

Promoting the Adoption of New Rice Varieties: Addressing the Costs of Early Adoption

Policy Brief

Rachel Glennerster (J-PAL) and Tavneet Suri (MIT Sloan)

1. Policy Motivation for Research

The role of subsidies for agricultural inputs is at the center of a large policy debate. There are influential examples of mass take up of agricultural technologies through heavy subsidization—fertilizer is heavily subsidized in Malawi and India. Others are concerned that initial subsidization leads to an expectation of continued subsidies which may undermine long run take up at market prices.

Our project will contribute to this debate in two main ways. We will provide evidence on the cost-effectiveness and long-term implications of one-time adoption subsidies. To the extent that initial take-up is correlated with price, we will also be able to study the dynamic spread of new rice varieties over time and the return to farmers of these new rice varieties looking not just at yield but also labor and input use.

The relative cost-effectiveness of the proposed subsidy scheme will also be assessed vis-à-vis structured training programs. There is dearth of empirical studies that carefully evaluate the impact of extension programs. As this type of programs take a significant portion of aid money, we believe that providing evidence of their impact is a policy relevant priority.

2. Policy Impact and Audience

Our study has a number of different target end users, including humanitarian relief and post-conflict agencies such as the International Rescue Committee (IRC), agricultural agencies and donors, and private seed multipliers seeking to promote sustainable markets for improved seeds.

The IRC is interested in using the results of this research to inform their programming in Sierra Leone and other countries. In particular, IRC is frequently working in situations where new seeds and fertilizer can provide a short term boost to output but are constantly faced with the dilemma of whether their short term support may undermine longer term adoption by creating expectations of give aways. Their involvement in this research is driven by their desire to have good evidence on which to make this decision in future.

Policy-makers such as the NERICA project at Sierra Leonean Ministry of Agriculture (MAFFS) have also expressed interest in the results of the proposed intervention. The government is currently focused on multiplying seeds so that it has sufficient NERICA seeds available to sell across the country in 2011-2012. They have said this project would help inform how they promote the adoption of NERICA once they have put in place good seed multiplications systems.

Lastly, we are aiming to provide evidence on how to make the dissemination of improved rice varieties scalable and sustainable for public as well as private seed multipliers. Our project relies on a collaboration with one of the few agricultural entrepreneurs operating in Sierra Leone, Genesis Farms Ltd. Throughout this partnership, we will help commercial farmers develop the optimal pricing and marketing strategy to reach a large number of smallholders, and thereby how to encourage commercial farmers to look into market opportunities (rather than public procurement) for improved seeds.

3. Policy Implications

The most important policy implications that will come from this research relate to the optimal way to structure policies and incentives to encourage adoption of new improved agricultural technologies. Given the limited budgets available to governments in Sub-Saharan Africa, it is crucial for them to spend the money where they will get the biggest bang for the buck. Therefore, it is crucial to understand whether short term subsidies work and whether training (extension services) are a complement or substitute to this. Extension services are expensive and often account for a large part of a government's budget. It is important to therefore understand the cost-benefit trade off to such extension services as well as potential substitutes for such services. This project will be able to provide answers to these questions. In addition, the project will better understand the returns to NERICA and ROK varieties over other locally used traditional varieties.

4. Implementation and Dissemination

Once the final results are completed and reports have been submitted, we plan to present widely in Sierra Leone as part of the dissemination efforts. Given one of our partners on the research is the Sierra Leone Agricultural Institute, we would present the results to this part of the government. In addition, the findings have implications for other similar countries in West Africa, which provide opportunities for more dissemination. Finally, the CGIAR system across the world would be another natural place to disseminate these results to.