# Effect of an Integrated agriculture-nutrition extension program on nutrition knowledge and dietary diversity of farming households in Mukono district, Central Uganda.

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## BACKGROUND:

Most studies which have measured the effect of nutrition education on change in nutrition knowledge and dietary diversity have not gone further to identify factors that influence the change. Using an integrated nutrition-agriculture extension program as a case, this study assessed the effect of the program on nutrition knowledge and dietary diversity; and determined factors that influence the change in nutrition knowledge and dietary diversity of targeted farmers and households respectively. Findings are expected to inform design of effective agriculture extension/ nutrition education programs.

## Specific Objectives

1.Determine the effect of nutrition education on nutrition knowledge of men and women farmers in Mukono district.

2. Identify factors that influence nutrition knowledge of individuals in nutrition education intervention area.

3.Determine the effect of nutrition education on dietary diversity of farming households in Mukono district.

4.Identify factors that influence dietary diversity of farming households in nutrition education intervention area.

## METHODOLOGY:

- Design: Cross sectional survey design
- Setting: Rural farming households in Mukono District , central Uganda.
- Data collection: Qualitative data were used to collect contextual data, while quantitative data were collected from 206 men and women farmers who were organized in farmer groups (106 in intervention area, 100 in non-intervention area).
- Analysis: Independent sample t-tests to compare mean differences in knowledge and dietary diversity across the different groups of respondents while multiple linear regression models were used to determine factors that influence nutrition knowledge and dietary diversity.

## RESULTS

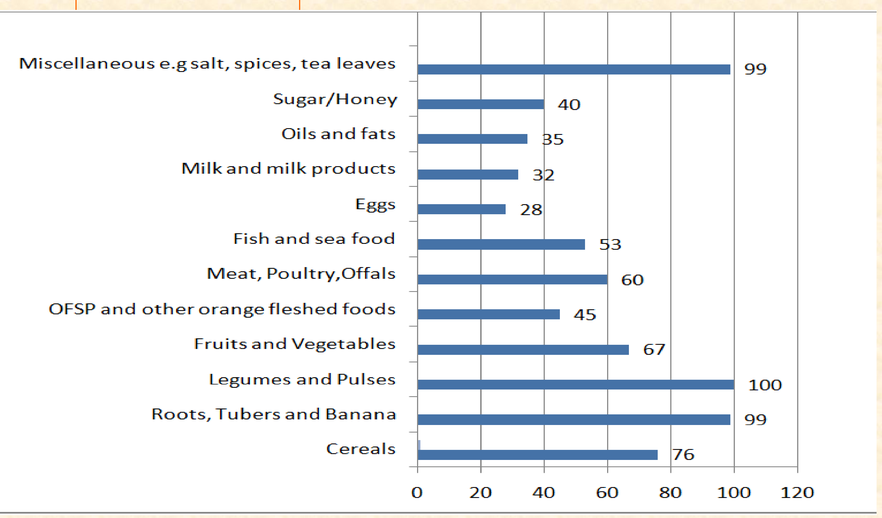


Figure 1: Dietary diversity in the study area.

Table 1: Effect of nutrition education on nutrition knowledge and dietary diversity

| Variable | Respondents | Mean score (S.D) | p-value |
|---|---|---|---|
| **Nutrition knowledge (Individual)** | Intervention area (n=106) | 6.16 (1.70) | 0.00** |
| | Non-intervention area (n=100) | 4.34 (1.02) | |
| **Dietary diversity (Household)** | Intervention area (n=106) | 8.6 (1.91) | .000** |
| | Non-intervention area (n=100) | 7.2 (1.42) | |

Table 2: Factors that influence nutrition knowledge

| Nutrition knowledge (number of correct responses) | Coeff. ($\beta$) | Robust S.E | *p* value |
|---|---|---|---|
| Age of respondent | -.047 | .015 | .004** |
| Sex of household head | .428 | .248 | .088 |
| Education level | .102 | .041 | .015** |
| Number of trainings received | .094 | .105 | .372 |
| Perception that training material were easy to read | .488 | .282 | .088 |
| Perception that training materials were attractive | .891 | .365 | .017** |
| Perception that messages were clear | .322 | .257 | .215 |
| Perception that training methods were interactive | -.396 | .279 | .160 |
| Household size | -.195 | .060 | .002** |
| Sex of individual that received training | 1.521 | .575 | .010** |
| Duration of training (number of seasons) | -.338 | .218 | .125 |
| Access to other sources of nutrition information | .503 | .265 | .061 |
| _cons | 4.759 | 1.35 | .001 |

Table 3: Factors that influence household dietary diversity

| Total number food groups consumed (sqroot) | Coeff ($\beta$) | Robustt S. E | *p* values |
|---|---|---|---|
| Total number of age groups in the household | .110 | .032 | .001** |
| Sex that controlled cash allocation in the household | -.101 | .060 | .095 |
| Sex of individual in household that received nutrition training | -.093 | .061 | .034* |
| Number of individuals involved in food preparation | -.018 | .053 | .732 |
| Household headship | -.159 | .071 | .029* |
| Education level of household head | .015 | .007 | .131 |
| Level of nutrition knowledge | .112 | .051 | .031* |
| Access to multiple sources of nutrition information | -.123 | .048 | .013* |
| Number of nutrition trainings received | -.035 | .074 | .634 |
| _cons | 2.653 | .201 | .000 |

** $p < .01$, *$p < .05$

## CONCLUSIONS

- Nutrition education leads to a positive change in farmers' nutrition knowledge and dietary diversity of their households.
- Nutrition knowledge gained from the training was very instrumental in influencing dietary diversity although the study recognizes other factors.

## RECOMMENDATIONS

**If agricultural extension/nutrition education is to impact nutrition knowledge and dietary diversity, there is need to:**

- Make training materials attractive, budget for training material development
- Design messages to suit needs of different age groups, men and women.
- Pluralistic extension systems should map organisations that offer nutrition education, harmonize messages to ease application

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