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**MEMO: Identifying sales effort targets in Ghanian agribusiness for ACME Corporation**

DTC-2 analysts present this report for ACME Corporation based on provided data from the 1998-1999 Ghana Statistical Service's fourth Living Standard Survey (GLSS4), to identify strong target areas for sales efforts in Ghana. We focused primarily on educational attainment and regional/area factors in making these determinations. After filtering data, our models are based on survey results for 837 households, comprised of 4087 individual members.

What Determines Buying Power?

The unspoken assumption in the question proposed is that higher profit = better sales target. In the most rudimentary sense, profit is equal to income minus expenditure. In reality, profit is more nuanced. Agribusiness in Ghana is in many ways a fledgling venture. Government subsidies for agriculture began after the Economic Recovery Program (ERP) was passed in 1984 but are dynamic, and many households have one or more members earning income outside of agriculture.

As you can see in Figure 1, the calculated agricultural is negative for most households. Using a negative value to determine a household's value as a sales target is inherently limiting. Thus, DTC-2 chose to investigate whether agricultural income would be a more feasible metric for this analysis.

Figure 1: Household Agricultural Profit , GLSS4
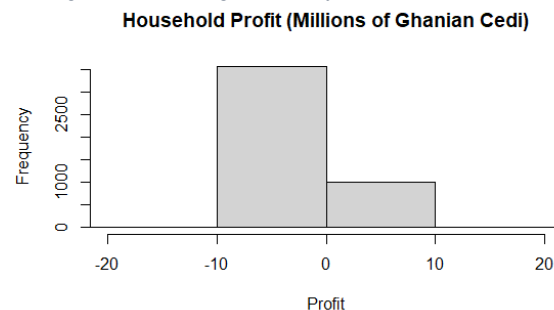
Educational Attainment

Education is about much more than years spent in a classroom. Literacy in Ghanian, literacy in English, certifications attained, years in school were all initially considered, but did not appear to be particularly impactful. We then decided test whether having ever attended *any* formal education correlated to a higher income and found this to be correlated in both models, as seen in Table 1.

	Model 1		Model 2	
	Profit /Acre	Significance	Ag. Income	Significance
Some Formal Education	92.3% Higher	10% Level	91.5% Higher	.1 % Level

Table 1: Education Impact on Agricultural Income and Profit per Acre in Ghana (GLSS4)

Regional/Area Factors

The GLSS4 breaks Ghana down into three primary regions: Savannah, Forest, and Coastal. Coastal and Forest households appeared to have higher income and profit. Additionally, we analyzed the impact of the household's main cash crop as seen in Figure 2.
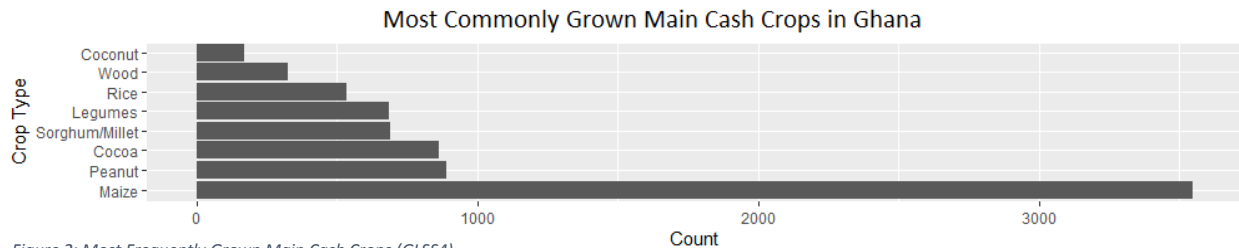

Figure 2: Most Frequently Grown Main Cash Crops (GLSS4)

As you can see in Table 2, households in Coastal and Forest regions are both more likely to have higher income and higher profit per acre.

The crops with the highest correlation to higher income were maize, cocoa, and peanut. Only maize was correlated to higher profit per acre.

	Model 1		Model 2	
	Profit/Acre	Significance	Agricultural Income	Significance
Maize (Main)	74% Higher	5% Level	16% Higher	5% Level
Peanut (Main)	-	Insignificant	63 % Higher	.1 % Level
Cocoa (Main)	-	Insignificant	23% Higher	.1% Level
Coastal	103% Higher	.1% Level	63% Higher	.1% Level
Forest	101.3% Higher	.1% Level	6% Higher	10% Level

Table 2: Region and Crop Impact on Agricultural Income and Profit per Acre in Ghana (GLSS4)

Conclusions

Based on DTC-2's analysis, it appears that households where at least one member has attended school will have both a higher profit per acre and a higher overall agricultural income. Households in the coastal and forest regions have a higher profit per acre, however; only households in the coastal region seem to enjoy a higher agricultural income on average. Growing peanut, maize, or cocoa as a main cash crop is correlated to higher average agricultural income, but the impact on profit per acre is negligible. This could mean several things, any of which would require further analysis of how acreage of farms correlates with both crops grown and region.

Overall, ACME Corporation should feel relatively confident that coastal households, households where a member has attended formal education, and households that grow either peanut or cocoa as a main cash crop will be a strong target for sales.