



Influence of institutional arrangements on the choice of vertical coordination strategic options in the sorghum supply chain in Kisumu County, Kenya

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INTRODUCTION

- ✓ Farm enterprise owners are recommended to participate in higher vertical coordination strategic options
- ✓ Studies have shown that participation in VCSO improves welfare
- ✓ Despite much emphasis, there is little use of these options
- ✓ Institutional arrangements were hypothesized to play a role alongside the socio-economic and institutional factors

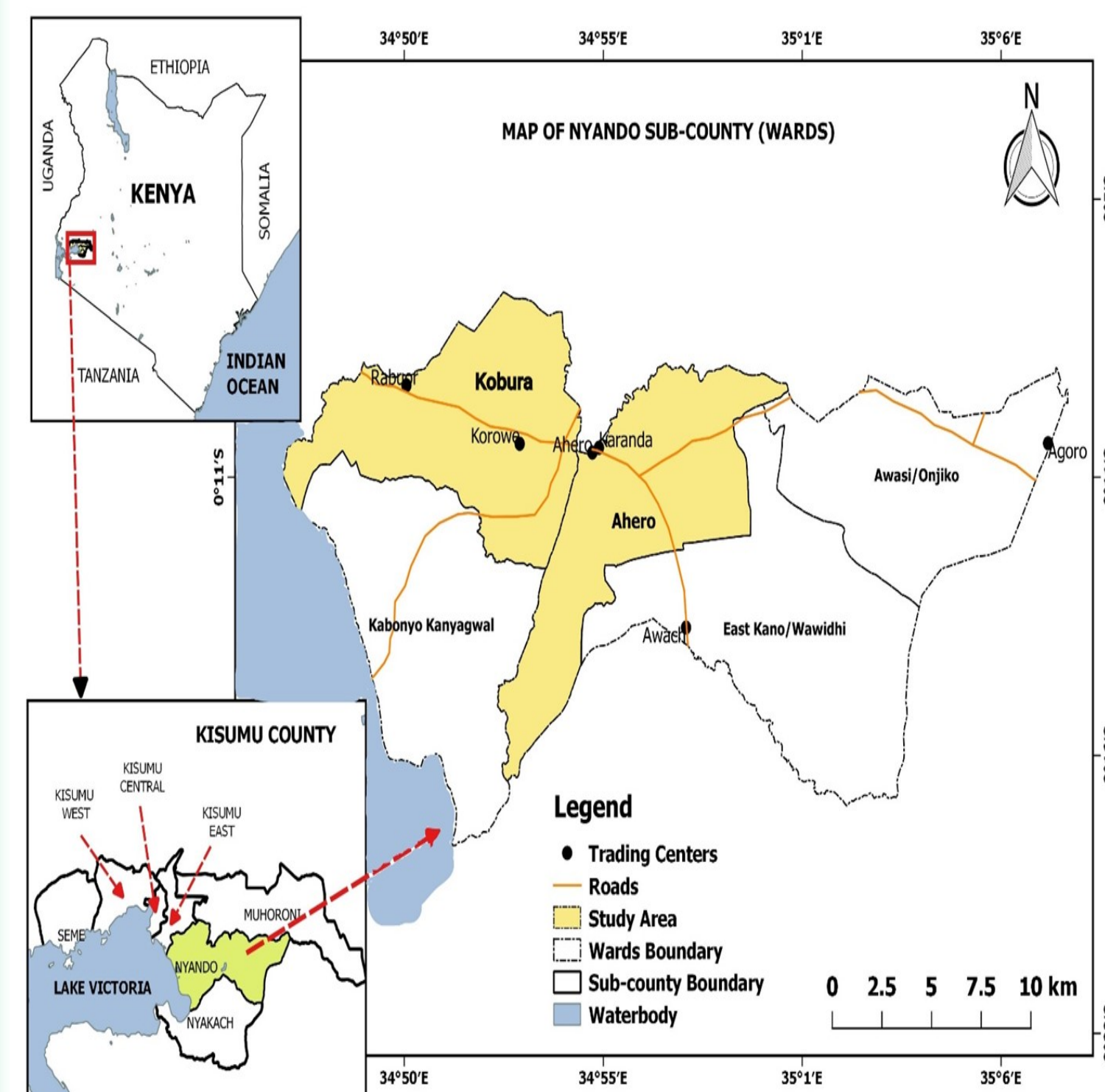
Processors
Contractors
Spot market



OBJECTIVE

- ✓ Effect of institutional arrangements on the choice of vertical coordination strategic options.

METHODOLOGY

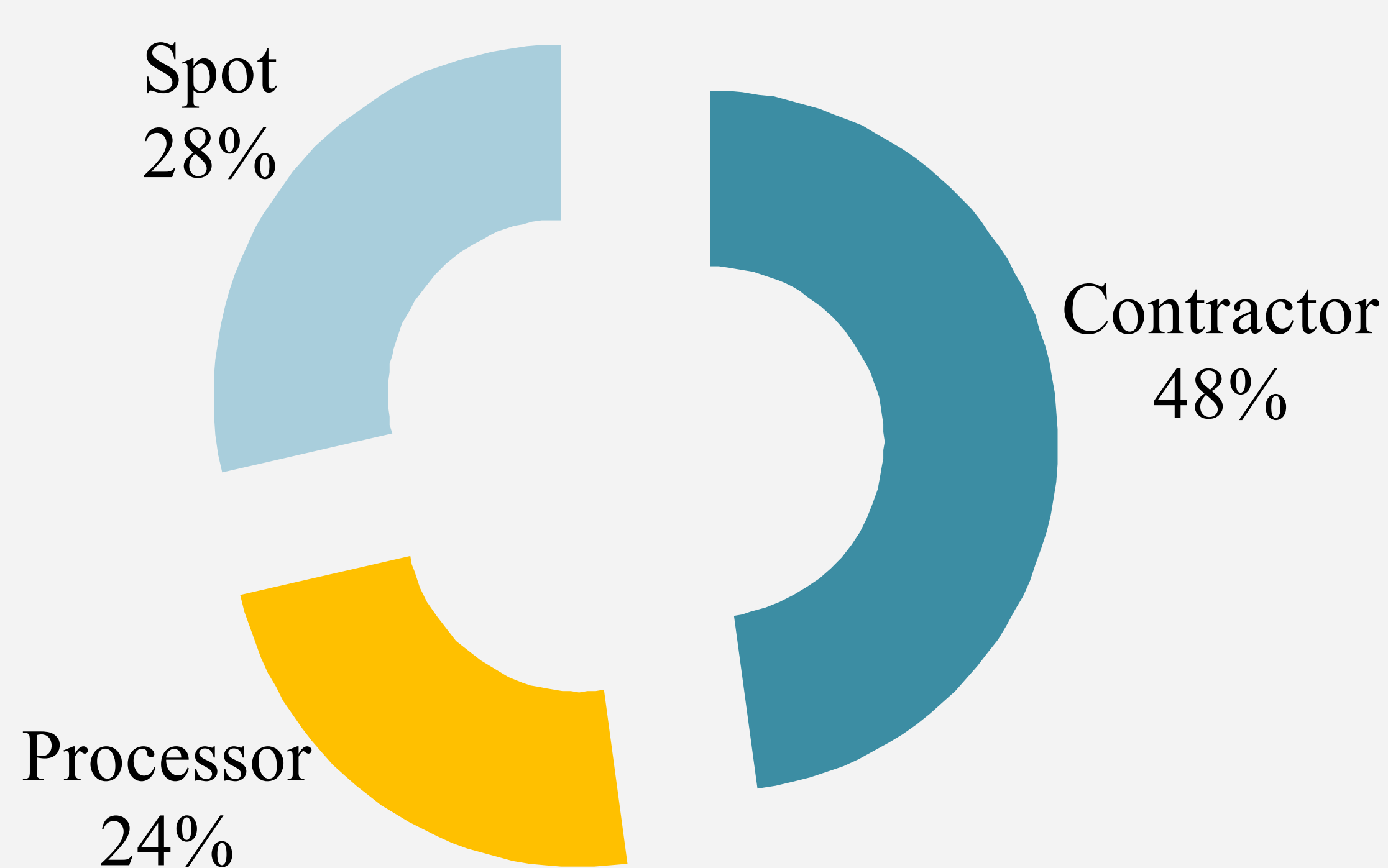


- ✓ Study area: Nyando Sub-county.
- ✓ 274 farmers were targeted from a population of 870.

- ✓ Research Design -Cross sectional design
- ✓ Sampling Procedure –Multi-Stage Sampling

RESULTS

- ✓ Majority of the sorghum producers (48%) targeted contractors, 28% spot and 24% processors.



Farmer and Farm Characteristics (Continuous)

| Variables | N | Mean | Std. Deviation |
|------------------------------------|-----|-----------|----------------|
| Age of house hold head (years) | 274 | 47.83 | 14.418 |
| Household size | 274 | 3.32 | 1.562 |
| Education in years | 274 | 9.65 | 3.956 |
| Sorghum farming experience (years) | 274 | 6.22 | 7.090 |
| Land size (acres) | 274 | 5.06 | 4.110 |
| Credit (KES) | 55 | 17590.909 | 7810.066 |

Influence of Institutional Arrangements on Choice of VCSO

| Multivariate Probit (MVP) | Spot (104) | Contractor (174) | Processor (86) |
|---|------------|------------------|----------------|
| Independent Variables | Coeff | Coeff | Coeff |
| Gender of Household head (dummy) | -0.190 | -0.214 | 0.292 |
| Age of Household head (continuous) | -0.024*** | -0.006 | 0.014 |
| Education of household head(continuous) | 0.050 | 0.030 | -0.001 |
| Other form of income (dummy) | -0.335 | -0.051 | 0.617** |
| Sorghum experience (continuous) | 0.077*** | -0.015 | -0.028 |
| Land owned and rented (continuous) | -0.110*** | 0.007 | 0.067** |
| Household size (continuous) | 0.055 | -0.111* | -0.092 |
| Farm specialization (ratio) | -0.515 | -0.053 | 0.300 |
| Price close to expectations (dummy) | 0.989*** | 0.006 | -0.458 |
| Quality inspection (dummy) | -0.536 | 1.083** | -0.687 |
| Payment delay (continuous) | -0.127*** | 0.051* | -0.116** |
| Bargaining power (likert) | 0.265** | 0.185* | -0.326** |
| Transport arrangement (categorical) | -0.608** | 1.586*** | -2.528*** |
| Distance to collection point (continuous) | 0.070*** | 0.040* | -.010 |
| Grade uncertainty (dummy) | 0.863*** | -0.395 | 0.251 |
| Technical support from buyer (likert) | -0.040 | -0.173** | 0.114 |
| Credit access (dummy) | -0.360 | -0.339 | -0.151 |
| Cons | 1.654 | -2.187** | 3.743*** |

CONCLUSION

- ✓ The results justified that the choice of spot market was influenced by young age, more sorghum experience, less farm sizes, fair price expectation, less payment delay, more bargaining power, transportation disarrangement, distance to collection point and grade uncertainty.
- ✓ Then choice of contractors was influenced by less household sizes, quality inspection, payment delay, more bargaining power, transportation arrangement, distance to collection point and less technical support.
- ✓ For sorghum producers choosing processors, off farm income, more land size, less payment delays, less bargaining power and transportation disarrangement influenced their choice positively.

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