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REPORT OF THE NORTH-EAST ZONAL POLICY DISCOURSE ON CLIMATE SMART AGRICULTURE (CSA) TECHNOLOGIES, INNOVATIONS AND MANAGEMENT PRACTICES (TIMPs)

Date: TUESDAY, 16TH FEBRUARY, 2021

**VENUE: WOMEN AFFAIRS CONFERENCE HALL, MINISTRY OF WOMEN
AFFAIRS, GOMBE, GOMBE STATE**

TIME: 10: 00AM

Executive Summary

A policy discourse on the state of Climate-Smart Agriculture (CSA) Technologies, Innovations and Management Practices (TIMPs) in North-East Zone, Nigeria was held at women affairs conference hall, ministry of women affairs, Gombe, Gombe state on Tuesday, 16th February, 2021 drawing 56 participants. Major stakeholders in climate issues were drawn to participate in the discourse. They include farmers, farmers' association, media, agricultural research institutes, Ministry of Environment, Ministry of Agriculture, State Agricultural Development Programs in the Zone (Adamawa, Bauchi, Borno, Gombe, Taraba and Yobe), Nigerian Meteorological Agency (NIMET), Federal University, Kashere, Gombe State University. The technical session of the discourse was anchored by Dr F. O. Issa (of NAERLS) and Dr Kolo Abdulwahab (of ATBU, Bauchi).

Some CSA TIMPs shared by participants in the Northeast region of Nigeria are adoption of Good agricultural practices, Gombe Goes Green (3G) policy in Gombe state, ranching system in Mambilla Plateau of Taraba State, adoption to alternative feeds supply for livestock than open grazing. Others include Transformation of Irrigation, Management (TRIM), Gully erosion control in Nigeria, supported by NEWMAP, Reestablishment of WAWA grazing reserve, and adoption of climate sensitive crops.

The challenges of CSA in the NEZ were lack of knowledge of the policy on Climate change, lack of proper awareness by the farmers on the needs to key in to the CSA initiative, inadequate/limited Agricultural extension service delivery, inadequate climate data

poor awareness of climate-Smart agriculture TIMPs in the Northeast zone, variability of rainfall and inadequate knowledge on climate change.

Factors which mitigate against the integration of CSA into policy in the zone include lack of technical knowledge of the CSA by the extension service agents, inability of policies to be fully implemented by government agencies and establishments. Also, States have no action plan to encourage CSA TIMPs uptake.

Some of the identified policies or practices uptake in the North-eastern zone of Nigeria includes (i) Gombe Goes Green (3G) by the Gombe state government, which targets to plan one (1) million trees every year for the next four (4) years, (ii) Tree Replacement - a suggested initiative to curtail deforestation by wood cutters across the zone, it involves replanting a multiple of each tree been cut down, (iii) Multiple farmer's support programs by the federal and state governments, (iv) NEWMAP, designed to reduce/eliminate erosion and aid in water shed management projects, (v) Ongoing Trimming project (vi) IFAD CASD projects (vii) WAWA range grazing reserve, (viii) Agroforestry and orchard establishment and (ix) Reforestation programs of government.

Array of actionable recommendations were proffered by the participants. Such include the need for policy support, awareness creation on CSA TIMPs as well as recruitment and training of extension personnel increased provision of CSA information

BACKGROUND/INTRODUCTION

Climate-smart agriculture (CSA) is an integrated approach to managing crop lands, livestock, forests and fisheries production, it is an initiative that looks at addressing the interlinked challenges of food security and climate change.

Nigeria as a country is a growing global population and changing diets are driving up the demand for food. Production in Nigeria and especially the North East is struggling to keep up as crop yields level off in many parts of the world, ocean health declines, and natural resources including soils, water and biodiversity are stretched dangerously thin, with raining season reducing in durations over a period of time.

A 2020 report found that nearly 690 million people--or 8.9 percent of the global population-- are hungry, up by nearly 60 million in five years. The food security challenge will only become more difficult, as Food and agricultural organisation (FAO) state that the world will need to produce about 70 percent more food by 2050 to feed an estimated 9 billion people.

Having studied the challenges of vulnerability related to agricultural goods and services as regards to diminishing yield through increase in temperature, constant weather variability, ever changing agro-ecosystem boundaries, migration, over population, invasive crops and pest etc. The Climate Smart-Agriculture was then initiated as a means to mitigate, increase productivity and efficiency in food supply chain.

On farms, climate change is reducing crop yields and the nutritional quality of major cereals and lowering livestock productivity. Substantial investments in adaptation will be required to maintain current yields and to achieve production and food quality increases to meet demand.

The programme which centres on Climate Smart-Agriculture was initially alien to most participants and groups alike as they kept describing climate change and global warming efforts put in place by world leaders as a way to mitigate climate Smart agriculture. The programme was introduced as a means to educate stakeholders in the possibility of a better agricultural alternative than the already existing programs put in place by government, agencies, private sectors and farmers alike. It is expected that the training/seminar be stepped down to the immediate/primary targets.

Attendance

Keynote speakers:

Dr F.O. Issa

Associate Professor

Department of Agricultural Extension and Economic, Ahmadu Bello University, Zaria.

Topic: Climate Smart Agriculture (CSA) Technologies, Innovations and Management practices (TIMPs): What are they?

Dr Kolo Abdulwahab

Abubakar Tafawa Balewa University

topic: The state of climate-smart agriculture (CSA) technologies, innovations and management practices (TIMPs) knowledge and uptake in north-east Nigeria: challenges and prospects

2. ATTENDANCE/ HIGHLIGHTS

3. Programme description

Some of the highlights experiences shared during the NIFAAS workshop were;

i. Panel discussion

Stakeholders were shared into four (4) groups and each a task to undergo. Amongst the task were four (4) sets of questions which opens to many other forms of discuss. At the end, the impact associated with climate smart agriculture was explained and many participants understood the importance of proactive approach to CSA based agricultural production.

ii. Group presentation

Each of the groups presented on the zonal policy on Climate Smart-Agriculture (CSA).

iii. Presentation of certificate

Certificate was presented to all participants of the discourse.

iv. General discussion

During the seminar, there were key questions asked on roles of government especially in the north east in curtailing the influx of greenhouse gas and its direct effect on crop yields which the complaint was tendered via a concerned farmer's association member which led to series of listing government ongoing and yet to be commissioned projects by the State Coordinator, Agricultural Development Project of the state ministry of Agriculture.

4. What is the state of Climate Smart-Agriculture (CSA) Technology, Innovation and management policy's knowledge and uptake in the zone?

Some of the highlights shared by participants in the Northeast region of Nigeria are;

- i. Adoption of Good agricultural practices
- ii. Gombe Goes Green (3G) policy in Gombe state
- iii. Ranching system in Mambilla Plateau of Taraba State
- iv. Adoption to alternative feeds supply for livestock than open grazing.
- v. Transformation of Irrigation, Management (TRIM)

- vi. Gully erosion control in Nigeria, supported by NEWMAP
- vii. Reestablishment of WAWA grazing reserve
- viii. Adoption of climate sensitive crops
- ix. There is little sensitisation and awareness for Climate Smart-Agriculture in the Northeast region.

5a. What are the challenges of Climate Smart-Agriculture Technology Innovation and management practices uptake in the zone?

The challenges of Climate Smart-Agriculture was summarised as below;

- i. Lack of knowledge of the policy on Climate change
- ii. Lack of proper awareness by the farmers on the needs to key in to the CSA initiative.
- iii. Inadequate/limited Agricultural extension service delivery
- iv. Inadequate climate data
- v. Poor awareness of climate Smart agriculture, Technology Innovation and management practices in the Northeast zone.
- vi. Variability of rainfall and inadequate knowledge on climate change.
- vii. High EA:FA ratio in the zone.
- viii. Lack of proper information channels, there is an insufficient information ongoing on CSA.

5b. What factors mitigate against the integration of Climate Smart-Agriculture into policy in the zone?

- i. Lack of technical knowledge of the Climate Smart-Agriculture by the extension service agents.
- ii. Inability of policies to be fully implemented by government agencies and establishments.
- iii. States have no action plan to encourage Climate Smart-Agriculture, Technology Innovation and management practices uptake.

6. Highlight any identified policy or practice in the zone that have integrated the Climate Smart-Agriculture issues?

Some of the identified policies or practices uptake in the Northeastern zone of Nigeria includes;

- i. Gombe Goes Green (3G) by the Gombe state government, which targets to plan one (1) million trees every year for the next four (4) years.
- ii. Tree Replacement - a suggested initiative to curtail deforestation by wood cutters across the zone, it involves replanting a multiple of each tree been cut down.
- iii. Multiple farmer's support programs by the federal and state governments.
- iv. NEWMAP, designed to reduce/eliminate erosion and aid in water shed management projects.
- v. Ongoing Trimming project
- vi. IFAD CASD projects
- vii. GGW (Tree planting and distribution of seedlings campaign)
- viii. WAWA range grazing reserve.
- ix. Agroforestry and orchard establishment
- x. Reforestation programs of government.

7. What are the actionable roadmaps to increasing CSA uptake and integrating it into policy and practice?

Recommendations	Implementing body	Resources to be used	Timeline for implementation
Policy document should be passed down to all tiers of government and the policies that promotes mitigation measures to be explained to all stakeholders in the value chains	Federal Government of Nigeria, States and Local Governments	Value chains	January - June 2021
Sensitization and awareness of commodity value	Ministry of Environment, Ministry of	Media outlets, extension agents, etc	January - June 2021

chains	Information and Ministry of Agriculture		
Education and training	MANR, MDE, ADPs	Media, manuals, bulletins, and extension agents	January - November 2021
Monitoring and evaluation	MANR, MDE, etc	Mobility and staff	June - November 2021
States should develop action plan to encourage the adoption of mitigation measures	ADPs, MANR, MOE, etc	Ministry of Budget, Legislatures, etc	June - November 2021
Training and retraining of Extension agents	Agricultural research Institute, ADP	Training manuals, materials, etc	Quarterly
Deforestation laws reinforcement	MOE, FR, MOA and AH	Forest guards	All year round
Provision of alternative source of energy	Federal government, state and local government	Coal, gas cooker	All year round
Tree planting/ resuscitation of afforestation programme campaign	Government through MOE, MOA, and FR	Distribution and planting of seedlings, production of assorted seedlings	Continue basis
There should be awareness in local dialects	NOA	Media, step-down training	Quarterly
There should be enough trained extension workers in all local government areas	Federal, state and local government agencies	Leventis foundation and extension facilitators	Regularly
There should be weather forecast for all local government areas	NIMET, Media	Media, commodity associations	Regularly
Restriction in indiscriminate sale and use of pesticides	MOA	NGO's, Special Task force	Immediately and continuous

Conclusion

Results: Zonal Policy Discourse Survey (Northeast Zone)

During the NIFAAS CSA TIMPs for Northeast zone, a pre-discourse and post-discourse evaluation was conducted. The results were presented in the following figures and tables. The pre-discourse survey on CSA TIMPs (Figure 1) revealed that majority of the participants were Male (75%) and are age aged 40 years and below (Figure 2). This shows that most of the participants are younger people within an active and productive age bracket. Figure 3 showed that participants of the CSA in the Northeast Zone were experienced relevant stakeholders in the field of agriculture, drawn from research institute (11%), Ministries of Agriculture (20%), Extension agency (ADP) (5%), farmers organizations (5%), academics (34%), and media (25%). With respect to awareness on CSA (Figure 4), most (52%) of the participants in the Northeast policy discourse affirmed that they have heard of CSA before now, however, their knowledge of CSA is low (45%) as seen in Figure 5. Furthermore, Figure 6 revealed that 93% of the participant said they are not aware of any CSA policy operational in the Northeast zone, however, those aware (7%) reported that policies such as control grazing and ranching (67%), regulation on deforestation (33%), Gombe goes green and other similar interventions due exist within the zone (Figure 7). This is an indication that only few policy interventions on CSA in the Northeast zone. Responding on whether they are aware of any CSA TIMPs in the zone (Figure 8), just a little more than half (57%) of the participants said they are aware of various TIMPs in the zone. Such technologies, innovation and Management practices as presented in Figure 9 include use of improved crop varieties (60%), crop management practices (56%), soil management practices (48%), mixed farming (44%), controlled grazing (36%) and agroforestry. Other practices were water conservation strategies (28%), ranching (28%), pests and diseases management strategies (26%), weed management strategies (26%) and grassland intensification (12%). Furthermore, the result revealed that the training provided by NIFAAS on CSA TIMPs was the first training ever attended by 77% of participants (Figure 10). This is highly commendable considering the timeliness and importance of the discourse to our farmers. Participants' expectation at the end of the discourse (Figure 11) therefore, was to learn more knowledge on CSA (32%), to learn more about climate change and how to address the problem (16%), to know about CSA principles and operational policies (16%), to learn more about NIFAAS (11%), to improve agricultural activities (11%), how to implement policy through various crop varieties (11%), to know more

about new agricultural innovations that enhance crop yield (8%), to come up with strong regulation on deforestation and pollution (5%) among others.

The post-discourse evaluation (Figure 12) result on the other hand indicates that all the participants (100%) reported that the training was helpful in improving their knowledge on CSA with 70% of them said they are satisfied with the discourse platform provided (Figure 13). Result in Figure 14 suggests that about 57% of the participants felt that CSA is not well captured in policies in Nigeria and 98% have agreed that there is the need to include CSA in Nigerian policy (Figure 15). In addition, 91% of the participants agreed they have a role to play in integrating CSA TIMPs into policy in the Northeast zone as depicted in Figure 16. Prominent among the roles they pledged to play include; sensitization and educating farmers on CSA through extension activities (55%), advocacy for instituting policies on CSA (14%), implementing the knowledge learnt on CSA practices (9%) and stepping down the knowledge acquired on CSA (5%) (Figure 17). Others include; attending trainings on CSA, encourage farmers to plant trees round their farms, improve finance on environmentally friendly system of farming and massive afforestation in my farms and neighbourhoods. On whether they envisage a challenge in playing these roles, 68% of the participants agreed that challenges exist for effective implementation of CSA in the Northeast zone (Figure 18). Prominent among these challenges as shown in Figure 19 are; lack of funding and support by government (33%), lack of awareness of some stakeholders (27%), Farmers' attitude and resistance to change (20%), lack of political will from government (13%), lack of capacity building of personnel (10%). Other challenges include; lack of supports from relevant agencies, inadequate technology, shortage of extension workers and specialists, insecurity, bureaucratic process, low level of education of farmers, and poor knowledge of the pesticides use. All participants (100%) however, are willing to participate in future discourse on CSA in Nigeria (Figure 20). Based on this, we can conveniently say that stakeholders at the NIFAAS CSA TIMPs in the Northeast zone did not only gained knowledge on CSA but also are committed to spread the gospel.

A. Pre-Discourse Evaluation Results

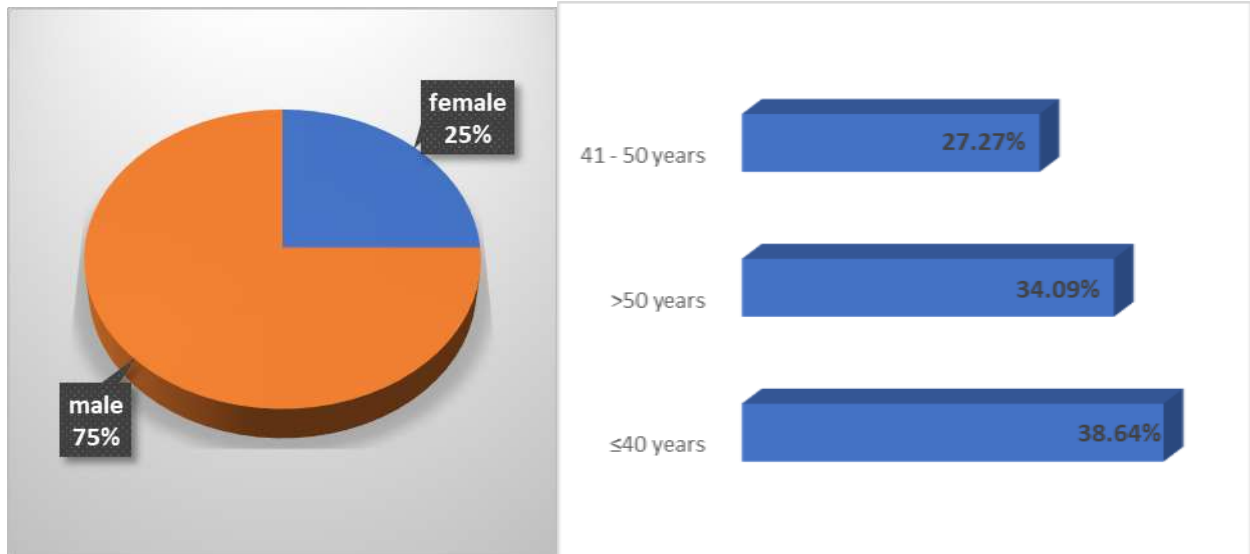


Fig. 1. Gender of Participants.

Fig. 2. Age Group of the Participants

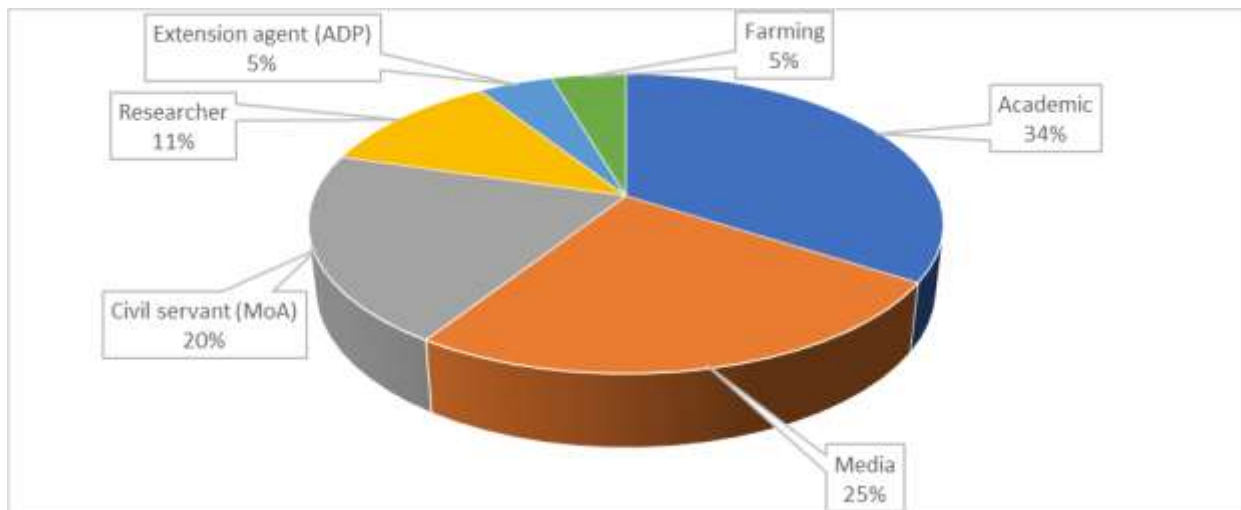


Fig. 3. Main Occupation of Participants.

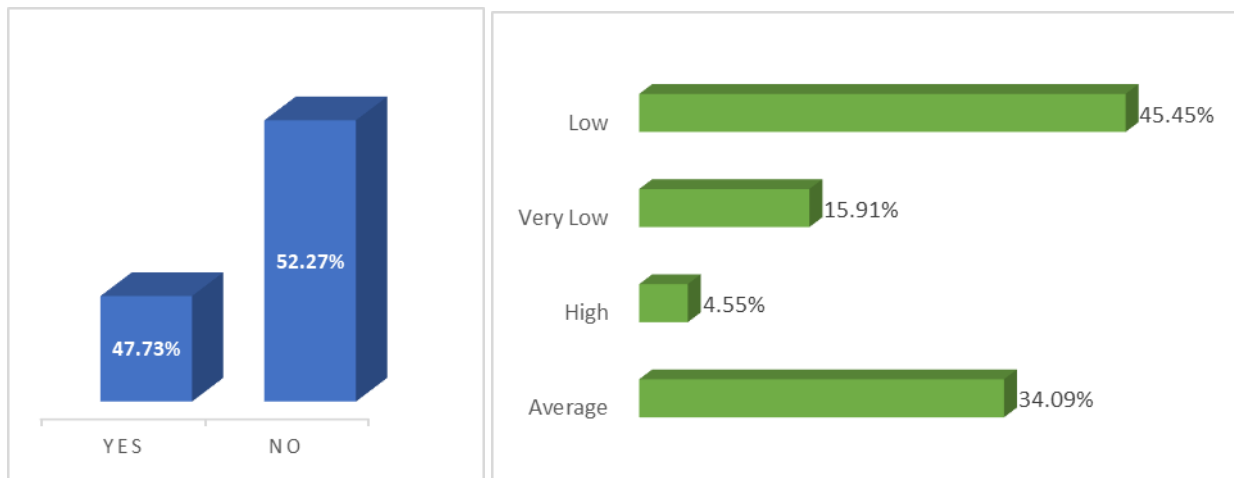


Fig. 4. Aware on CSA in the Northeast Zone

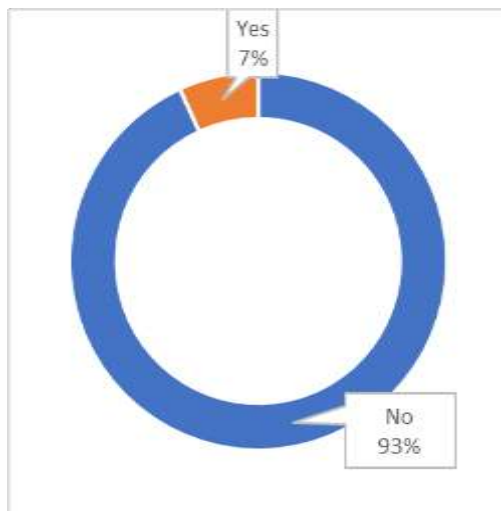


Fig. 6. Awareness of Participants on any CSA Policy in the Northeast Zone

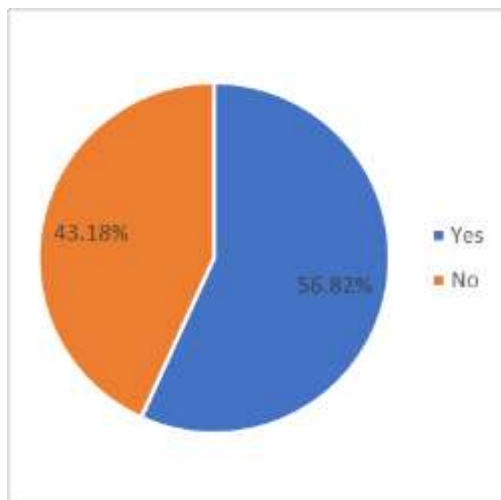


Fig. 8. Awareness on CSA TIM Practices

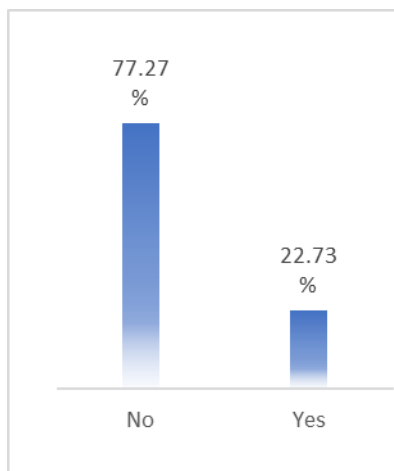


Fig. 5. Rating of Participants on their awareness on CSA

Policy	frequency	Percent
Global environmental feature integrated	1	33.33
Regulation on deforestation	1	33.33
Control grazing and ranching	2	66.67
Gapprace program on food security	1	33.33
Gombe goes green project	1	33.33

Fig. 7. List of CSA Policy Aware in Northeast Zone

CSA TIMPs	Frequency	Percentage
Soil management practices	12	48
Crop management practices	14	56
Use of improved crop varieties	15	60
Water conservation strategy	7	28
Pests and diseases management strategies	6	24
Weed management strategies	6	24
Mixed farming	11	44
Agroforestry	9	36
Ranching	7	28
Grassland intensification	3	12
Controlled grazing	9	36
Others	5	20

Fig. 9. List of TIMPs in the Northeast Zone

EXPECTATION	FREQUENCY	PERCENTAGE
To have knowledge of organic farming	1	2.63
To improve agricultural activities	4	10.53
To learn more knowledge CSA	12	31.58
To learn more about NIFAAS	4	10.53
How to implemet policy through various crop varity	4	10.53
To know about CSA principles and operational policy	6	15.79
To know more about new agricultural innovation that enhance crop yield	3	7.89
Come up with strong regulation on deforestation and pollution	2	5.26
To learn more about climate change and how to address the problem	6	15.79
Poverty eradication	1	2.63
Use of extension workers	1	2.63
To becomes CSA trainer	1	2.63

Fig. 10. Attended Any Training on CSA?

Fig. 11. Expectation of Participants from the Policy Discourse

B. Post-Discourse Evaluation Results

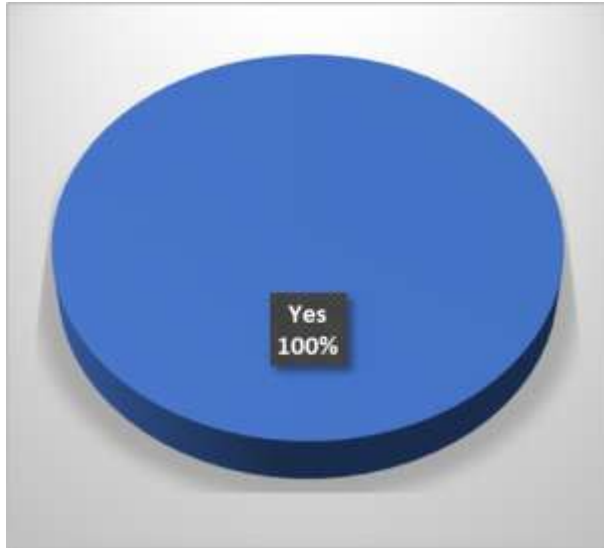


Fig. 12. If the training was helpful?

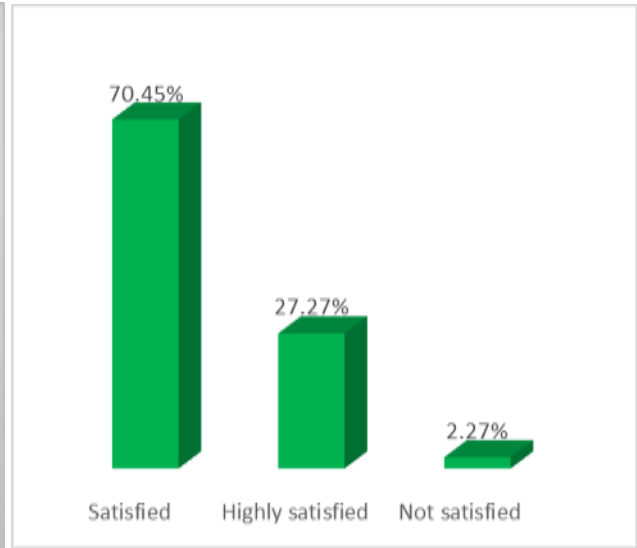


Fig. 13. Training Satisfaction Rating

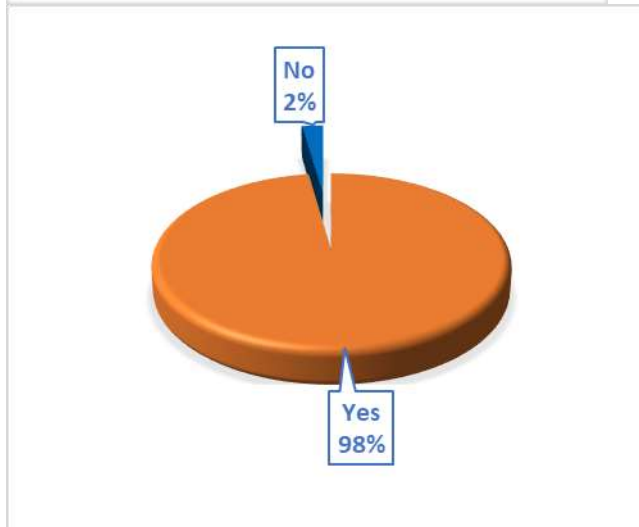
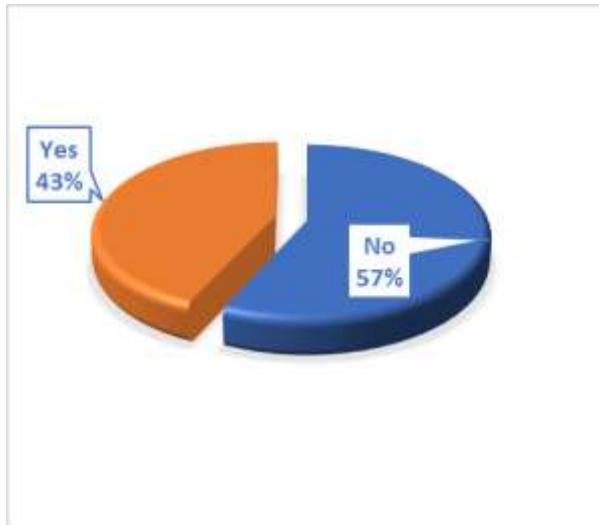


Fig. 14. If CSA is Captured in Nigerian Policy

Fig. 15. If there is need to include CSA in Nigerian Policy

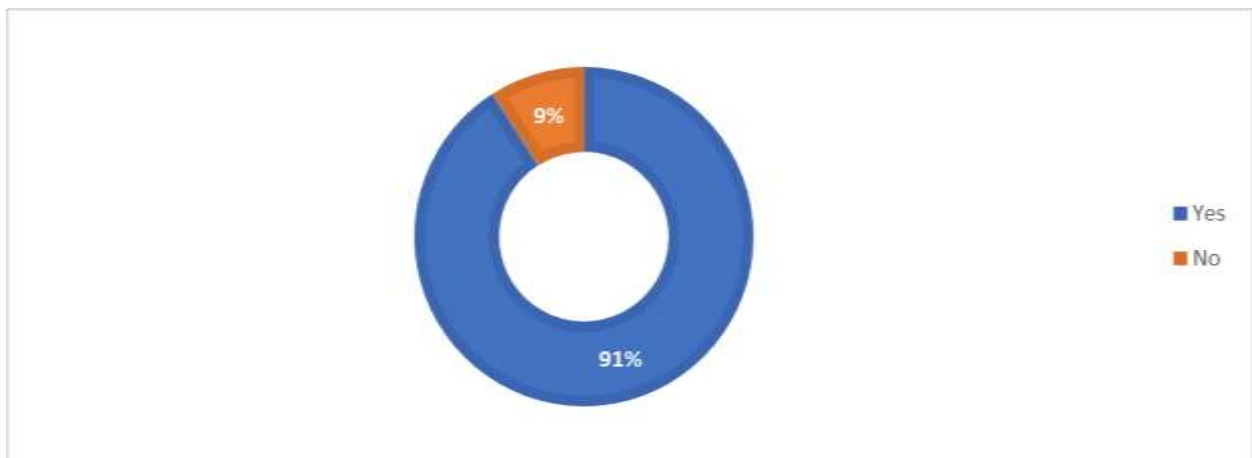


Fig. 16. If Participants have role in Integrating CSA TIMPs

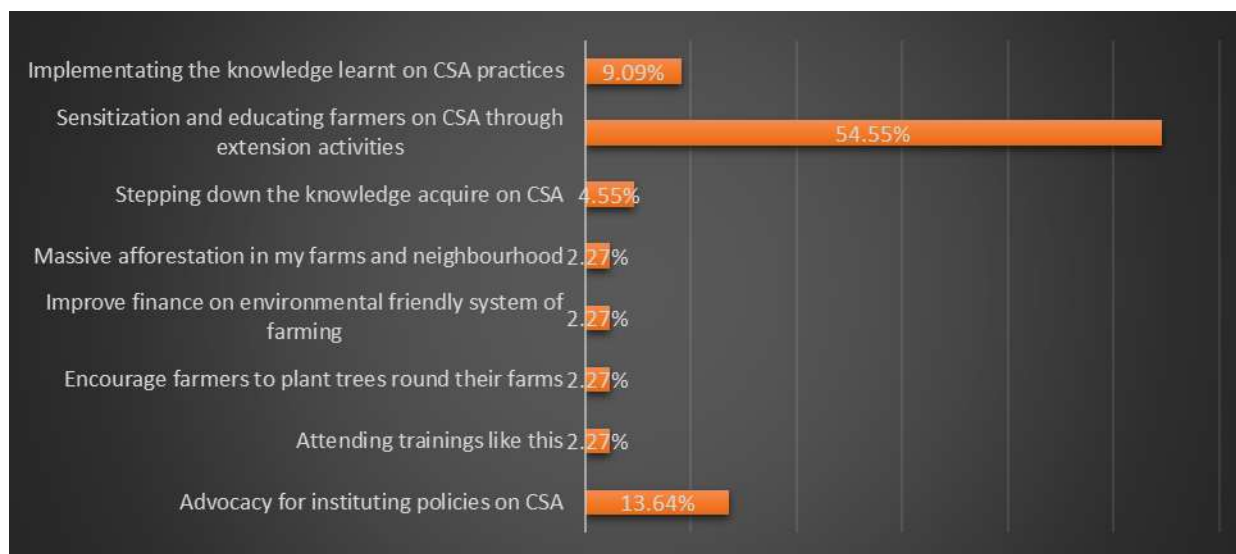


Fig. 17. List of Role to Play by Participants in the Northeast Zone

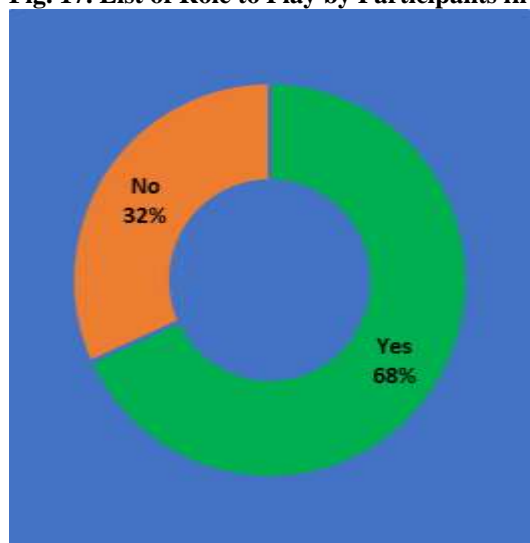
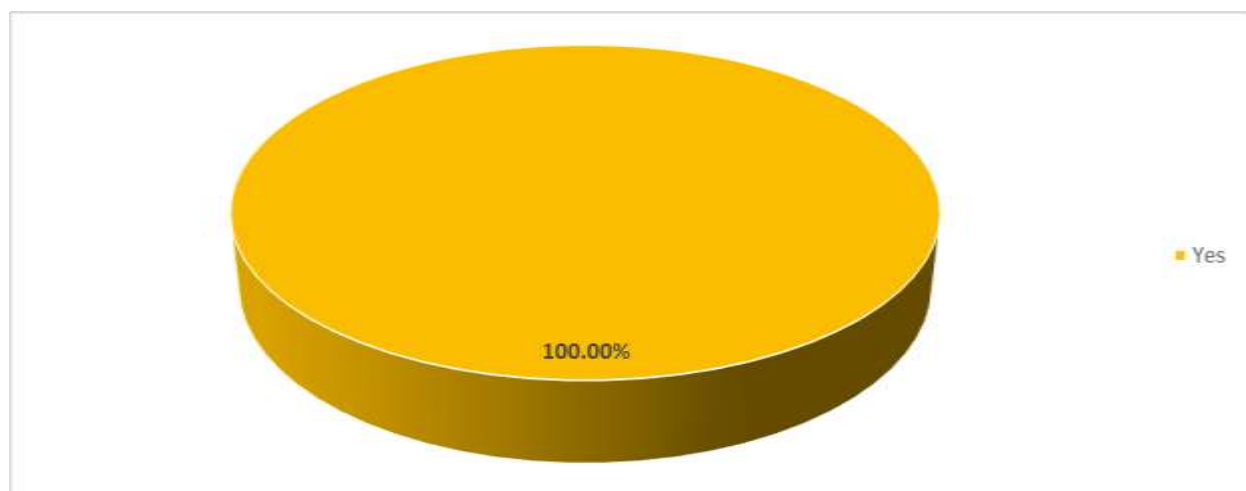


Fig. 18. Challenges Envisaged in Playing Role in the Northeast Zone

Challenges	Frequency	Percentage
Bureaucratic process	1	3.33
Lack of awareness of some stakeholders	8	26.67
lack of capacity building of personnel	3	10.00
lack of supports from relevant agencies	2	6.67
low level of education of farmers	1	3.33
Poor knowledge of the pesticides use	1	3.33
lack of political will from government	4	13.33
Farmers' attitude and resistance to change	6	20.00
Lack of funding and support by government	10	33.33
Inadequate technology	2	6.67
Time constraints	1	3.33
Shortage of extension workers and specialist	2	6.67
Insecurity	1	3.33

Fig. 19. List of Challenges Envisaged by Participants



Appendix I: PICTORAL MOMENTS DURING THE NIFAAS NORTH EAST ZONE 2021





