

# Memorandum

**To:** ACME Corporation

**From:** Qianhui Guo, Ziyu Jin, Han Li, Wei Li

**Date:** December 10th, 2018

**Re:** Analysis results of the effects of household educational attainment and characteristics of the local area on agricultural profit in Ghana, based on data from *Ghana Living Standards Survey IV 1998-1999*.

Our statistical study on relevant data shows that in Ghana, household educational attainment has a neglectable effect on agricultural profit; but crop types, agricultural equipment types, local secondary school presence, and local migrate arrivals are strongly related to agricultural profit. In the following paragraph, we would provide further elaboration on the process of obtaining this result, the information we gained from the result, and suggestions based on the information.

To obtain the result step by step, we first examined the data and selected clean and useful ones from the survey, then raised hypotheses about effects household educational attainment and local characteristics may have on agricultural profit, and finally tested those hypotheses using statistical model and methods. After observing the result, we did not think that household educational attainment has an effect on agricultural profit. However, we discovered other factors that are showing strong associations with it. Firstly, the harvesting of two particular crops cola

nut and cassava appears to have a positive impact on total agriculture profit of households. We think that is the case caused by the two crop types being Ghana's main agricultural crops and possibly the most profitable ones and hence households would like to spend time and efforts planting them. For this part, we suggest to launch a promotion related to the two types of crop production, such as seeds or fertilizers. In addition, Possession of simple agricultural equipment like plough, trailer/cart, and rice husking machine is also related to agricultural profit positively. So we suggest a promotion of simple and basic agricultural equipment towards households involved with agricultural activities. As for schools, we detected that communities that have a junior secondary school are associated with higher profit versus those do not. This might be the result of that agriculturally proficient households tend to settle in communities with junior secondary schools for their children to attain secondary education there. Therefore, we recommend focuses on communities with such characteristic when making agriculture-related business decisions. The last factor we found significantly affects the agricultural profit is migrate arrivals. It seems that households in communities that have more migrate arrivals than departures are more likely to gain additional profit. This revelation might suggest that communities attract more migrate are more agricultural active. Thus we'd suggest to attach more attention to this kind of market and explore the business opportunities.

To conclude, our analysis revealed how the harvest of two types of crops, the possession of simple agricultural equipment, and communities with junior secondary school and more migrate arrivals all have a significant association with household agricultural profit in Ghana, although

household educational attainment does not. We also included explanations as well as recommendations regarding the above conclusion. Please refer to our statistical analysis report should you need more detailed information.