Agricultural Technology Adoption in Zambia: Are Women Farmers Being Left Behind?

Thelma Namonje-Kapembwa
Research Associate
Indaba Agricultural Policy Research Institute
26A Middleway
Lusaka, Zambia
Email: thelma.namonje@iapri.org.zm

Antony Chapoto, PhD
Research Director
Indaba Agricultural Policy Research Institute
26A Middleway
Lusaka, Zambia
Email: antony.chapoto@iapri.org.zm

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Agricultural Technology In Zambia: Are Women Farmer Being Left Behind?
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Indaba Agricultural Policy Research Institute, Lusaka, Zambia

INTRODUCTION
Low adoption of improved technologies is widespread among smallholder farmers, however, it is more severe on fields controlled (owned) by women. The question is why is there a gender gap in adoption of improved technologies? The study present evidence from Zambia that women farmers fare worse than their male counterparts regarding adoption of improved technologies and level of productivity. We use the gender of the field owner (decision maker) as opposed to the gender of the household head to determine the gender differences in technology adoption and productivity.

DATA
- The data used in this study primarily comes from two waves of Rural Agricultural Livelihoods Surveys (RALS). These are nationally representative surveys conducted by the Indaba Agricultural Policy Institute (IAPRI) in collaboration with the Zambia Central Statistical Office (CSO) and the Ministry of Agriculture and Livestock and cover the 2010/11 and 2013/14 farming season.
- In the first wave of the survey (2010/11) 8,839 smallholder farm households were interviewed, while in the second wave covering 2013/14 agricultural season a total of 7,254 households were re-interviewed.
- For the econometrics analysis of this study, we used a balanced panel of 4,166 households that grew maize in both 2010/11 and 2013/14 farming seasons. The RALS data was supplemented with Focus Group Discussions (FGDs) which were held in three provinces covering two districts in each province.

RESULTS

DESCRIPTIVE RESULTS

<table>
<thead>
<tr>
<th>Variables</th>
<th>All Farmers</th>
<th>Male Farmer</th>
<th>Female Farmer</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>B</td>
<td>C</td>
</tr>
<tr>
<td>Landholding size (ha)</td>
<td>H</td>
<td>D</td>
<td>E</td>
</tr>
<tr>
<td>Adult equivalent</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Hectares cultivated (ha)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Member of cooperative (%)</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Value Assets</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Access to extension (%)</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Access to credit (%)</td>
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</tbody>
</table>

Notes: T-test was done to compare differences between groups. * indicates cases that are not statistically significant at 10%

ECONOMETRICS RESULTS
- The low adoption of improved technologies is attributed to limited access to productive resources.
- Female farmers who had access to agricultural credit were more likely to adopt hybrid seed and fertilizer (Ragasa, 2012).
- Productivity as measured by technical efficiency in maize production on plots owned by men was higher than that of women.
- The differences in the level of technical efficiency is mostly explained by the disparities in resource endowment rather than the gender of the farmer.
- Gender of farmer does not affect the farmer’s productivity.

CONCLUSIONS
- Evidence from the study suggests that adoption of improved technologies among smallholder farmers is still low in Zambia especially among women.
- The main factors contributing to low adoption included limited access to productive resources.
- Closing the resource gap can largely improve the overall agricultural productivity among smallholder farmers in Zambia especially women.
- There is a need for supportive policies to enable the private sector and farmer organizations to develop better credit systems tailored to small-scale farmers.
- Government should channel more resources towards extension services for the staff to train farmers on best farming practices.

REFERENCES
- Ragasa, C., 2012. Gender and Institutional Dimensions of Agricultural Technology Adoption

RESEARCH QUESTIONS
- What are the factors that contribute to the gender differences in technology adoption?
- Does the presence of a male head of a household affect the adoption behavior of women smallholder farmers?
- Are there any gender differences in maize production efficiency?