Documenting Farmer-led Knowledge Co-creation in Horticultural Systems in Farmer Field Schools in Senegal and Kenya

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BACKGROUND

Farmers Field Schools (FFS) have gained prominence in agricultural development for enhancing the capacity of farmers to adopt sustainable farming practices and improving their general agricultural skills in Africa and other regions. However, little information is available on the processes of knowledge co-creation within group members. Within the frame of the AfriNutriForest project that aims to develop, test and promote agroecological fruit-vegetable agroforestry systems in Senegal and Kenya, we document the co-creation of knowledge with farmers by using the FFS model.

CONCLUSION

Fig 1: Farmers celebrating performance of improved vegetable production

- ❖ FFS approach provides a platform for empowering farmers through observation and hands on activities.
- ❖ FFS potentially improves agricultural productivity.
- ❖ Seasonality affects the process of knowledge co-creation.

METHODS

Seven farmer groups (three in Senegal and four in Kenya) with mostly female members were identified to participate in the project. FFS activities performed included 1) participatory needs assessments, 2) listing and ranking of most important vegetables and fruits, 3) identifying production challenges of priority horticultural crops, and 4) exploring potential solutions (see figures below). Groups designed and implemented farmer-led experiments in the seven sites as shown in Table 1 and figures below.

Step 1: Transect walk by farmer group during a needs assessment of agroecological practices in Pambal, Senegal.

Step 2: Farmers listing and ranking the most common vegetables and fruits, then they identified challenges of vegetable production observed during the transect walk.

Step 3: Farmers set up experiments of interest, collect data in their experimental plots, including growth, pest and disease problems and yield.. They also discuss their experience and document the learning process.

Step 4: Farmers continuously explore possible solutions in vegetable production, e.g the application of neem extract in vegetable-amaranth that was grown using compost, but showed pest infestation.

RESULTS

Table 1: Characteristics of the seven FFS groups in Senegal and Kenya

Country	Sites	Gender F	Gender M	Trial Performed (Vegetable)	Treatments
Senegal	Ndiamb Fall	36	14	Irrigation system (tomato)	Control (manual irrigation), laser, drip irrigation, sprinkler irrigation
	Pambal	19	1	Nursery establishment techniques (lettuce)	Sowing: Direct on ground, in recycled tires, on tarpaulin
	Mboudaye	18	0	Soil Salinity (onion)	Soil amendment: Control, peanut husks, millet husks
Kenya	Takaungu	24	2	Moisture retention (amaranth)	Bed types: Control (flat), raised bed, sunken bed
	Mavueni	15	0	Soil amendment (kale)	Fertilizer: Control (nothing), compost, poultry manure
	Malindi	17	5	Crop protection (amaranth)	Spraying: Control (nothing), neem extract, pepper extract
	Mtwapa	12	3	Crop protection (amaranth)	Control (hand picking), spraying neem extract , ash application

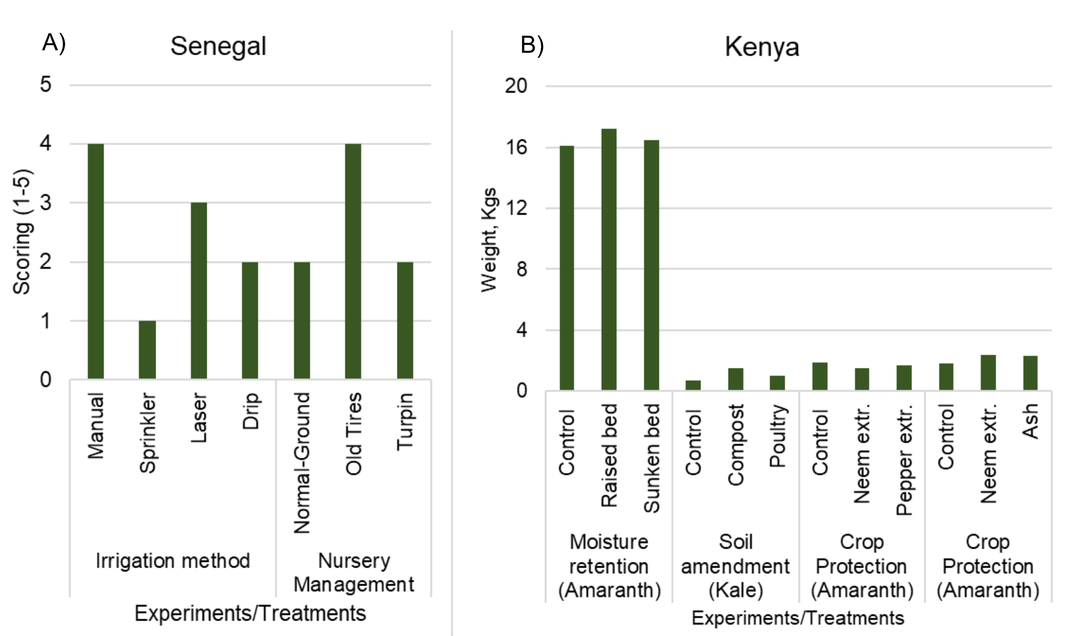

Fig 1: Vegetable performance by experiment based on A) farmer ranking and B) yields of different vegetables selected by farmers in the different countries.

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