

**Toward Measuring the Impact of the World Food Program's Purchase for Progress Initiative**

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By Jenny C. Aker

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**ABSTRACT**

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In this essay, post-doctoral fellow Jenny C. Aker supports the innovation of the P4P but with some reservations. She questions some of the assumptions of the P4P, namely that farmers do not have access to markets, that establishing a parallel sales mechanism is an effective and sustainable means of increasing farm-gate prices, that such purchases will have a minimal impact on consumers' prices, and that higher farm-gate prices in the short-term will serve as a sufficient incentive for farmers to increase production in the long-term. She outlines some of the potential unintended negative consequences of the program if not properly monitored, which are of particular concern in Sahelian countries with inelastic supply.

Aker suggests that WFP and its donors measure its impact on a variety of groups in the short-and medium-term, in order to ensure that it is not doing (undue) harm and to identify the conditions under which it will work.

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# **Toward Measuring the Impact of the World Food Program's Purchase for Progress Initiative**

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Is purchasing food aid locally the answer to higher global food prices, the inefficiencies associated with imported food aid, and farmers' low incomes? The World Food Programme (WFP), the Bill and Melinda Gates Foundation, and the Howard G. Buffett Foundation seem to think so. While donors and international organizations have been purchasing food aid in recipient countries for years, the idea got a new boost in September 2008 with the "Purchase for Progress" (P4P) initiative. The idea is simple: rather than import food aid from the United States or Europe, the WFP will purchase food from local farmers to distribute within the same country or region. As Josette Sheeran, executive director of the WFP, explained, "Purchase for Progress is a win-win—we help our beneficiaries who have little or no food and we help local farmers who have little or no access to markets where they can sell their crops." The program will be piloted in 21 countries in 2008/2009, 14 of which are in sub-Saharan Africa.

Is P4P really a "win-win"? Very few would argue that purchasing food aid in the United States and Europe and transporting it to low-income countries is the most efficient way to reach the most vulnerable people. And few would disagree that poor farmers should receive competitive prices in low-income countries. But while imported food aid may not be efficient, local purchases are not without problems: supporting producer prices in the short run could also increase consumer prices and disrupt market structures if not handled carefully.

### The Rationale for P4P

The P4P Initiative appears to be based upon four assumptions: (1) markets don't work very well; (2) establishing a parallel sales mechanism is an effective means of improving the prices paid to poor farmers, and hence increasing their incomes; (3) such purchases will improve producers' prices, but with a minimal impact on consumers' prices; and (4) these higher farm-gate prices in the short term will be a sufficient incentive for farmers to increase production in the long term. If any or all of these assumptions are not valid, the P4P initiative would

not only have difficulties in meeting its stated objectives but could have negative consequences on markets and on producers' and consumers' welfare in the short and, especially, the long-term. This is of particular concern in the Sahelian countries of Sub-Saharan Africa, several of which are pilot countries for the P4P initiative (including Burkina Faso, Ethiopia, Mali, and Sudan). Natural shocks, volatile agricultural production, and limited information on agricultural and trade are realities of Sahelian agro-food markets that sometimes lead to volatile markets (Aker 2008, Beekhuis 2008).

Landlocked Burkina Faso is one of the poorest countries in the world. Approximately 80 percent of the population works in subsistence agriculture, and national grain production is highly variable due to frequent floods, droughts, and pest attacks.

Figure 1



On the surface, Burkina Faso appears to be a perfect pilot country for the P4P initiative: it has relatively low yields and unstable production, low and variable producer prices and hence incomes, and extremely vulnerable people, some of whom require food aid. But is the P4P right for Burkina Faso? To determine this, it's important to look more closely at three of P4P's assumptions in the Burkinabé context: that markets are performing poorly, that local purchases will not have negative effects on consumer prices, and that higher producer prices will encourage farmers to produce more in the long term.

**How are markets performing in Burkina Faso?** Quantitative and qualitative evidence suggests that markets are not performing optimally in sub-Saharan Africa, often due to high transport costs, a lack of information, and monopolistic market structures. The assumption of poor market performance cannot be generalized to all countries, all markets, and all commodities. Despite poor roads and high transport costs, grain markets are fairly well integrated and competitive in Burkina Faso (Lutz et al. 2000).<sup>1</sup> Figure 1 shows the location of key wholesale and retail markets in the country. In December 2007, the consumer price of millet in Bogandé was 104 Central African Francs (CFA) per kilogram, as compared with 117 CFA/kg in Ouahigouya, implying that the price of a 100-kg bag of millet was 1,300 CFA (\$USD 3.25) higher in Ouahigouya. Does this imply that markets are performing poorly and that farmers in Bogandé are being exploited? Not necessarily. The P4P could potentially improve farmers' incomes in Bogandé by purchasing the grain at a higher price, or by providing a secure price from one year to the next, or both.<sup>2</sup> At the same time, this approach could have unintended "spillover" impacts. Higher prices paid to farmers via the P4P could (1) undercut traders who normally purchase from farmers and thereby displace smaller-scale traders, and (2) break traditional relationships between traders and farmers or keep such relationships from developing. While this would help farmers in the short term, displacing traders could make markets less competitive in the medium to long term. The P4P initiative will likely not exist indefinitely: where will farmers sell when the project ends?<sup>3</sup>

**What will happen to consumer prices?** Local purchases—whether bought from traders or farmers—can change market participants' behavior and hence supply, demand, and prices. The nature of this effect (positive or negative) and its magnitude depend upon the country-specific situation and the location, quantity, and purchase price of the procurement (Beekhuis 2008). A few scenarios are possible:

- **Scenario #1: Minimal impact on consumer prices**  
Local procurements are unlikely to have a significant and sustained impact on prices if markets are well integrated and supply is highly elastic.
- **Scenario #2: Upward pressure on consumer prices**  
If markets are well integrated but supply is relatively inelastic, local procurement is likely to exert an upward pressure on consumer prices. In this case, local food procurement and distribution will lead to a transfer of resources from net-deficit households (who do not benefit from the aid) to surplus households and food aid beneficiaries.

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<sup>1</sup>This is also the case for Ethiopia and Mali, where a variety of studies have shown that markets are more and more integrated (Dercon, 1995; Jayne et al., 1998; Negassa, 1998; Negassa and Myers, 2007 for Ethiopia; and Diallo et al, 2006 for Mali).

<sup>2</sup> Producer prices in Bogandé in the post-harvest period display intra-annual variation; the price of millet in 2004 was 95 CFA/kg and 101 CFA/kg in 2005

<sup>3</sup> This concern is more than theoretical. A 1991 survey noted that cereal banks drove private traders out of business in Burkina Faso, Mauritania and Niger, as the banks offered higher subsidized prices to farmers (Berg and Kent 1991).

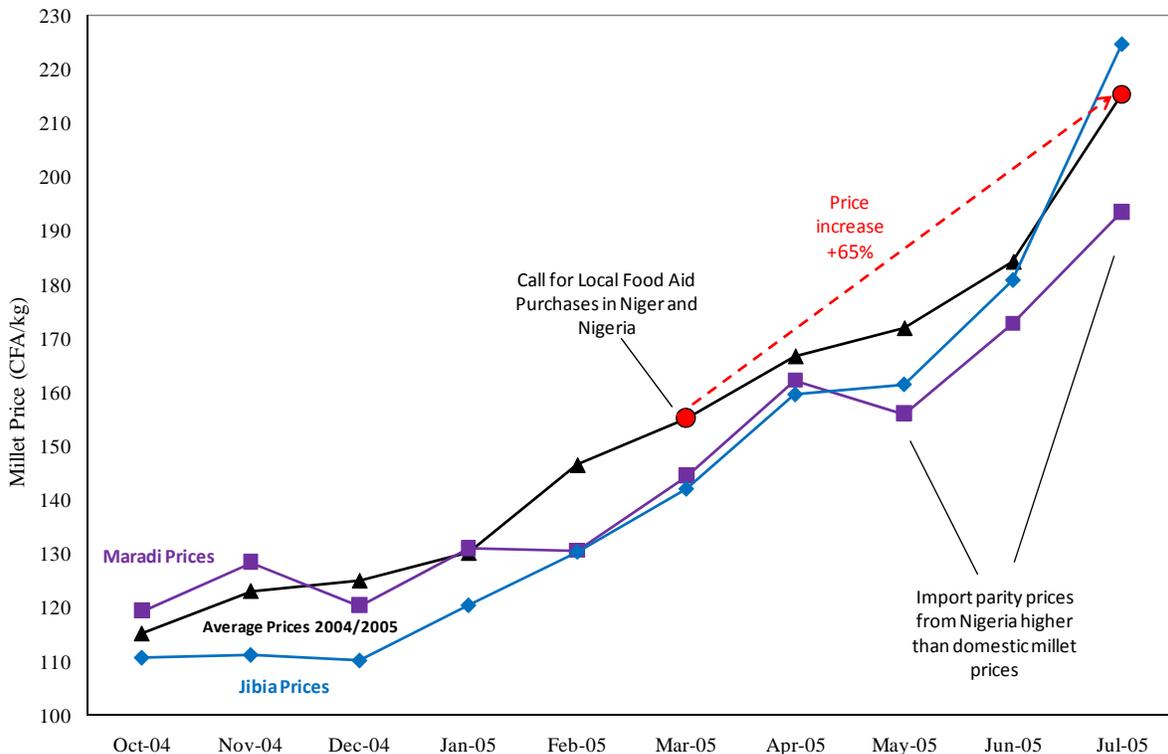
- **Scenario #3: Ambiguous effect**

If markets are not integrated well enough to transmit changes in prices from one market to another, local procurement may increase consumer prices in surplus zones but not necessarily in deficit zones.

With fairly well-integrated markets but inelastic supply, Burkina Faso would most likely fall into the second category. Some recent empirical evidence supports these predictions. While Tschirley’s (2007) study on the purchase of maize in Kenya and Zambia finds that “in most cases at most times . . . local and regional purchases have not strongly affected local prices,” the local purchases could have contributed to price surges elsewhere—in Ethiopia, Niger, and Uganda.

Figure 2 shows a qualitative relationship between local (and regional) purchases and consumer prices in Niger during the 2005 food crisis. In 2005, several governmental and non-governmental organizations issued calls for local purchases of grains (millet and sorghum) between March and April 2005. While official statistics vary, it is estimated that the total quantity purchased was 50,000 metric tons. Following these local purchases, millet prices increased by more than 13 percent on the purchase markets, followed by a 7 percent increase in national average millet prices a month later. While other factors contributed to the price increase in Niger—such as lower imports from Nigeria—the simple correlation between local purchases and the price increase highlights the sensitivity of such markets.

**Figure 2: Local purchase of millet in Niger is correlated with higher consumer prices during the 2005 food crisis.**



Source: Author’s calculations from Niger’s Agricultural Market Information System

**Will farmers increase their output?** Higher consumer prices associated with local purchases can be minimized or avoided if supply becomes more elastic in the short, medium, and long term. This would be the case if imports became less expensive or if local production increased. An important assumption of the P4P is that higher prices will encourage farmers to increase their production. This is possible if farmers have sufficient land, labor, and capital to do so. In a country with low and erratic rainfall (ranging from 240–1000 mm per year), high population densities, an average farm size of less than 3 hectares, and decreasing soil fertility, low farm-gate prices are not the only—or even the most important—constraint to local production.

### **Measuring the Impact of the P4P: Five Steps**

The concerns outlined in this document do not suggest that the P4P should be a no-go for Burkina Faso or other sub-Saharan African countries. They do suggest, however, that the P4P isn't necessarily a "win-win"—it's a "win-maybe." Before the WFP, donors, and other international organizations adopt the model on a larger scale, we need to measure its impact on a variety of groups in the short and medium term to ensure that it is not doing (undue) harm and to identify the conditions under which it will work. The pilot phase of this project provides a unique opportunity to do so. There are five steps that the WFP, the Gates Foundation, and the Buffett Foundation should follow during this pilot phase:

#### **Step 1. Analyze food market performance (particularly for grain) in each potential P4P country prior to the P4P**

Local purchases change the dynamics of the market. In order to determine how, where, and when P4P should operate, the project must be based on a detailed understanding of local markets *prior to* the intervention. The market study should focus on production systems and supply (what is produced, where, and how much, including imports); local demand; marketing (the market structure, who moves goods between producers and consumers); how markets work over time and space (farm-gate and consumer prices and transaction costs); and potential constraints to efficient marketing over time and over space.

#### **Step 2. Engage in rigorous impact evaluation of all P4P programs**

Little evidence exists on the impact of local purchases on market performance. While the WFP will evaluate the program, going beyond pre- and post-evaluation is crucial in order to accurately measure the program's impact and to measure unintended consequences (positive or negative). These evaluations should, at a minimum, focus on three areas:

- **Assess the impact of the P4P on farmers' prices using impact evaluation techniques.** Simply measuring farm-gate prices pre- and post-intervention will not provide information about whether such changes are due to the P4P program. To attribute causality to the program, collecting data on participating and non-participating farmer groups is required. To ensure that these groups are as similar as possible, the P4P could randomly assign vouchers to farmers in surplus areas. Farmers who receive the vouchers would be eligible to sell a specific quantity to WFP at its purchase price, while other farmers would sell through normal marketing channels. This would allow WFP to measure the impact on farm-gate prices for participating and non-participating farmers. Similarly, WFP could also pilot different mechanisms of purchasing food from farmers—either through individual farmers or cooperatives—and assess the impact of each type of intervention.

- **Measure unintended consequences (spillover effects) of the program on the grain market structure (entry and exit of traders) and farmers' and traders' behavior.** Measuring the program's direct impact on farmers' prices and incomes is *necessary but not sufficient* for understanding the impact of the P4P program. In addition to farm-gate prices, the program should collect data on farmers' production patterns (e.g., are P4P farmers planting, producing, and investing more?), traders' purchase and sales patterns, and the entry (and exit) of traders into P4P and non-P4P areas.

### **Step 3. Develop guidelines for local and regional purchases.**

Despite increasing interest in and use of local and triangular purchases for food aid in recent years, guidelines on whether and how to make such purchases are practically non-existent. Guidelines that do exist are generally vague, stating that such purchases should “minimize market disruption.” But what does that actually mean? A goal of the P4P pilot phase should include a “how to” guide, both for P4P and traditional local purchase programs. Guidelines should address not only if local purchases are appropriate but in what quantities, at what price, where, and during which period.

### **Step 4. Work with local markets—not around them.**

If markets aren't performing well in a P4P country, it is important to determine why—and whether local purchases can resolve the issue. Even if they are performing well, in the long run, farmers' and consumers' welfare in low-income countries is better served by encouraging dynamic, competitive trade links between farmers and traders—not by creating parallel structures that might not be sustainable. Access to markets for both farmers and traders should be encouraged by focusing on interventions that reduce costs—such as power supply, roads, and access to information. Supporting existing local and regional market information systems would not only reduce costs but also allow the WFP, the Gates Foundation, and other actors to monitor prices and learn from the effects of the program.

### **Step 5. It's Time for Africa's Green Revolution**

Poor farmers won't be able to respond to higher price incentives—and increase incomes—if they don't have the land, labor, and capital to do so. Natural shocks, soil degradation, and limited inputs all affect poor farmers' ability to increase yields sustainably. WFP plans to align its efforts with organizations such as the Alliance for a Green Revolution in Africa (AGRA), which focuses on helping small farmers increase their productivity through the use of improved seeds and farm management techniques. It isn't clear whether this partnership will exist in all of the P4P pilot countries. If not, then it should—or at least a partnership like it.

## **Further Reading**

Aker, Jenny C. 2008. "Does Digital Divide or Provide? The Impact of Cell Phones on Grain Markets in Niger." BREAD Working Paper No. 177.

Aker, Jenny C. 2008. Rainfall, Prices and Food: Drought and Grain Markets in Niger." Center for Global Development (CGD) Working Paper.

Beekhuis, Geert. 2008. "Potential Impacts of Local Procurement on Local Markets." Unpublished mimeo.

Berg, Elliot and Lawrence Kent. (1991). The Economics of Cereal Banks in the Sahel. Bethesda, MD: Development Associates Inc.

Coulter, Jonathon, David J. Walker and Rick Hodges (2007). "Local and Regional Procurement of Food Aid in Africa: Impact and Policy Issues". The Journal of Humanitarian Assistance.

Dercon, Stefan. 1995. "On Market Integration and Liberalisation: Method and Application to Ethiopia." Journal of Development Studies, pp.112-143

Diallo, Marthe Diallo, Kadiatou Dème, Niama Nango Dembélé Abdramane Traoré and John Staatz. 2006. Commercialisation des Céréales et Sécurité Alimentaire au Mali. East Lansing, Michigan : Michigan State University.

Jayne, T.S., 1998. Market Reform, Institutional Constraints, and Agricultural Productivity: Emerging Evidence from Africa," Ethiopian Journal of Agricultural Economics, Vol. 3:1 (1-28).

Lutz, Clemens, Arno Maatman, Caspar Schweigman, Boubié Bassolet, Arjan Ruijs and Gnderman Sirpé. 2000. Food Markets in Burkina Faso. CDS Report No. 10.

Negassa, Asfaw and Robert J. Myers. 2007. "Estimating Policy Effects on Spatial Market Efficiency: An Extension to the Parity Bounds Model." American Journal of Agricultural Economics. Volume 89 Issue 2, Pages 338 - 352

Tschirley, D. 2007. Local and Regional Food Aid Procurement: an Assessment of Experience in Africa and Elements of Good Donor Practice. MSU International Development Working Paper No. 91. East Lansing; Michigan State University.

World Bank. 2006. Ethiopia: Policies for pro-poor agricultural growth. Washington, DC: World Bank..