2nd Biennial Africa Climate-Smart Agriculture Stakeholder Conference

Thematic Paper Presentation on Compatibility assessment of agroecology and CSA practices

14th September 2022

DeSIRA LIFT

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Climate-Smart Agricultural Practices for Sustainable Food System in Nigeria: An Agroecology-specific Analysis

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Background

- Climate change is perhaps the most serious threat to agriculture
- Various agroecological zones have their peculiar challenges
- Climate Smart Agricultural (CSA) practices to the rescue
- This study investigated CSA practices from an agroecological perspective

Methodology

- Nine agroecological zones
- The four waves of the LSMS-ISA Data was employed –
- A cross-sectional survey conducted periodically
- Descriptive Analysis (Percentages and Means) & Inferential Statistics (ANOVA)

Key Findings – CSA Practices (adaptation strategies) across agroecological zones

CSA Practices	N	S	FWS	GS	JP	LR	MF	SS	M	DS
Mono-Cropping	33.73	19.37	66.68	39.69	38.17	37.35	82.39	36.99	70.80	32.24
Inter-Cropping	15.97	19.54	34.63	17.84	14.95	20.42	0.70	13.39	11.10	19.93
Relay Cropping	1.42	1.03	0.00	5.87	76.88	0.31	0.00	0.47	0.47	0.47
Mixed-cropping	65.11	80.12	32.01	48.84	62.66	62.94	34.88	65.06	27.16	63.07
Alley-Cropping	0.36	0.19	0.00	1.40	0.27	0.21	0.00	0.31	0.77	0.35
Strip-Cropping	0.19	0.17	0.00	1.57	0.00	0.00	0.00	0.87	0.00	0.00
Use of Improved Variety Crops	23.99	25.26	15.20	18.64	19.82	31.76	62.22	31.34	27.56	26.93
Use Inorganic of fertilizer	30.16	40.38	0.00	34.92	46.76	10.99	60.89	35.50	20.09	13.81
Use of Irrigation System	2.31	3.74	0.00	2.94	2.04	0.47	37.12	2.59	1.58	0.56
Use Organic fertilizer	9.75	18.27	0.00	4.93	8.78	5.09	0.00	11.70	2.77	3.53
January	2.01	0.07	40.88	3.15	0.00	7.43	17.74	0.28	2.93	1.93
February	2.44	0.21	26.23	1.59	0.66	12.50	22.15	0.77	1.78	4.23
March	6.89	2.09	16.96	4.99	1.91	24.83	59.70	3.13	3.39	10.48
April	16.20	15.36	5.13	17.01	34.13	30.70	20.93	14.45	20.06	39.66
May	28.21	29.86	0.00	29.77	40.49	10.41	10.83	46.78	28.23	16.72
June	29.62	38.42	0.00	25.34	17.89	5.27	3.21	23.42	26.75	9.69
July	9.22	10.60	0.00	9.80	3.87	3.23	3.21	7.91	10.99	7.48
August	3.18	3.29	0.00	4.41	0.78	2.00	2.81	2.53	3.91	3.24
September	0.56	0.12	0.00	1.31	0.30	0.69	1.20	1.42	1.00	0.72
October	0.59	0.07	3.24	1.01	1.05	0.69	0.30	0.31	0.43	2.33
November	0.53	0.07	3.73	0.97	0.53	1.27	0.40	0.33	0.67	2.12
December	0.57	0.52	22.35	1.60	3.34	2.59	26.07	0.18	1.75	1.42

Key findings

- Climate Change Indicators have varied across each Agroecological zone over the waves
- Significant relationship between agroecological zones and yield
- The yield of major staples per agro-ecological zone varied across the waves

Key Recommendations & Conclusion

- Design of an Institutional framework that sufficiently address the needs of different agroecological zones
- Farmers should be encouraged to adopt CSA practices that suit their agroecological zones

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Thank you

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