

A comparison of farm typology approaches in northern Ghana

Katja Kuivanen, Stéphanie Alvarez, Mirja Michalscheck, Samuel Adjei-Nsiah, Katrien Descheemaeker, Shaibu Bedi Mellon, Jeroen Groot

Key messages

Grouping diverse farm households into subsets or ideal types can support the development (selection of farms), implementation (targeting and scaling-out of innovations) and monitoring (scaling up of impact assessments) of R4D projects. Different approaches to typology construction can have different results and this will affect the meaningfulness of the resulting types for involved stakeholders.

- ✓ The statistical typology revealed general structure/ pattern of farm household variation: possibility for extrapolation beyond study area.
- ✓ By incorporating actor perspectives, the participatory typology captured context-specific aspects of farm complexity: may enhance local relevance and socio-cultural sensitivity of interventions.

Objectives and approach

The aim of this study was to compare two approaches for typology construction for 80 surveyed farm households across three Africa RISING project communities in Ghana's Northern Region: statistical (top-down, researcher-defined) and participatory (community-based, farmer-defined), see Figure 1.

Key results

- ✓ Selection differed between statistical (12 quantitative key variables comprising household size, labour, land use, livestock and income) and participatory groupings (15 criteria - farm size and gender most discriminating), see Table 1.
- ✓ Similar descriptive names belied divergent underlying meaning due to interpretation/cultural differences (Table 1; Figure 2).
- ✓ For both typologies data were sometimes inaccurate: for the statistical typology survey data did not always reflect the reality (for various reasons), for the participatory typology cultural and social (power) issues tended to distort assessment of farms.
- ✓ Limited overlap between assignment of surveyed households to types when comparing the two typologies.
- ✓ Nevertheless, mean profile of participatory types roughly matches that of corresponding statistical types on selected variables.

Significance and scaling potential

Although statistical techniques warrant objectivity and reproducibility in the analysis, the complexity of data collection and representation of the local reality might limit their effectiveness in selection of farms, innovation targeting and out-scaling in R4D projects. In addition, while participatory typologies offer a more contextualized representation of heterogeneity, their accuracy can still be compromised by socio-cultural constraints. Therefore, we recommend making effective use of the advantages offered by each approach by applying them in a complementary manner.

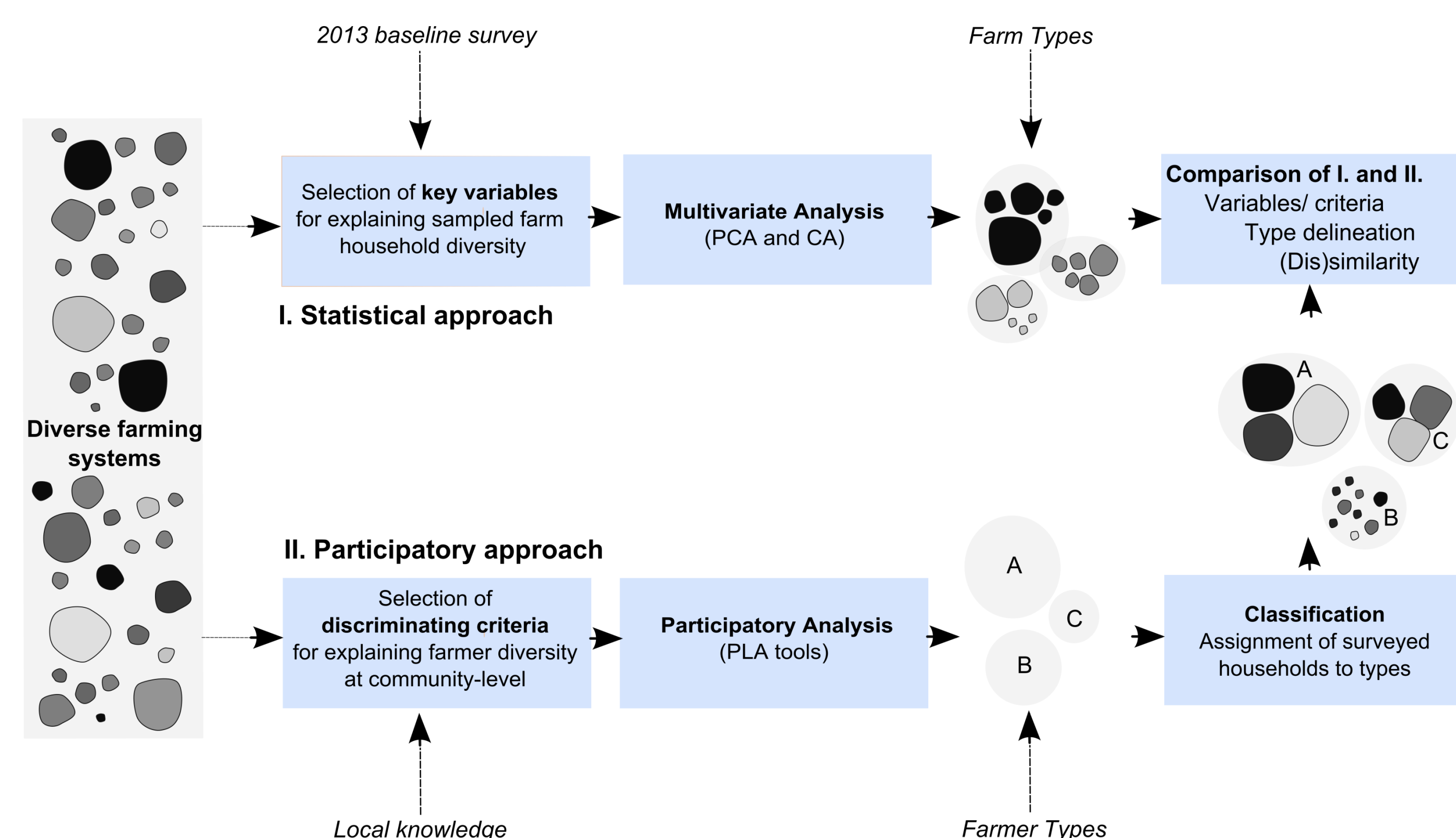


Figure 1. Steps in the analysis comparing statistical and participatory typology construction methods applied in northern Ghana.

Table 1. Main characteristics of the five farm types determined using participatory methods (HRE: High resource endowed; MRE: Medium resource endowed; LRE: Low resource endowed; SRC: Severely resource constrained).

Type	Symbol	Main characteristics	% in survey
Statistical Typology			
1		HRE, large cattle herd, ample off-farm activities	11%
2		MRE, large farms, market orientation	10%
3		MRE, small ruminants, on-farm labor intensive	13%
4		MRE, small ruminants, ample hired labor	46%
5		LRE, maize dominated, few off-farm activities	14%
6		SRC, livestock sales, ample off-farm activities	6%
Participatory typology			
A		Pukparkara ('Big farmers'- men): HRE, market-orientation	8%
B		Pukparsagsa ('Medium farmers'- men): MRE, variable orientation	52%
C		Pukparbihi ('Small farmers'- men): LRE, subsistence orientation	40%
D		Pagba pubihi ('Small farmers'- women & children): LRE and SRC, market orientation	0%
E		Suhukpion ('Farm-less'- men): work on other farms as hired labour	0%

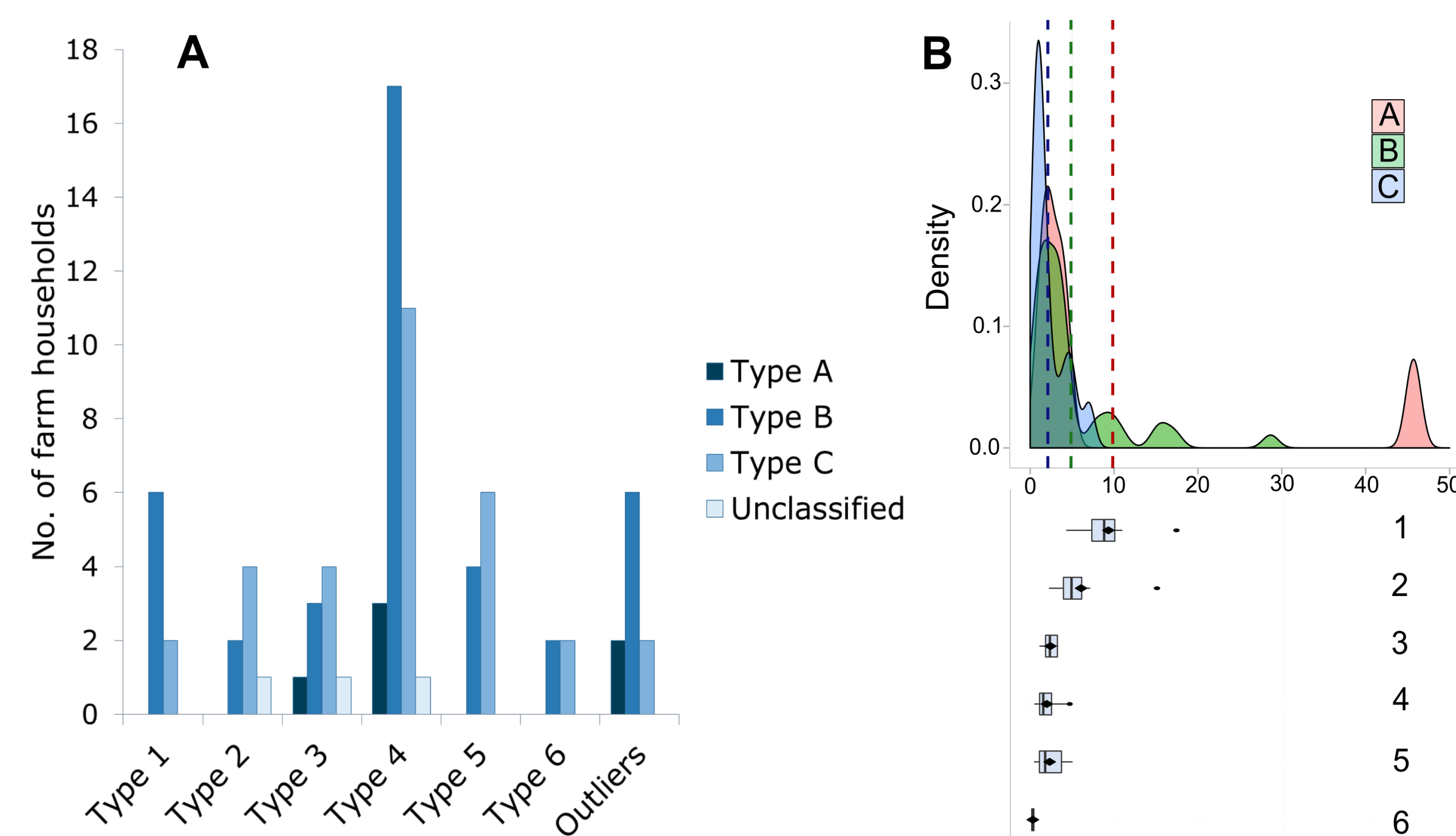


Figure 2. Classificatory overlap between the typologies (A) and kernel density curves (participatory Types A-C, group means represented by colored dashed lines) combined with boxplots (statistical Types 1-6, group means represented by black markers) for the variable of herd size (total TLU) per Type (B).