Smallholder Farms Characterization and their Use of Productive Resources in the Mt. Elgon Region, Uganda

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Introduction

- Smallholder farms in the Mt. Elgon region are diverse in terms of structure and production strategies.

- The diversity in these farming systems has implications on their farm output as well as their contribution to the local food system.

- This study explored the relation between the production diversity of farms and their resource endowment so as to be able to construct typical farm models.

Materials and methods

- 108 farm households in the Kapchorwa district, Uganda were interviewed using a semi structured questionnaire during 2018.

- Principal component and Cluster analysis were applied to identify farm types and classify their production resources and strategies.

Fig. 1 Farmers using their resources for crop production

Fig. 2 Production diversity

Results

- Principal component one referred to as land resources: land accessed, land cultivated, number of fields explained the highest variability amongst farm types (Fig. 3).
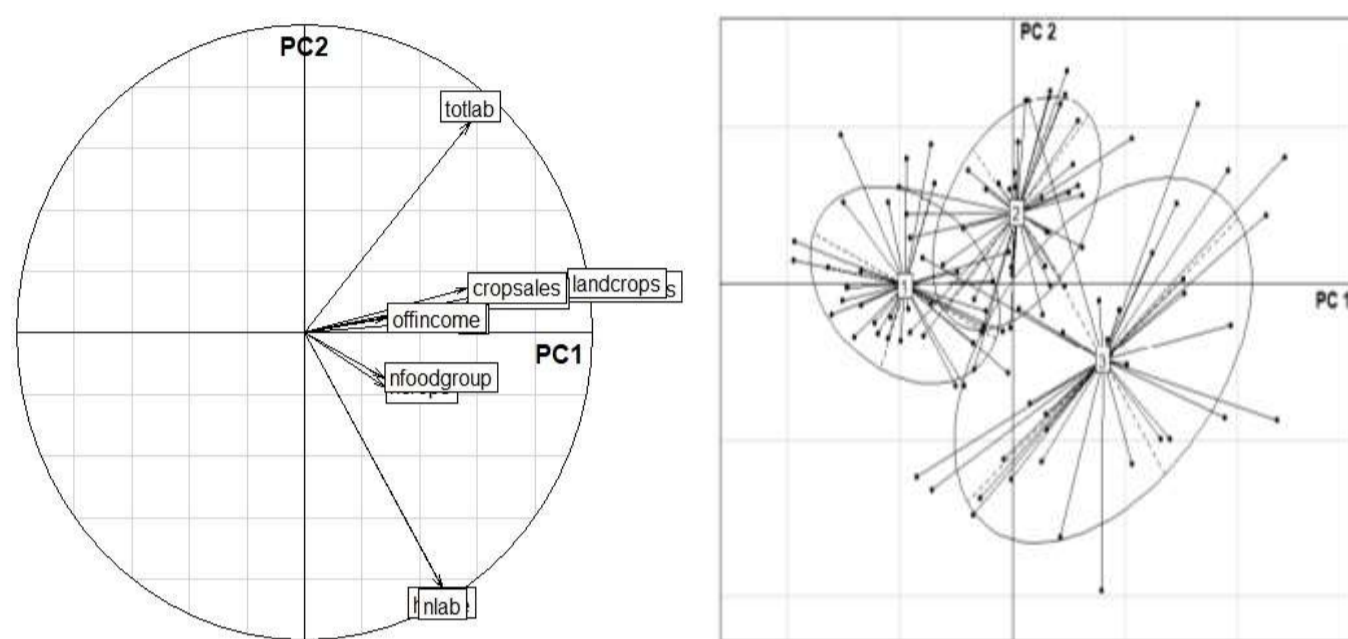

Fig.3: Correlation circle and farm types on the planes PC1-PC2

- Three farm types were identified: Type 1- Poor resource; Type 2- Medium resource; Type 3- High resource endowed farms (Table 1).

- Type 2 farms had relatively high production diversity and the highest labour input (Table 1).

Table. 1: Key characteristics of farms in each farm type

Variable	Farm Type 1 (n=32)	Farm Type 2 (n=40)	Farm Type 3 (n=36)	P-value
Land cultivated (ha)	0.46	0.97	1.34	0.000
Number of fields	1.94	2.73	2.78	0.000
Number of crops	4.16	5.53	5.42	0.000
Number of food groups	3.12	3.92	3.81	0.001
Labour (AEU)	3.70	3.52	6.29	0.000
Labour input (hr)	311.78	701.80	506.53	0.012

Conclusions

- Low production diversity in terms of number of crops and food groups produced in type one farms were observed due to their low farm resource endowment.

- Production diversity can be increased by directing intensification interventions in low productive farms.