IMPACT OF SMALLHOLDER FARMERS' PARTICIPATION IN CONTRACT FARMING ON FOOD AND NUTRITION SECURITY OUTCOMES IN NORTH WESTERN NIGERIA.

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INTRODUCTION

- Contract Farming (CF) is a potential pathway for improving the welfare of smallholder farmers in developing countries.

- Very little is understood about the impact of smallholder farmers' participation in CF farming on food security and nutrition outcomes in Nigeria.

- Previous studies did not focus on impact of CF on food and nutrition security outcomes.

OBJECTIVE

The purpose of this study is to analyze impacts of smallholder farmers' participation in contract farming arrangements on household income from Maize, food security and nutrition outcomes

METHODOLOGY

- **STUDY AREA**: KATSINA STATE, NORTH WESTERN NIGERIA
- **SAMPLING PROCEDURE**: A RANDOM SELECTION OF 250 FARMING HOUSEHOLDS.
- **ANALYTICAL TECHNIQUES**:
- ✓ Gross Margin Analysis.
- ✓ Household Food Insecurity Assessment Scale (HFIAS).
- ✓ Household Dietary Diversity Score.
- ✓ The Propensity Score Matching technique

Gross margin analysis

GM = GR- TVC

Where GM= Gross Margin/Ha

GR= Gross Revenue/Ha (Monetary Value of Maize output)

TVC= Total Variable Cost of production per Hectare

The HFIAS score

- **The HFIAS score is a continuous measure of the degree of food insecurity (access) in the household in the past one week.**
- **Obtained by summing the scores for each of the Nine occurrence and frequency-of-occurrence questions.**
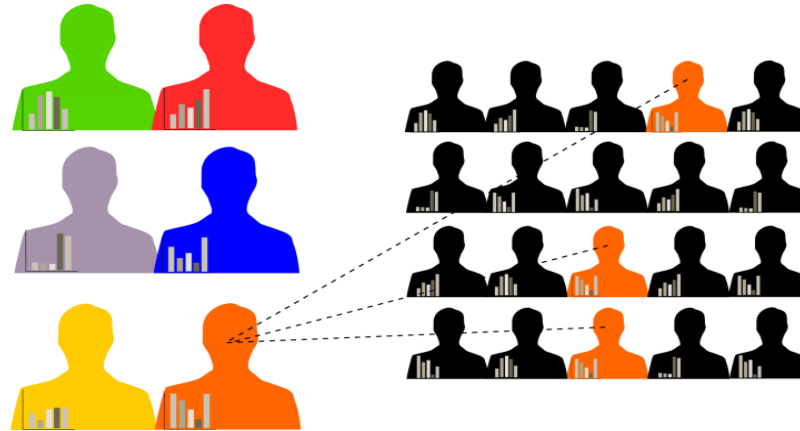
The Household Dietary Diversity Score

- **A simple summation of all the food groups consumed in the last seven days was done to obtain the Dietary Diversity Score for a particular household.**

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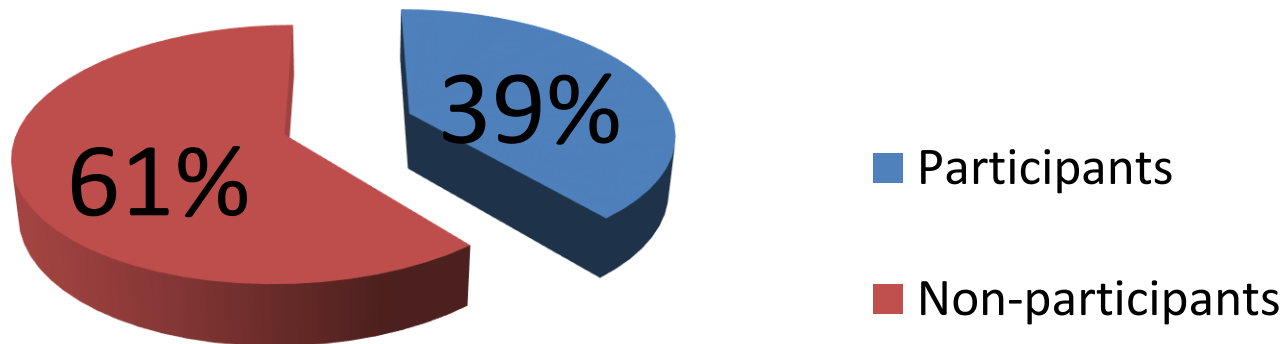
Propensity score matching

Treatment group

Control group candidates

- After matching, the average differences in the Gross Margin, HHDD and HHFIAS between the participants and non-participants in CF is the measure of impact.

FIGURE 1 PARTICIPATION IN CONTRACT FARMING

RESULTS

TABLE 1 DETERMINANTS OF PARTICIPATION IN CONTRACT FARMING

VARIABLES	Odd Ratio	Std. Err	P>z
Commercialization index	**2.33e+10**	**3.22e+11**	**0.084***
Ownership of transport assets	0.7885487	1.39056	0.893
Experience in maize farming	1.146971	.1224919	0.199
Distance to collection point	**0.7252644**	**.128988**	**0.071***
Market information	0.9999934	.0000129	0.607
Total labor	**1.000156**	**.0000943**	**0.097***
Other occupation	1.926093	.9181765	0.169
Acquisition of farm land	0.7455968	.323448	0.499
CONSTANT	4.79e-07	4.50e-06	0.122

Table 2 Covariate balancing and matching quality test for radius matching algorithm (Band width 0.25)

Sample	Ps R2	LR chi2	p>chi2	MeanBias	MedBias
Unmatched	0.180	9.85	0.007	22.5	22.5
Matched	0.008	0.34	0.845	3.5	3.5

- A high total bias reduction,
- Insignificant p-values of the likelihood ratio test after matching,
- Low pseudo-R2 ,
- Significant reduction in the mean standardized bias

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Table 3: IMPACT OF PARTICIPATION IN CONTRACT FARMING

INDICATORS	ATE	ATT	ATU
Income	₦37170.8	₦50234	₦28809.8
HDDS	-3.09	-3.1136***	-3.1277
HHFIAS	3.69	4.23**	4.58

$1=₦360

CONCLUSION

- **CONTRACT FARMING ARRANGEMENTS HAVE POTENTIALS FOR ENHANCING THE INCOME OF SMALLHOLDER FARMERS.**

- **FOOD SECURITY AND NUTRITION CONCERNS SHOULD BE FACTORED INTO CONTRACT FARMING AGREEMENTS TO AVOID PRECARIOUS FOOD SECURITY AND NUTRITION OUTCOMES AMONG SMALLHOLDER FARMERS.**

THANK YOU ALL FOR LISTENING