Input Subsidy Programs (ISPs) have made a big comeback in Africa. Introduced by donors in the early 1970s, ISPs were meant to help smallholder farmers invest in fertilizer and improved seed varieties, overcome limited access to input markets, and ultimately increase crop production. The programs were poorly managed, however, and were largely eliminated in the 1980s and early 1990s under structural adjustment programs. They resurfaced in the mid-2000s and on a much grander scale.
Though ISPs are a visible means for the government to show support for farmers, these programs are expensive. Currently, ten African governments spend an estimated US$1.05 billion annually—an average of 30 percent of their agriculture budgets—on ISPs. This number will likely increase given that many governments plan to further scale-up their programs. The scaling-up of ISPs in Africa has proceeded, however, on limited evidence that these programs are effective. Prior to 2010, there was actually little research on a host of crucial questions regarding subsidies. Filling these knowledge gaps with evidence and insights from high-quality and policy-relevant research is the main motivation for the special issue of *Agricultural Economics* on “Input Subsidy Programs in Africa” (Vol. 44, No. 6).

**THE DEBATE OVER INPUT SUBSIDY PROGRAMS**

Agricultural input subsidies are a hotly debated subject. Advocates contend that ISPs can raise food production as quickly as in one cropping season; reduce dependency on imports, which encourages greater food self-sufficiency; help develop the private sector; and lower food prices in domestic markets. Opponents argue that money spent on ISPs crowds out commercial input sales and diverts public funding from other types of investments that provide higher returns to agricultural growth and poverty reduction. This special issue of *Agricultural Economics* presents in-depth analysis that answers many questions raised in the debate and provides specific policy recommendations.

Researchers answer four core policy questions in this special issue:

1. What impact do ISPs have on the purchase of inputs, crop yields, and food price levels?
2. Are subsidized inputs targeted to farmers who would not otherwise buy them?
3. Do ISPs handicap or encourage development of commercial input distribution?
4. Are ISPs a cost-effective way to promote agricultural development and reduce poverty relative to other public investments?

While ISPs were studied in the 1970s and 1980s, information on their influence on community- and household-level behaviors was never gathered. Since then, an influx of research—based on nationally representative household panel survey data, advances in estimation methods, and innovations in survey design methods such as randomized control trials (RCTs)—have enriched researchers’ understanding of ISPs and their effects on farmers.

**RESEARCHERS AGREE THAT ISPs ARE HERE TO STAY**

Though ISPs can help farmers increase production in one cropping season, such short-term returns divert funds from long-term investments in crop R&D, extension programs, and physical infrastructure. These three areas have been shown to produce impressive long-term benefits for development, but because their benefits take time to fully manifest, policymakers often focus on short-term investments with immediate results.

**FINDINGS**

The current wave of “smart subsidy” programs was implemented with the belief that problems plaguing ISPs in the 1970s and 1980s could be overcome. However, three country studies in the special issue (focusing on Ethiopia, Malawi, and Zambia) show that many of the smart subsidy criteria were not adhered to and that familiar problems are recurring in the new wave of ISPs. Programs do appear to be working better in other countries (such as Nigeria).

The special issue presents other findings:

- ISPs receive on average 28.6 percent of public investment in Africa and crowd out investment in other important areas of development.
> Though fertilizer subsidies played a key role in Asia's Green Revolution, the benefits of these subsidies have declined with time. Complementary areas of development—such as research and development (R&D), road paving, advancements in irrigation, and promotion of fertilizer—contributed comparatively more to agricultural growth and poverty reduction.

> In most countries (such as Malawi, Zambia, and Kenya) farmers with greater landholdings and wealth (10–20 hectares) were more likely to receive subsidized inputs and much higher quantities of subsidized inputs than poorer farmers with less than 2 hectares of land.

> Input subsidy programs crowd out a substantially greater share of commercial fertilizer sales than previously estimated. In most cases, a ton of fertilizer distributed through a subsidy program adds less than 500 kilograms (kg) to farmer fields due to the crowding out of commercial purchases.

> Because of crowding out and low crop response rates to fertilizer application, the costs of ISPs in most cases exceeded the benefits they generated.

> There is little evidence that ISPs have affected food price levels, although in some cases they have contributed to food self-sufficiency.

> The impact ISPs have on the commercial distribution system vary according to the way the programs are implemented. “Smart Subsidy” guidelines, as laid out in the Abuja Declaration (2006), were not followed in many country cases.

**RECOMMENDATIONS**

Governments face many choices on how to best spend their limited resources on development projects. Because researchers recognize that ISPs are here to stay, the contributors to the special issue provide recommendations for governments to consider when implementing or scaling-up their subsidy programs. A main takeaway is that governments can achieve greater benefits from these programs by investing in complementary areas (such as programs to improve soil fertility, water control, and farm management practices), which will make buying and applying fertilizer more profitable for farmers. There are additional recommendations:

> Invest in complementary areas of agriculture development—such as physical infrastructure, agricultural R&D, and extension programs that enable farmers to increase their crop yields per kg of fertilizer used

> Diagnose soil fertility issues and pursue comprehensive solutions that encourage farmers to buy and use more fertilizer

> Address targeting issues to ensure that poor and smallholder farmers, who would not usually purchase fertilizer, actually benefit from the programs

> Allow greater private sector involvement through input vouchers that are redeemable at privately owned stores

> Address political economy problems such as the diversion of program fertilizer by local authorities, a widespread problem noted in most country studies

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**TIMELINE OF ISPs IN AFRICA**

**1960–1970:** Donors fund ISPs to help developing countries overcome market failures.

**1980–1990:** Donors turn against ISPs and pressure many (but not all) governments to shut them down due to their high fiscal costs, program mismanagement, and limited impact on food production and security.

**Early 2000s:** Stagnant agricultural growth during the 1990s leads governments to question the structural adjustment programs that did away with ISPs and a new call for direct government intervention is once again championed.

**2006:** African governments, through the Abuja Declaration, reaffirm their intention to dramatically raise and subsidize fertilizer use in the region while donors begin to support a new wave of improved or “smart” subsidy programs.

**2007:** The “Malawi Miracle,” featuring a large-scale input subsidy program, is praised by the *New York Times*.

**2010:** Nine African governments follow suit and reinstitute their subsidy programs.
STUDIES IN THE SPECIAL ISSUE

“Input Subsidy Programs in Africa,” the special issue of Agricultural Economics, includes 12 papers that address important aspects of ISPs, including in-depth country-level studies, cross-country synthesis studies, as well as lessons from global markets and the Asian Green Revolution. The complete list of papers follows:

Cross-country or Synthesis Studies
1. Input subsidy programs in sub-Saharan Africa: A synthesis of recent evidence
   T. S. Jayne and Shahidur Rashid
2. Modern input promotion in sub-Saharan Africa: Insights from the Asian green revolution
   Shahidur Rashid, Paul A. Dorosh, Mehrab Malek, and Solomon Lemma
3. How do fertilizer subsidy programs affect total fertilizer use in sub-Saharan Africa? Crowding out, diversion, and benefit/cost assessments
   T. S. Jayne, David Mather, Nicole Mason, and Jacob Ricker-Gilbert
4. Market concentration and pricing behavior in the fertilizer industry: A global approach
   Manuel A. Hernandez and Maximo Torero
5. The last mile(s) in modern input distribution: Pricing, profitability, and adoption
   Bart Minten, Bethlehem Koru, and David Stifel
6. What are the effects of input subsidy programs on maize prices? Evidence from Malawi and Zambia
   Jacob Ricker-Gilbert, Nicole M. Mason, Francis A. Darko, and Solomon T. Tembo

Country-Level Studies
1. What are the farm-level impacts of Malawi’s farm input subsidy program? A critical review
   Rodney Lunduka, Jacob Ricker-Gilbert, and Monica Fisher
2. Input promotion within a complex subsector: fertilizer in Nigeria
   Lenis Saweda O. Liverpool-Tasie and Hiroyuki Takeshima
3. Can modern input use be promoted without subsidies? An analysis of fertilizer in Ethiopia
   Shahidur Rashid, Nigussie Tefera, Nicholas Minot, and Gezahegn Ayele
4. Zambia’s input subsidy programs
   Nicole M. Mason, T. S. Jayne, and Rhoda Mofya-Mukuka

Seed Subsidy Program Case Studies
1. The impact of seed vouchers on poverty reduction among smallholder rice farmers in Nigeria
   Bola Amoke Awotide, Aziz Karimov, Aliou Diagne, and Tebila Nakelse
2. Impacts of subsidized hybrid seed on indicators of economic well-being among smallholder maize growers in Zambia
   Nicole M. Mason and Melinda Smale

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