



Insights from Poverty Maps for Development and Food Relief Program Targeting: An Application to Malawi

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Efforts to reduce the incidence of poverty are usually based on regional and national survey data, but such data tend to overlook pockets of poverty within regions. Geographical targeting could be an efficient method of identifying the poor if appropriate local data could be acquired. In recent years, the development of small-area poverty mapping has provided a new way to estimate poverty levels in populations as small as 1,000 households. The government of Malawi, which is committed to both alleviating poverty and addressing food scarcity when it arises, has at its disposal a poverty map of Malawi that provides estimates of household welfare and poverty disaggregated down to the level of local government wards (the subdistrict level). This poverty map is potentially important for geographical targeting public works employment programs, such as community-level food-for-work and food-for-assets projects, to the poorest areas of the country.

This study aims to assess the value of poverty mapping to public-works projects undertaken by the World Food Programme (WFP) with the government of Malawi in its Food for Assets and Development (FFASD) program. First, to evaluate poverty targeting efficiency, the incidence of poverty in FFASD project areas is compared to that of areas without such projects. The poverty targeting efficiency of the FFASD program is also compared with that of a larger public works program, the Malawi Social Action Fund (MASAF). Second, to identify poor households that are vulnerable to crises brought on by food deficits, WFP and the government of Malawi use a vulnerability analysis and mapping methodology (VAM) to guide government's response to emerging famines. This paper appraises the usefulness of the Malawi poverty map as a component of the VAM methodology for targeting food relief and development programs.

The Poverty Mapping Technique

The poverty map was developed by applying data obtained in the 1998 national census of Malawi's 2.2 million households to models of household welfare derived from the 1997–98 Malawi Integrated Household Survey (IHS) data. The IHS was designed to assess poverty at the district or larger scale, not at the local level that is possible with the poverty map. Twenty-three separate models, made up of household variables and some local area

characteristics were developed—one for each stratum of the household survey. These were then combined with the census data to predict the welfare of all the households in the census.

Using Poverty Maps for Efficient Targeting

To evaluate how poverty maps might be used for geographical targeting, this study undertakes a retrospective assessment of the targeting on the basis of local aggregate poverty criteria of the two programs—the FFASD of WFP–Malawi and the larger MASAF Public Works Programme.

The WFP–Malawi targeting is based on VAM exercises that consider food insecurity, poverty, malnutrition, school enrollment, HIV/AIDS prevalence, and incidence of natural disasters. A committee weighs these factors to determine which areas will be eligible for program activities such as rural road building and afforestation in exchange for food. Only about half the districts have WFP projects. The MASAF program uses similar criteria to site its projects, but with somewhat less attention to food security than the other program. It is found in all districts of Malawi.

To assess targeting efficiency, projects were identified by the local government wards in which they are found. The poverty headcount and severity of poverty levels of those wards, as established through the poverty map, are used to determine whether the projects are sited in the wards within districts where poverty is most prevalent and severe. At the broad, national scale, both programs do reasonably well. Wards with FFASD projects have a poverty headcount 6.6 percent

higher and a severity of poverty rating 0.034 higher than wards with no projects. In wards with MASAF projects, the poverty headcount is 3.9 percent higher and the severity of poverty rating 0.016 higher. Within districts, results are mixed for both projects. Targeting is generally good, although in many cases projects are located in poor—but not the poorest—wards. This is probably because poverty is not the sole

criteria used to determine where projects will be implemented.

Overall, had the poverty map been available when the projects were sited, it likely would have improved targeting efficiency somewhat, although the sites selected using the poverty map would not have differed greatly from those in

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which the projects were implemented. Once the poverty map is available, however, it makes geographical targeting somewhat easier and certainly more objective than before.

Using Poverty Maps with Vulnerability Assessment

How valuable are poverty maps to vulnerability assessments? WFP uses a standard analytical framework for its VAM analyses, which helps determine the scope of food security emergencies in many countries. In Malawi, a VAM committee, made up of government, donor, and NGO representatives, is charged with monitoring the food situation and determining the level of vulnerability across the country at the end of each cropping period. A poverty map potentially is useful in this work because it integrates much of the household and community information already used by the VAM committee, using it to predict welfare at quite local levels.

Assuming that poverty and vulnerability to food insecurity are closely related, poverty maps are useful in determining where vulnerable households can be found and how many households may be affected. Moreover, the ward-level poverty map of Malawi permits VAM assessments to be made at a smaller geographical scale than previously available. Poverty maps are easy to understand. However, they are not easy to construct. Therefore, it is not feasible to develop poverty maps just to assess vulnerability, but where they exist, they should be exploited.

Finally, the limits of poverty maps must be considered. First, while the poverty map helps locate the vulnerable, it does not answer questions about the causes of poverty and food insecurity, which populations are most at risk, or what actions should be taken in a given area. Second, the poverty map is

static, while vulnerability is dynamic. The map provides baseline information on the coping ability of a population, while an assessment of current vulnerability requires different data (timely agroecological, crop production, and market information, for example). Poverty maps contribute by establishing baseline vulnerability, rather than by tracking shorter-term changes in welfare or vulnerability. In Malawi, other components of the IHS analyses relevant to the VAM allow for a better understanding of how households deal with food scarcity than is provided by the poverty map alone.

In sum, poverty mapping is a useful decisionmaking tool in targeting relief and development programs, and it provides objective and nonpolitical information that is also helpful in prioritizing areas for poverty alleviation projects and emergency food aid relief.

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