

Testing Agricultural Technologies in Northern Ghana: A Seed Experiment

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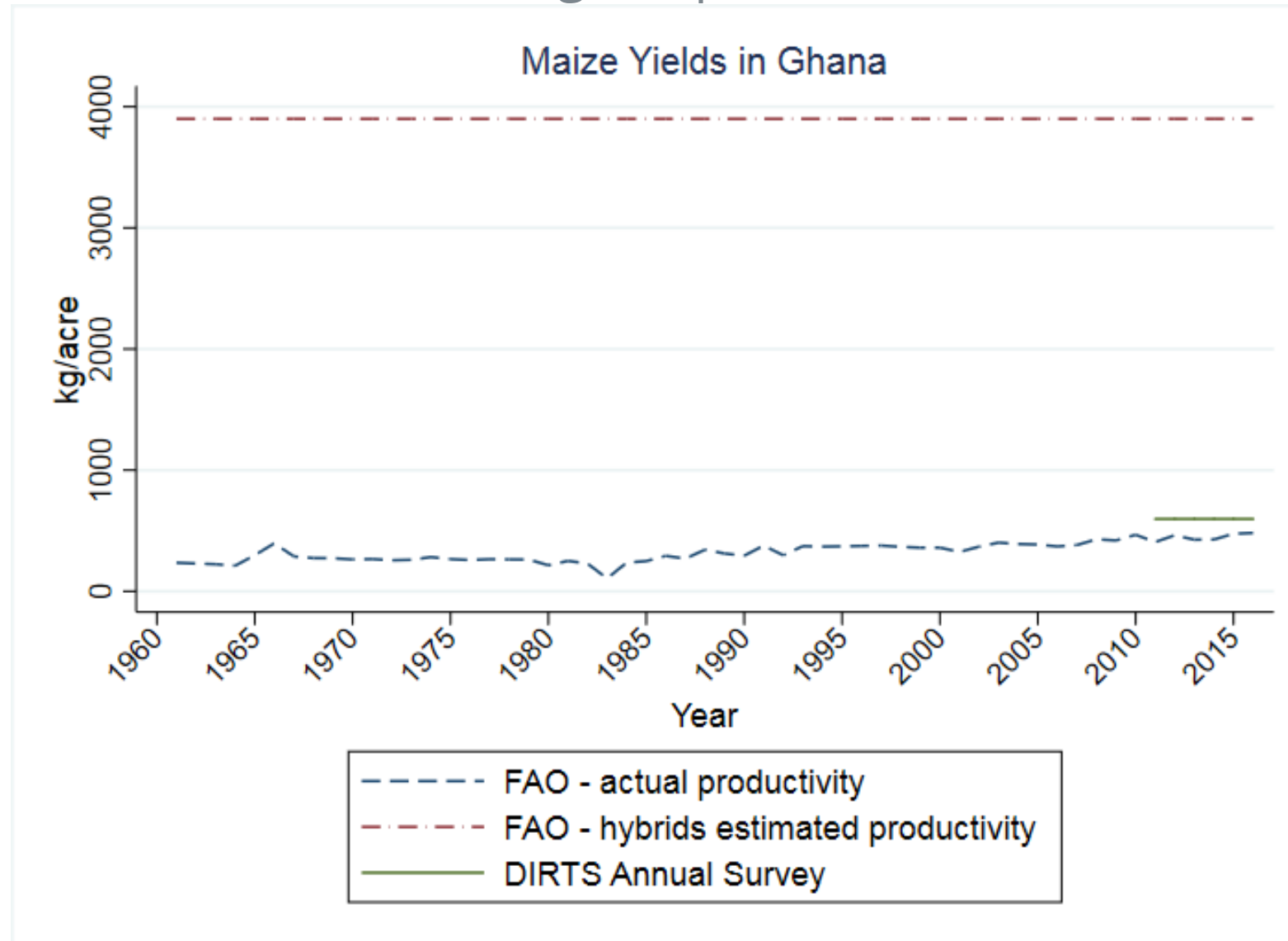
Overview

- 1) Stating the problem: low agricultural productivity
- 2) The TAT project: describing the experiment
- 3) Results from the 2015 trials
- 4) Preliminary results from the 2016 farmers experiment
- 5) Implications for agricultural productivity in northern Ghana
- 6) Conclusions and policy recommendations



The problem: Low Agricultural Productivity in Ghana

Stating the problem



Testing Agricultural Technologies

The problem and the solution

The knowledge gap

- Heterogeneity in the localized returns to technologies creates uncertainty
- Little evidence about the performance of recently introduced/released seeds varieties in a diversity of agroecological zones

Improving information about the performance of new maize varieties in a diversity of contexts in northern Ghana



The TAT Project

Phase I: Testing maize varieties (2015)

The design

Trial plots were set in 10 districts in the 3 northern regions



2 types of trial plots per district:
1 Mother trial
4 Baby trial

The maize varieties

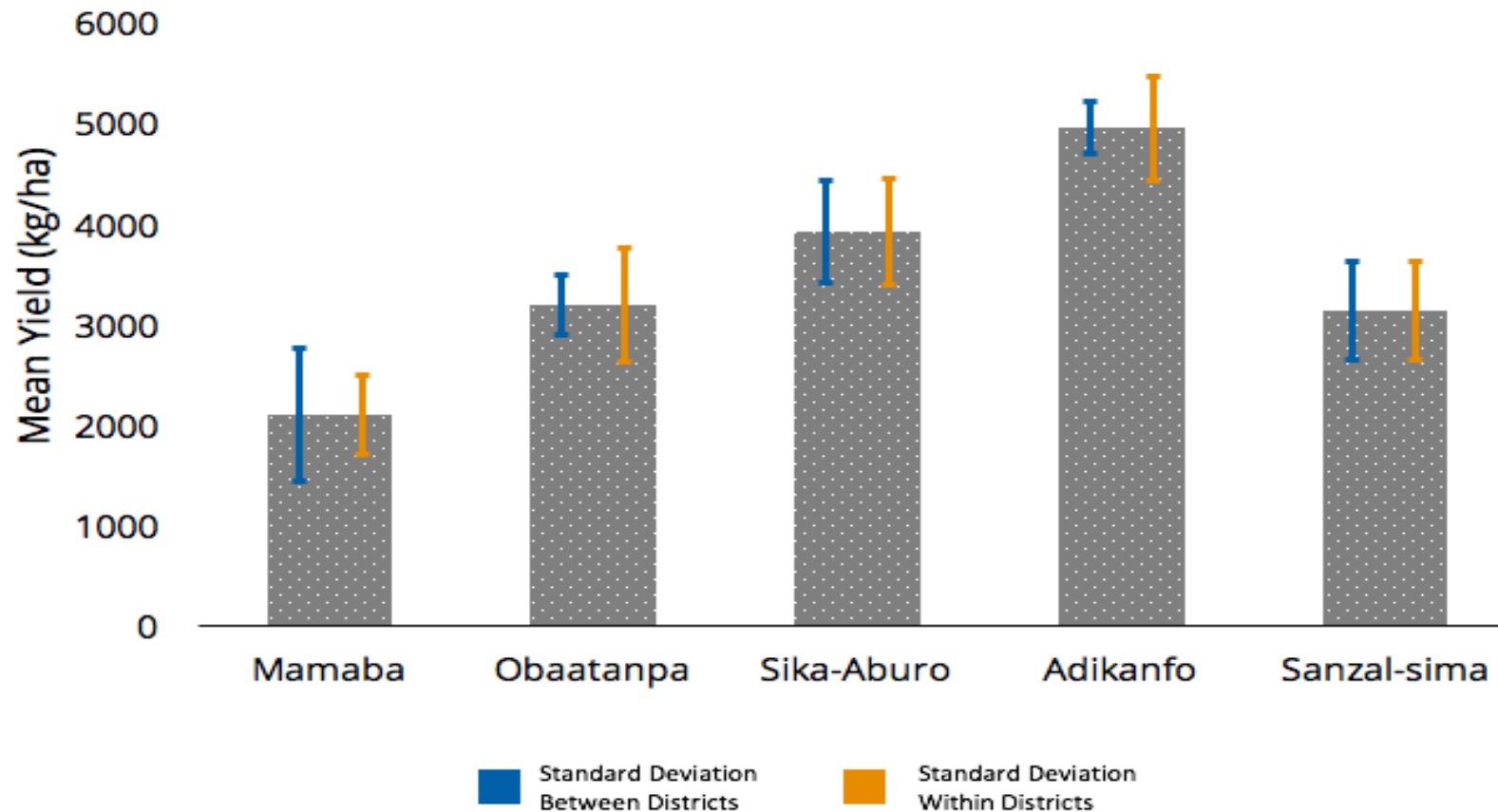
- Pioneer (Adikanfo)
- PAN53 (Sika – aburo)
- Mamaba
- Sanzal Sima
- Obaatanpa



Results from the 2015 Trials

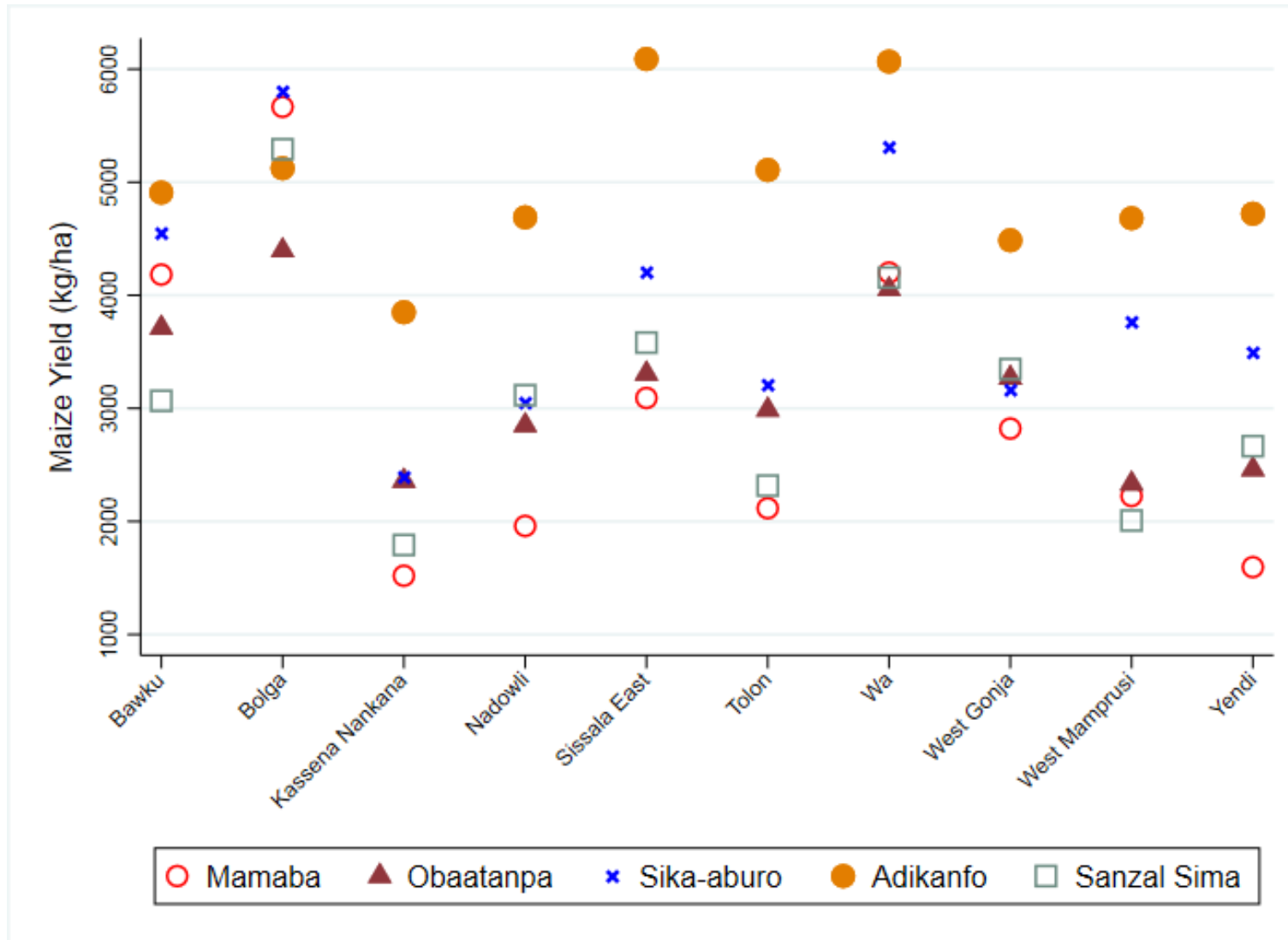
Pioneer wins the game

Mean Yields With Variance



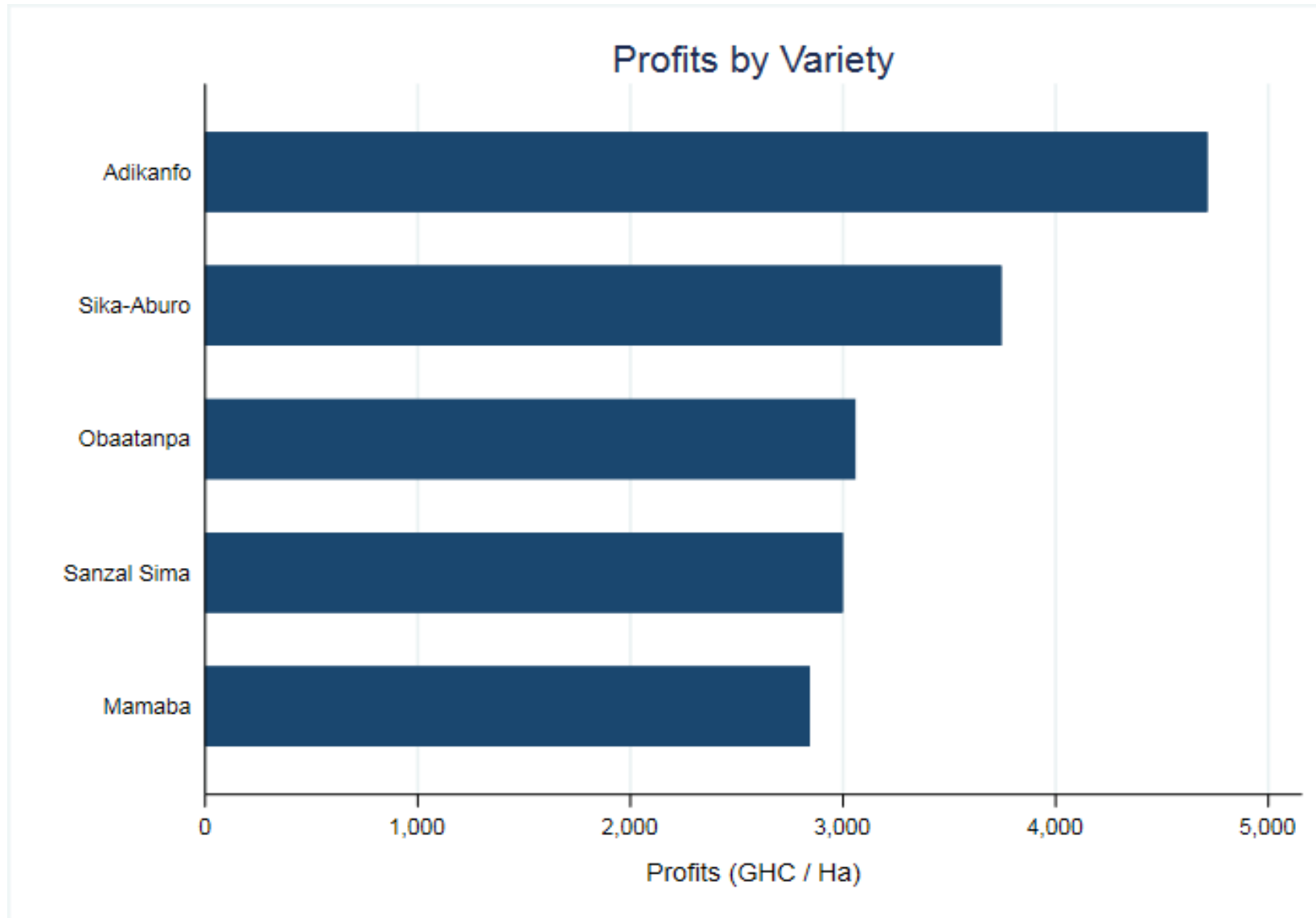
Results from the 2015 Trials

Results by district



Results from the 2015 Trials

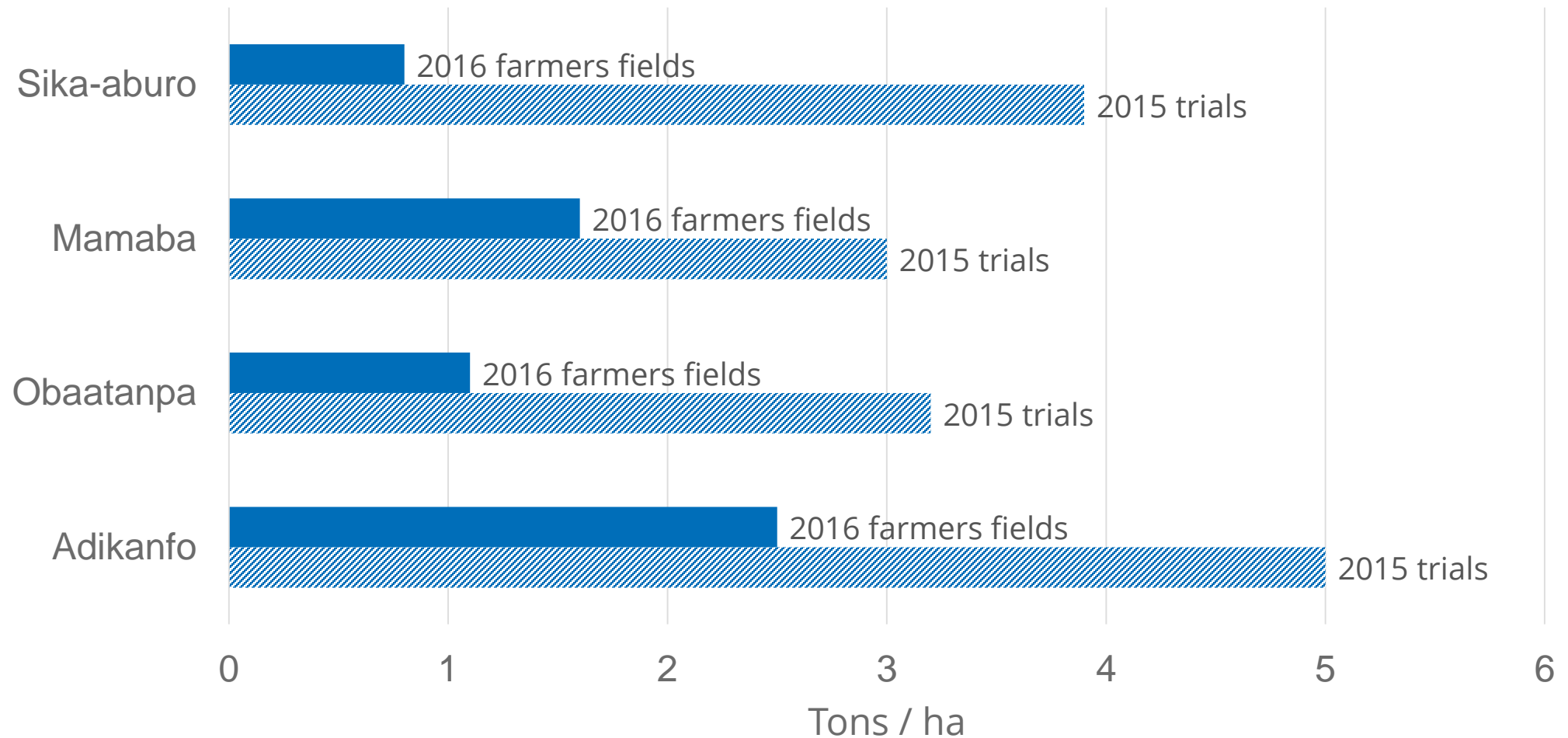
Profits



Results from 2016 Farmers' Experiment

Performance of varieties

Pioneer is still the best performing variety, but...

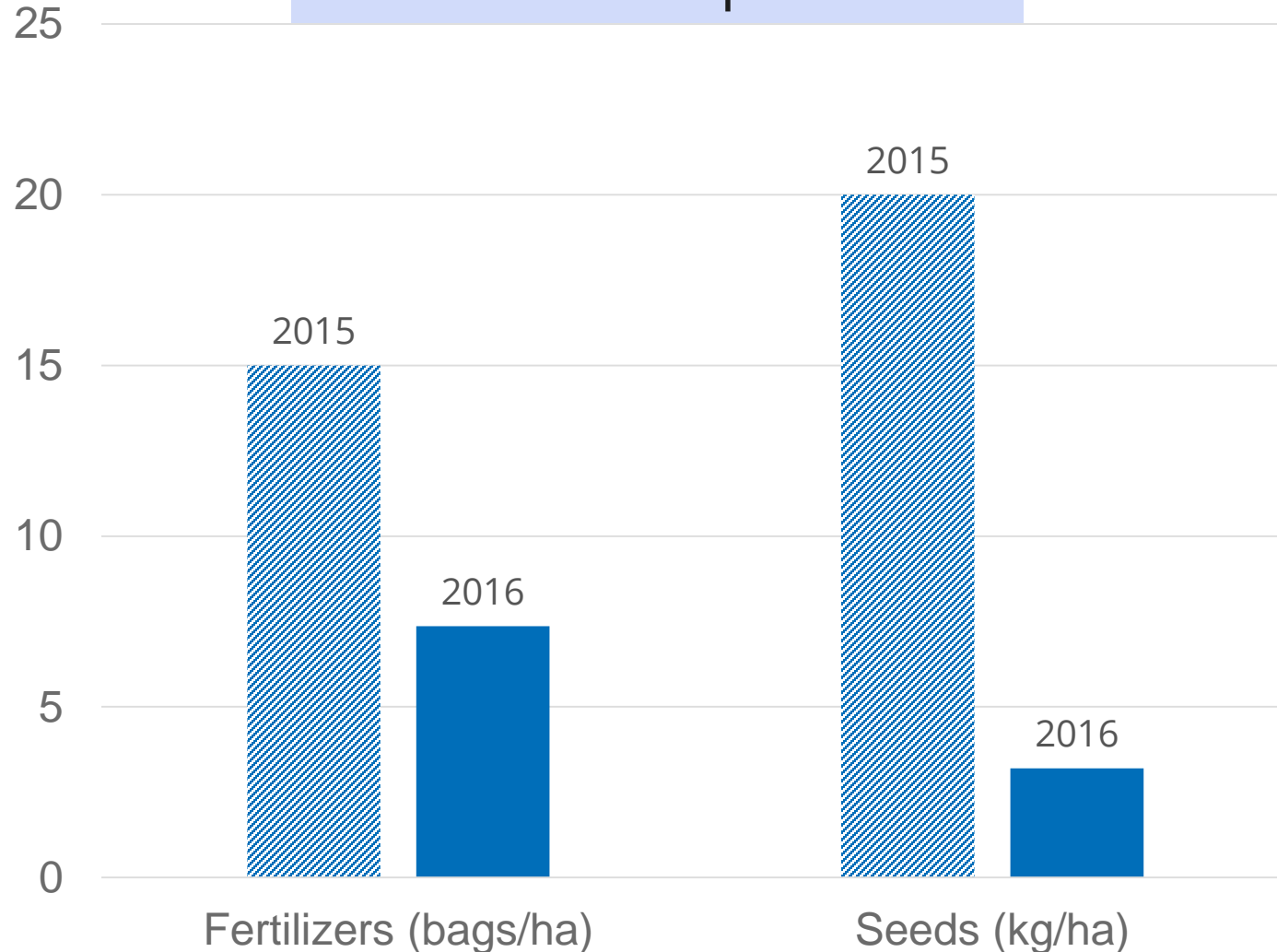


Results from 2016 Farmers' Experiment

Possible explanations for lower yields

Use of inputs

Misreporting in plot size

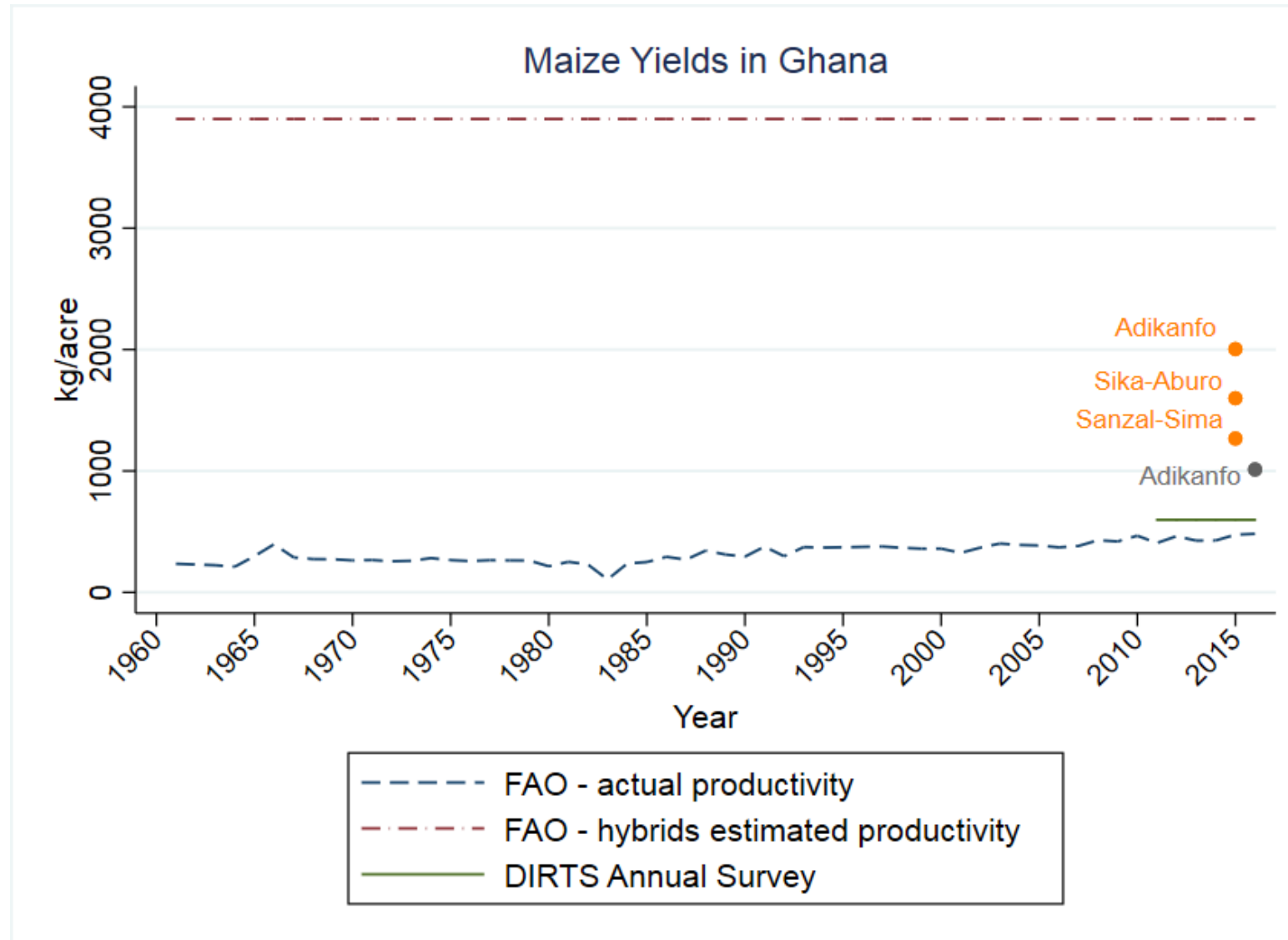


Measure	Acre
Reported by farmer	2.93
GPS measure	2.76
Difference	0.17



Implications for Maize productivity in Northern Ghana

Possible explanations for lower yields



Conclusions

- **Pioneer (Adikanfo) is a high-yield technology** and it would be a **profitable investment** in nearly all cases;
- Neither Sanzal-sima nor Mamaba perform better than farmers' variety Obaatanpa in 2015 rainy season;
- Performance of a seed variety can vary substantially when cultivated under the typical farmers' management and not in ideal conditions.



Policy implications

- One-measure-fits-all approach doesn't work
- Nonetheless, some varieties have more consistent returns than others
- Adoption of seeds without adequate knowledge and complementary inputs is going to produce an boost in production which is below the potential



Thank you



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Questions?

