-farm and on-farm irrigation infrastructure provided 	<ul style="list-style-type: none"> • Public expenditures to modernize existing irrigation, expand coverage and develop new irrigation
Improved pro-poor management of water resources	<ul style="list-style-type: none"> • Percentage of smallholders (disaggregated by gender) involved in water use and allocation decisions • Percentage of smallholders belonging to WUAs satisfied with the transparency and services provided by their group 	<ul style="list-style-type: none"> • Technical assistance for WUAs • Regulatory framework allowing for water markets and participatory water management 	<ul style="list-style-type: none"> • Expenditures to improve management of water resources at the national and local levels

Table L.2. Illustrative Indicators for Monitoring Rural Poverty (continued)

<i>Program objective</i>	<i>Final output indicator</i>	<i>Intermediate output indicator</i>	<i>Inputs</i>
Natural assets (continued)			
Environmental sustainability	<ul style="list-style-type: none"> Loss in soil fertility Extent of soil erosion Extent of deforestation 	<ul style="list-style-type: none"> Percentage of households engaging in soil conservation techniques Number of extension workers/farmer trained in soil conservation Regulatory framework to protect forests Technical assistance programs for community forestry 	<ul style="list-style-type: none"> Expenditures for soil conservation programs Expenditures for technical assistance
Knowledge assets			
Availability and use of inputs and extension			
Expanded input use	<ul style="list-style-type: none"> Percentage of households using fertilizer, pesticides, and improved seeds 	<ul style="list-style-type: none"> Number of importers of agro-chemicals Number of nationwide distributors of agro-chemicals 	<ul style="list-style-type: none"> Expenditures to promote input use
Improved agricultural practices	<ul style="list-style-type: none"> Rates of adoption of new practices and technologies disaggregated by gender, farm size, and region Percent change in costs and labor requirements as a result of new technology practices Percentage of households reporting satisfaction with extension service delivery, disaggregated by gender and farm size 	<ul style="list-style-type: none"> Regulatory framework to promote seed development Number of farmers trained, contacted, or visited, disaggregated by gender and farm size Number of technical assistance vouchers distributed Number of farm households/size in rural areas visited per extension agent Number of new seed varieties released Number of research grants distributed to farmers associations 	<ul style="list-style-type: none"> Expenditures in extension and research programs (implemented either by public or private sector)
Access to price information	<ul style="list-style-type: none"> Percentage of households with access to regular, reliable price information 	<ul style="list-style-type: none"> National functioning market information system that collects price information at wholesale and consumer points 	<ul style="list-style-type: none"> Expenditures on market information systems

(Table continues on the following page.)

Table L.2. Illustrative Indicators for Monitoring Rural Poverty (continued)

<i>Program objective</i>	<i>Final output indicator</i>	<i>Intermediate output indicator</i>	<i>Inputs</i>
Financial assets			
Availability of microfinance services			
Improve supply of and demand for microfinance services in rural areas	<ul style="list-style-type: none"> Percentage of households in rural areas with credit, savings, and grants, disaggregated by gender and ethnicity Amount of credit and grants obtained by households in rural areas, disaggregated by gender and ethnicity 	<ul style="list-style-type: none"> Number and type of financial institutions offering credit and other financial services in rural areas Number and type of financial institutions offering income generating and community development grants in rural areas Number of microfinance institutions receiving technical assistance 	<ul style="list-style-type: none"> Expenditures to provide institutional strengthening to microfinance institutions
Improve livestock production and access to sector products, particularly for the poor			
Increase access to livestock	<ul style="list-style-type: none"> Livestock owned by rural households disaggregated by gender, ethnicity, region and land assets Livestock mortality rates (by species and region) Seasonal, regional and annual variation in livestock prices Share of livestock marketed seasonally by household 	<ul style="list-style-type: none"> Number of animals vaccinated in a rural area Number of livestock covered by veterinarian/paraprofessional in a rural area Early warning system for herders in drought prone regions Development of land access programs/laws that establish common grazing areas for herds 	<ul style="list-style-type: none"> Investments in early warning systems Investments in public health for livestock sector
Physical assets			
Access to paved roads	<ul style="list-style-type: none"> Percentage of households with access to paved roads Percentage of households within half day's transportation of rural market Percentage of households with all season motorized transportation access 	<ul style="list-style-type: none"> Operationalization of program for community based maintenance of rural roads Km of rural roads constructed Km of rural roads rehabilitated 	<ul style="list-style-type: none"> Expenditures for rural road construction and maintenance
Access to communications	<ul style="list-style-type: none"> Percentage of households in rural areas with public and private access to radio, telephone, and internet and post office Percentage of successful calls made in rural areas Percentage of households reporting satisfaction with service in rural areas 	<ul style="list-style-type: none"> Number of rural lines/users/subscribers added in rural areas number of staff per 1000 connections in rural areas 	<ul style="list-style-type: none"> Expenditures on rural communications networks

Table L.2. Illustrative Indicators for Monitoring Rural Poverty (continued)

<i>Program objective</i>	<i>Final output indicator</i>	<i>Intermediate output indicator</i>	<i>Inputs</i>
	Physical assets (continued)		
Potable water and sewage	<ul style="list-style-type: none"> Reduction in time spent collecting water Reduction in incidence of water-borne diseases Percentage of households reporting satisfaction with water and sanitation service delivery Percentage of households with water shortages during the dry season Percentage of rural households with private or public access to safe water within 30 meters of residence Percentage of rural households with sewage hook-ups for dry season 	<ul style="list-style-type: none"> Rural drinking water investment and maintenance strategy 	<ul style="list-style-type: none"> Rural potable water program expenditures
Electricity	<ul style="list-style-type: none"> Percentage of households in rural areas with electricity hook-up Percentage of household expenditures on different forms of energy (electricity, LPG, kerosene, etc.) disaggregated by urban/rural and by income decile 	<ul style="list-style-type: none"> Establishment of rural electrification fund 	<ul style="list-style-type: none"> Expenditures allocated to rural electrification
	Social capital assets		
Improved access to government resources and programs and greater voice in local and national decision making	<ul style="list-style-type: none"> Percentage of households reporting satisfaction with government in rural areas, disaggregated by gender and ethnicity Percentage of households reporting satisfaction with local government in rural areas disaggregated by gender and ethnicity 	<ul style="list-style-type: none"> Percentage of households participating in producers and marketing organizations Percentage of households involved in secondary organizations Number of community organizations receiving institutional strengthening grants and technical assistance 	<ul style="list-style-type: none"> Expenditures on dissemination of legal framework, budgetary framework and expenditures, and institutional strengthening for local organizations
Risk management/food security			
Social protection programs in rural areas	<ul style="list-style-type: none"> Number of jobs provided through public works programs (in person weeks) Number of targeted income transfers provided to rural households 	<ul style="list-style-type: none"> Existence of rural safety net programs, rural cash transfers, public works 	<ul style="list-style-type: none"> Public expenditures on public works, cash transfer and targeted food subsidy programs
Food stock management programs in rural areas	<ul style="list-style-type: none"> Number of community food stocks in place 	<ul style="list-style-type: none"> Number of reports on food stocks, price movements and agro-climatic indicators available during the agricultural seasons 	<ul style="list-style-type: none"> Expenditures food stocks

Technical Note L.2 Policy Mechanisms for Improving Water Use Efficiency: Do the Poor Benefit?

Policies establish the environment within which irrigation and drainage is conducted. Three policy mechanisms commonly promoted as improving water use efficiency—namely water pricing, water markets, and water user associations—can have important implications for the well-being of the rural poor. This section evaluates the effect of these policies on poverty.

Water pricing and irrigation water allocation. The extent to which water pricing methods can affect income redistribution is rather limited (basically because of political opposition by powerful stakeholders). Farm income disparities stem primarily from such factors as farm size and location and soil quality, but not from water prices. When farm productivity/profitability is scale-neutral, the income distribution profile under most water pricing methods is proportional to the initial farm size distribution profile. Therefore, to affect income inequality, a water pricing method should include certain forms of water quantity restrictions (Tsur and Dinar 1995, 1997). Attention can be given to poor/small farmers by designing a block tariff that has its first payment level adjusted to poor/small farmers' farm size and ability to pay. This can work by either assigning a given water quota at a reduced price for certain farm sizes, or where a given quantity (subsistence) of water is sold at a reduced price.

Do water markets benefit the poor? Markets for water are expected to improve resource use efficiency by moving water from relatively less to more profitable uses. Does this benefit the poor? Experience suggests that the poverty reduction outcome depends on well established legal and institutional systems that can protect the poor and the small producers. Their ability to compete with large farmers in the market or to realize their water rights in the face of pressure on the part of big producers is limited. In many countries facing severe water stress, institutional capacity is often weak both in regulatory terms and in equity terms (Webb and Iskandarni 1998). The result—as in Yemen—is that wealthy farmers over-exploit the resource (in the Yemeni case, through groundwater extraction), which causes short-term inequities for the non-wealthy farmers and inter-generational inequities for all farmers. Informal water markets offer unreliable access to the poor, but do offer the potential to negotiate group purchases of water for the poor. In Pakistan, informal groundwater market systems prevail and more established farmers are likely to own tubewells and smaller farmers are likely to purchase water from water resellers at higher prices. The unreliability of access limits productivity of those who depend on others' wells, because the market consists of a small number of sellers holding monopolistic power (Meinzen-Dick 1998). However, analyzing data from informal water markets in India (Saleth 1998) suggests that buyers as a group (if they can organize and speak in one voice and strategy) gain many times more than sellers because of their cooperative negotiating power.

User participation through water user associations. Giving voice to the poor and local autonomy in resource management are two important dimensions of the Bank's new approach to poverty, which can be addressed through institutionalizing participatory management of irrigation systems. Experience from both Bank-funded projects and from the many bilateral and non-governmental organizations involved in irrigation development point to the potential benefits to the poor from introducing participatory management strategies. The typical approach entails fundamental restructuring of the public sector irrigation agency to allow institutional "space" for farmers to become involved in management. Establishing legally recognized water user associations (WUAs) with a mandate for operating, maintaining, modernizing, and expanding irrigation infrastructure is a long-term commitment by both government and the farmers themselves. These two dimensions of participation reforms—the agency level and the WUA level—are of equal importance and must be pursued simultaneously and synergistically.

The benefits to the poor from WUAs require continuous monitoring and re-assessment as circumstances change. Indeed, the challenges of establishing WUAs are just the beginning; the ensuing second-generation challenges can be expected to include financial sustainability, equity, and technical dimensions of operations and maintenance (see Groenfeldt and Svendsen 2000). Because of the close correlation of poverty and political marginalization, the status of poor farmers (as well as landless users of irrigation water for domestic and other purposes) needs to be closely monitored.

Technical Note L.3 Assessing and Monitoring Rural Financial Markets

Assessing

Developing a strategy and policy for the financial sector as part of a national poverty reduction strategy requires an understanding of macro-contextual factors, the institutional factors underpinning the financial sector and the client base for microfinance products. A major constraint to preparing sustainable rural microfinance strategies is the lack of information on the penetration of rural financial markets and on the quality of rural microfinance institutions.

- **Contextual factors.** Particularly relevant here are a sound understanding of the macroeconomic framework, financial sector policies, the legal and supervisory environment both for provision of financial services to the rural poor and for microenterprises, and the overall characteristics of the financial sector.
- **Institutional profile of the financial sector.** An understanding of the type of rural financial institutions, their financial health, their respective client base, and the deposit, loan, and other services they offer is essential to designing a financial sector strategy in support of poverty reduction. This could also include an assessment of the transaction costs of financial intermediation in rural areas and with poorer clients.
- **Clients and the poor.** To develop a rural microfinance strategy, it is important to understand the poor's current informal and formal access to financial services, the constraints to accessing these services, and the overall demand for financial services. Understanding the nature of how the poor are limited in opportunity or subject to insecurity also assists in tailoring interventions to assist them, which in some cases may be through public action in areas outside the financial sector, as discussed above.

Monitoring

The suggested output and outcome indicators are weighted towards the penetration of rural financial markets, while the indicators on RMFI outreach and sustainability are useful for evaluating specific institutions. Evaluating the impact of the activities of RMFIs on rural poverty is less straightforward, as indicated in box L.1.

Output indicators

- Number and type of financial institutions offering credit and other financial services in poor regions.
- Number and type of institutions offering income generating and community development grants in poor regions, and the breakdown by gender and ethnicity of the grants (if relevant).
- Number and type of institutions offering technical assistance programs in poor areas to develop basic skills of economic and social intermediation (if relevant).
- Number of financial providers with an average outstanding loan size of less than 50% of GDP/capita (or another more relevant percentage figure).
- Trends in the portfolio size and number of active clients of rural microfinance institutions.

Outcome indicators

- The share of households with access to credit, savings, and grants by region, poverty status, gender and ethnicity.
- Change in percentage of rural population in target areas below a certain income or poverty line.

Box L.1. Measuring Impact of Microfinance on Clients: The ImpAct program

“Improving the Impact of Microfinance on Poverty,” or ImpAct, is an action research program funded by the Ford Foundation and implemented by three UK universities, with CGAP participation. The aim is to improve the quality of microfinance services and their impact on poverty through strengthening the development of impact-assessment systems. The program seeks to promote impact-assessment systems that build on their priorities and agendas, provide the information needed for internal decision-making, and satisfy the demands of external stakeholders.

RMFI outreach

Breadth:

- Number of active clients (could differentiate by savers and borrowers).
- Outstanding loan portfolio (US\$).
- Total balance of voluntary savings accounts (US\$).

Depth:

- Does the RMFI offer products especially designed for poor clients?
- Percent of the RMFI clientele below the national poverty line, versus the percent of the national (or regional) population below the national poverty line.
- Average outstanding loan size as a percentage of GDP/capita.

RMFI sustainability

- Operational self-sufficiency (operating income divided by total operating expenses).
- Subsidy dependence index (increase in interest rate that would be required to offset the value of subsidies on costs and funds).
- Return on assets (operating profit divided by average total assets).
- Adjusted return on assets (same as for return on assets, but with expenses adjusted for inflation, subsidized cost of funds, and in-kind donations).
- Loan loss rate (amount written off that year divided by the approximate average outstanding loan portfolio for the year).
- Portfolio-at-risk delinquency rate (total value of loans with payments more than 30 days late divided by the total outstanding loan portfolio).

RMFI impact

Measuring client impact is costly, and for many RMFIs this is undertaken only as a subsidized activity in response to donor or government requests. More useful to an RMFI are client feedback on its financial services and information on client financial service needs, which facilitate adaptation of services to better fit the needs of the clientele. If RMFIs are required to provide client impact data, care should be taken that the RMFI staff is not diverted from its core activities to a degree that may harm the financial performance of the institution.

Moreover, unless an RMFI is using a recognized impact methodology together with reasonable baseline data, impact data may not be reliable. Proxy indicators include average loan size as a percentage of GDP/capita (for poverty impact), delinquency (productive use of loans), retention rates (to indicate that the loan was useful and suited to the client's needs), and growth in number of active clients (to indicate demand). These are imperfect, particularly if there is limited competition among RMFIs and a limited product range available to clients, but are more cost effective for RMFIs chasing sustainability.

Technical Note L.4 Assessing Social Capital

EXERCISE: Identifying Social Capital in Action

Briefly describe manifestations of social capital in your local context.

1. Give an example of social capital that has a positive impact on your community.
2. Give an example of social capital that has a negative impact on your community.

For each example, is this a case of “bonding,” “bridging” or “linking” social capital? Why?

EXERCISE: Social Capital in Your Community

Above we considered examples of the impact of social capital on economic development. Do any similar examples exist in your community? If so, please list two.

If not, might any of the examples considered be possible in your community? If yes, please list one and why it could work. If no, please explain why not.

EXERCISE: Based on the sample questions above, draft two questions you might ask people in your community to assess how well they cooperate.

Given the way you have worded each question, are these indicators intended to be used during quantitative or qualitative method assessments?

Sample questions from the forthcoming World Bank Integrated Questionnaire for the Measurement of Social Capital:

1. Of all the groups to which members of your household belong, which two are the most important to your household?
2. What are the main benefits of membership in these groups?
3. When there is a decision to be made in the group, how is it usually made?
4. Does this group interact much with other groups inside or outside the community?
5. Do you think that in this village or neighborhood people generally trust each other in matters of lending and borrowing?
6. If a community project benefits many in the community but not everyone, do you think all the neighbors would contribute time or money to the project?
7. Does this community undertake communal activities in which people come together to do some work for the benefit of the community?
8. Are there any activities in which certain groups are not allowed to participate? If so, please list the activity and the groups. Why are they not allowed to participate?
9. Is this neighborhood peaceful or is there violence? Has this changed over time compared with five years ago?
10. To what extent do local government and local leaders take into account concerns voiced by you and people like you when they make decisions that affect you?