



Willingness to adopt Precision Agriculture Technologies by farmers in Ghana



Poznań University of Life Sciences

Cornelius Joojo Cobbina¹, Arkadiusz Sadowski²

Faculty of Economics, Poznan University of Life Sciences-Poland

Introduction

- Reduced productivity per unit area, dwindling and degrading natural resources, the growing threat of global warming and climate change, and stagnant farm revenue are major obstacles to agricultural success
- Agriculture in developing nations like Ghana faces many challenges, and experts advocate various management strategies based on existing and proven technologies to improve agriculture.
- Hence, meeting future challenges in an ever changing world will require novel technology

→ Factors influencing the willingness to adoption of Precision Agriculture Technologies in Ghana



Bono East Region



Bono Region

Results

Repressors	Coefficient	Marginal effect
Education	0.033 (0.059)	0.008
Age	0.040(0.027)	-0.010
Sex	0.046(0.155)	-0.011
Region	0.503(0.113)	0.126
Years of farming	0.292(0.108)	0.073
Size of Land	1.356(0.093)	0.339***
Land Ownership Type	0.675(0.094)	-0.169*
Access to Credit	1.049(0.119)	-0.256**
Source of funds	0.533(0.122)	-0.133
Constant	-1.926	
Number of obs	122	
Prob > chi2	0.001	
Pseudo r-squared	0.161	
Chi-square	27.262	

Methodology

- 122 farmer were selected using multi-stage sampling technique.
- Study was conducted in two regions of Ghana namely Bono and Bono East regions from March to May 2022.
- Data were collected from farmers of age who were into farming with minimum of 3 year and above I n the Two Regions..
- We used binary probity to identify the factors influencing the willingness to adoption Precision Agriculture by Ghanaian farmers

Results

- The descriptive analyses show that farmers in Bono (63 %) were willing to adopt precision agriculture as against the Bono East region (37 %)
- (85 %) of male farmers were willing to adopt than female farmers (15 %).
- The regression results show that years in farming, landownership type, and source of funds positively affect willingness to adopt precision agriculture technology
- Age negatively affect willingness to adopt precision agriculture technology ($p < 0.1$)

Conclusion

- The age of farmers, their level of education, their land interest, and access to credit are factors influencing willingness to adoption Precision Agriculture(PA)
- Land ownership is very important when it comes to farmers adopting of PA; farmers who have sole or customary ownership rights on their land are much more likely to adopt PA than those with Public Land.
- The level of education of farmers and their access to credit are the best indicators of their propensity to adopt any future developments of PA.

Acknowledgement:

The study appreciates the support of Faculty of Economics and the Department Economics and Economy Policy in Agribusiness, Poznan University of Life Sciences Poland