NIFAAS ONE-DAY CLIMATE-SMART AGRICULTURE WORKSHOP REPORT

By

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UNIVERSITY OF IBADAN IBADAN

VENUE: University of Ibadan Workers Cooperative Hall

DATE: 28 January, 2021.

Preamble

The LOC committee members arrived early to the venue of the workshop venue to welcome participants. The registration corner was set with registrars ready. The Public Address System and presentation slide projecting devices were also properly in place with chairs and tables adequately organised for participants to sit on. (Plates 1 & 2). As participants were arriving, they were asked to first register after which the workshop file jacket was given to each of them (Plate 3).

Plate 1: Venue of the workshop during registeration

Plate 2:
The registration corner with registrars set for action

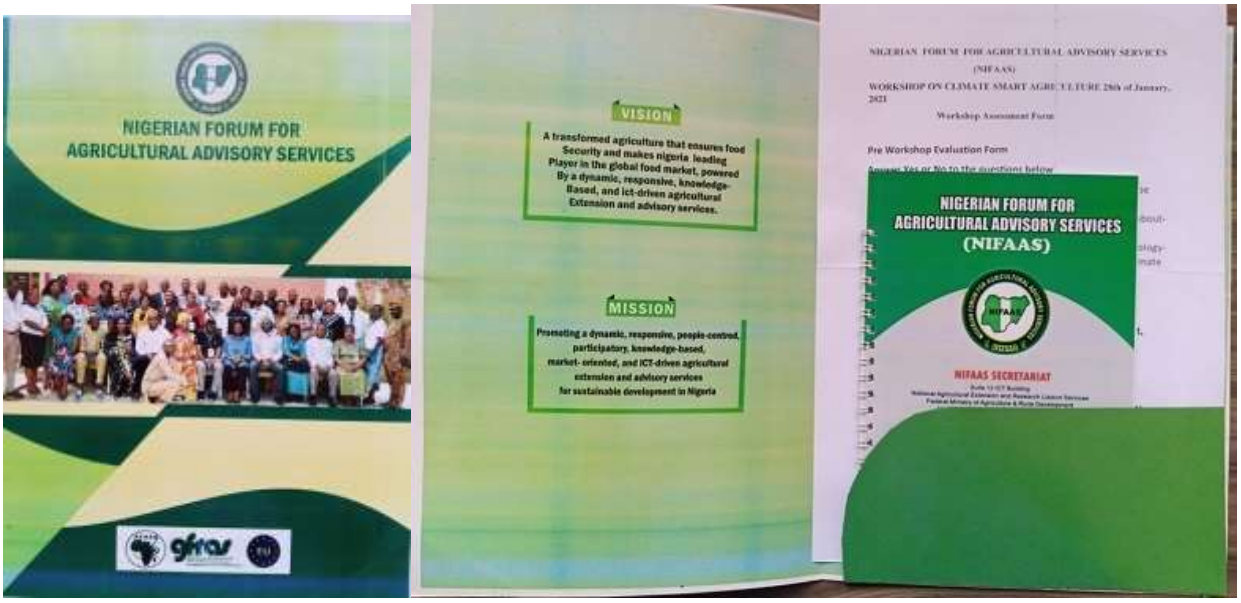


Plate 3: Front and inside views of the workshop file jacket

Introduction

The workshop started by 9am with a short opening prayer made according to individual's faith. Dr. Issa who moderated the workshop events (Plate 4) then invited key personalities to the high table after which the opening remark was given by NIFAAS acting president; Prof. Tologbonse (Plate 5).He emphasised on the toll climate change is taking on farming as a profession and the environment.This called for the importance of organising a workshop of this nature at such a time as this wherein stakeholders are assembled to discuss this pertinent reality in our world. He recognised the presence of important personalities such as the President of Agricultural Extension Society of Nigeria (AESON); Prof. L.A. Akinbile and Rural Sociological Association of Nigeria (RuSAN) ably represented by Prof. J.O. Oladeji. In his goodwill message Prof. Akinbile noted that Climate Change is real whether people accept it or not. He referred to the fluctuation in rainfall experienced last year and how it affected food production. There is a need for climate smart agriculture to mitigate the effect of climate change. In the same vein, Prof. Oladeji opined that climate change do not only affect agriculture but also our livelihoods. It has caused herdsmen migration to the Southwest in search of pasture for their livestock which according, is the major cause of farmer/herders conflict. Consequently, it led to farmers' displacement, food scarcity and insecurity.

After the brief opening session, a photograph of dignitaries on the high table was taken. Participants were asked to fill the pre-workshop evaluation form in their files and the technical session started.

Plate 4: Dr. Issa moderating the event

Plate 5: The Opening remark by the Acting President

Technical session One

The first training under the technical session was handled by Prof. K.O. Oluwasemire on Climate ***smart technologies/practices for enhanced crop production*** (Plate 6).He started by laying out some basic concepts related to climate and climate change. These are:

i. Weather
ii. Climate
iii. Global warming
iv. Green House Gases (GHGs)
v. Sustainable agriculture and
vi. Conservation agricultural practices.

Plate 6: Prof. Oluwasemire presenting during the workshop

Climate change was defined as combined effects of elevated temperatures and drought, with consequential increase in potential evapotranspiration, which constitutes the greatest risk to agriculture in many regions. However, according to him the major climatic elements of interest in relation to climate change are rainfall, temperature, radiation and wind speed but the topic that deserves urgent and systematic attention is ***the changing pattern of precipitation (rainfall)*** because of its effects on regional food security.

He then explained that climate smart agriculture is the integrated approach of managing landscapes to help adapt agricultural crop production methods to ongoing human-induced climate change.

- It involves farming practices that improves farm productivity and profitability and
- Helps farmers adapt to the negative effects of climate change and mitigate the effects of climate change

He finally outlined climate smart crop production technologies and practices as

- *Access to reliable and timely weather forecast*
- *Use of quality seeds and planting materials and varieties*
- *Practices of appropriate/ sustainable cropping systems*
- *Improved water use and management*
- *Sustainable soil and land management for increased crop*
- *Practice of conservation*
- *Integrated pest management*

The second topic under Technical Session One was titled ***Organic Agriculture: A Climate Smart Agricultural System***taken by Dr. O.O. AdeOluwa who was represented by Mrs Toyin Ologundudu as shown in Plate 7. He started by affirming that Climate change is real and poses significant risks for a range of human and natural systems and went ahead to define Organic Agriculture as a holistic production management system which promotes and enhances agro-ecosystem health, including biodiversity, biological cycles, and soil biological activity.

It emphasises the use of management practices in preference to the use of off-farm inputs, taking into account that regional conditions require locally adapted systems. This is accomplished by using, where possible, agronomic, biological, and mechanical methods, as opposed to using synthetic materials, tofulfil any specific function within the system.

Plate 7: The organic agriculture expert delivering

He outlined the principles of organic agriculture as follows:

- **Principle of Health**
  Organic agriculture should sustain and enhance the health of soil, plant, animal and human as one and indivisible.
- **Ecological Principle**
  Organic agriculture should be based on and work with living ecological systems and cycles, emulate them and help sustain them.
- **Principle of Fairness**
  Organic agriculture should be built upon relationships that ensure fairness with regard to the common environment and life opportunities.
- **Principle of Care**
  Organic agriculture should be managed in a precautionary and responsible manner to protect the health and well-being of current and future generations and the environment.

  According to him, some Organic Agriculture (OA) Practices that mitigate climate change include:

i. Composting
ii. Crop rotations
iii. Mixed farming
iv. Agroforestry systems and
v. Cover crops and mulching

Some benefits of organic agriculture as highlighted are:

1. Reduce the toxic load in the environment: Keep chemicals out of the air, water, soil and our bodies.

2. Reduce if not eliminate off farm pollution
3. Protect future generations
4. Build healthy soil
5. Taste better and truer flavor
6. Assist family farmers of all sizes
7. Promote biodiversity
8. Culture preservation

9. Access to premium price, if certified organic

After the second presentation, participants went on a short tea break. The second technical session then started immediately after the tea break.

Technical Session Two

The first topic treated under this session was ***Climate-smart livestock production:Options for Nigerian farmers.*** This was handled by Dr. A.O.Iyiola-Tunji (Plate 8).

Plate 8: Dr. Iyiola-Tunji presenting during the workshop

He posited that in practice, the CSA approach involves integrating the need for adaptation and the potential for mitigation into planning and implementation of agricultural policies and investments. He further emphasised that climate change has substantial impacts on ecosystems and the natural resources upon which the livestock sector depends. He then noted the **impact of climate change on livestock production**as follows;

i. The most serious impacts of climate change are anticipated in grazing systems.

ii. Climate change could lead to additional indirect impacts from the increased emergence of livestock diseases, as higher temperatures and changed rainfall patterns can alter the abundance,

distribution and transmission of animal pathogens. He listed some **adaptive measures toward mitigation effects of climate change on livestock**as

- diversification of livestock animals and crops,
- integration of livestock systems with forestry and crop production and
- changing the timing and locations of farm operations; after which he itemised some

Strategies for Climate-Smart Livestock Production in Nigeria, these are:

i. Collaborative management of natural resources
ii. Community involvement in adaptation strategies
iii. Incentives and tailored responses
iv. Subsidies
v. Risk management mechanisms
vi. Awareness and education
vii. Mitigation
viii. Innovation, Research and Technology Development
ix. Gender dimension and
x. Indigenous knowledge.

Next is the presentation on **Climate-Smart Aquaculture Production** prepared Prof. Bolorunduro P.I. and Dr. Mercy Adeogun. It was presented by Dr. Adeogun as she opined that Climate Smart Aquaculture (CSA) are aquaculture practices that sustainably increase productivity and system resilience, reducing greenhouse gas emissions and captures the synergies between mitigation, adaptation and food security as it relates to fish production (Plate 9).

Plate 9: Dr. Mercy Adeogun speaking during her presentation

She explained that;

- Fisheries and aquaculture provide essential nutrition, support livelihoods and contribute to national development and
- CSA requires improving efficiency in the use of natural resources to produce fish and aquatic foods; maintaining the resilience of aquatic systems. She then highlighted some

Causes of climate change in aquaculture as:

1. Anthropogenic Actions-Human Activities

2. Natural Factors – such as earthquakes, volcanic eruptions, seaquakes (*Sunamis*), excessive rainfall leading to flooding, landslides, conducive environment for prevalence of pests and diseases.

Some negative impacts of climate change according to her include:

- Aridity and Desert Encroachment
- Reduced Water Level especially in Northern Nigeria

And such ecology are always unsuitable for profitable aquaculture practices. She afterwards delved into possible **strategies for increased fish production and system resilience to climate change**which are

- Adoption of best aquaculture practices along the value chain will further enhance the profitability of the venture.
- Access to quality inputs – feeds and fingerlings will promote resilience of aquaculture producers as coping strategy in their activities.
- Adequate information on weather and climate trends will enable fish farmers to schedule their production cycle and prepare for possible risks due to weather fluctuations
- Avoiding locating fish farms in terrains that are subject to flooding without flood control measures put in place will lead to investment losses prevention to fish farmers.
- Fish farm hygiene (biosecurity) will reduce the impacts of climate triggered pest and diseases in farms.
- Livelihood diversification will enable risk spreading and alternative sources of income to aquaculture value chain actors in the face unpredictability of climate change.

After all presentations, there was an interactive session as shown in Plate 10, where all presenters sat as panelists to answer, receive comments and suggestions by which cogent policy implications were drawn in line with various presentations during the technical sessions.

Plate 10: A cross-section of the panelists during the interactive forum

At the end of the interactive forum, participants were asked to fill their post-workshop evaluation forms after which they all collected their certificates of participation as presented to them by the LOC chairperson in person of Prof Stella O. Odebode and the Acting President (Plate 11).

A group photograph of all workshop participants was taken. This was followed by lunch.

The workshop was formally closed around 2.00 pm with a vote of thanks by NIFAAS Acting President.

Plate 11: Prof. Stella Odebode and the acting president presenting certificates of participation.

REPORT OF THE PRE-AND POST EVALUATION CSA WORKSHOP SURVEY

A brief analysis of the pre and post workshop evaluation survey conducted during the Climate-Smart Agriculture workshop is presented below.

PRE-WORKSHOP EVALUATION

1.1 Perception of Climate Smart Technologies on sustainable livestock production

Table 1 shows that 100.0% of the respondents believed that better quality and sustainable livestock production can be achieved when climate smart technologies are used. This suggests that prior to training, the respondents had favourable dispositions towards Climate Smart technologies in achieving better quality and sustainable livestock production.

Table 1: Distribution by respondents' perception of Climate Smart Technologies on sustainable livestock production

Better quality and sustainable livestock production can be achieved when climate smart technologies are used	Frequency	Percentages
Yes	35	100.0
No	0	0

Source: Field survey, 2021

1.2 Understanding what Climate Smart Agriculture is all about

Figure 1 reveals that before training, more than half (56.7%) of the respondents understood what Climate Smart is all about, while 43.3% did not understand. This implies that an appreciable number of the respondents had requisite knowledge of what Climate Smart Agriculture entails before training.

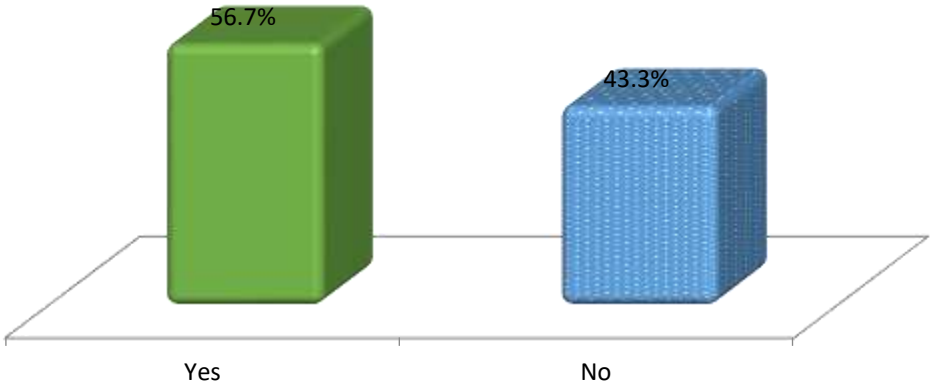


Figure 1: Distribution by knowledge on what Climate Smart Agriculture is all about

1.3 Conversant with climate smart technologies

Figure 2 indicates that a little above half (53.3%) of the respondents were not conversant with Climate Smart technologies prior to the workshop, while 46.7% of them were conversant with Climate Smart technologies. This indicates that most of the respondents do not have full grasp of what Climate Smart Technologies entails prior to training.

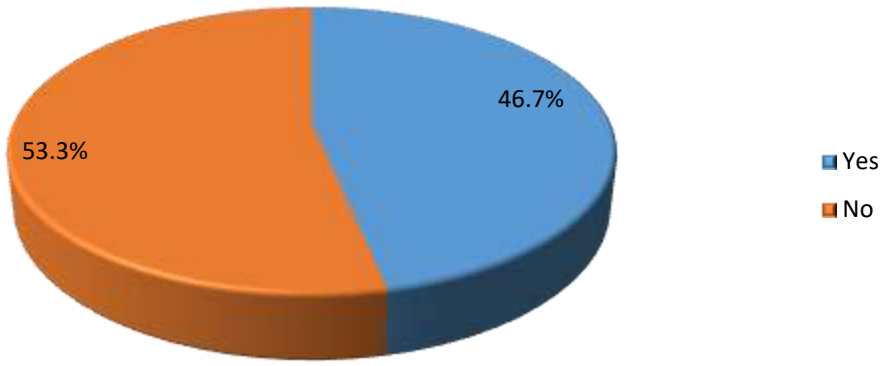


Figure 2: Distribution by respondents' conversant with Climate Smart Technologies

1.4 Climate Smart Agriculture as an aspect of climate change

Figure 3 shows that before training, majority (90.0%) of the respondents viewed Climate Smart Agriculture as aspect of climate change, while a minority (10.0%) did not perceive climate Smart Agriculture as an aspect of climate change

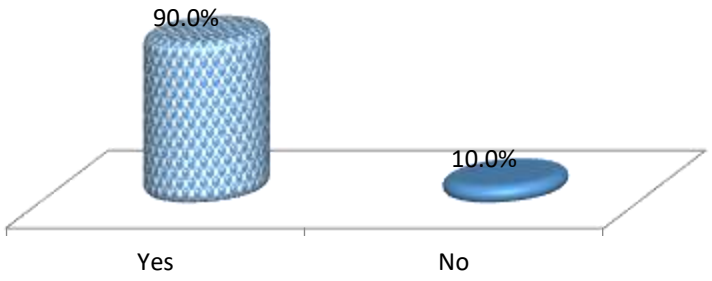


Figure 3: Respondents' views about CSA as an aspect of Climate Change

1.5 Willingness to propagate Climate Smart Technologies to farmers at the end of training

Table 2 shows that 100% of the respondents were eager to propagate Climate Smart Technologies to farmers at the end of training. This indicates that respondents exhibit a positive disposition as regards the workability of Climate Smart Technologies and as such are very willing to disseminate the knowledge gained from the training to farmers.

Table 2: Distribution by respondents' willingness to propagate Climate Smart Technologies to farmers at the end of training

Willingness to be able to propagate Climate Smart Technologies to farmers	Frequency	Percentages
Yes	35	100.0
No	0	0

Source: Field survey, 2021

RESULTS ON POST WORKSHOP EVALUATION

2.1 Extent to which the training met respondents' expectation

With respect to the extent to which the training met the expectations of the respondents, Figure 4 shows that on a scale of ten, 46.9% of the respondents rated their expectations between 9 and 10, while 43.3% and 10.1% scored 7-8 and less than 7 points, respectively. This implies that

majority of the respondents scored above average, hence it can inferred from the finding that the training met their expectations.

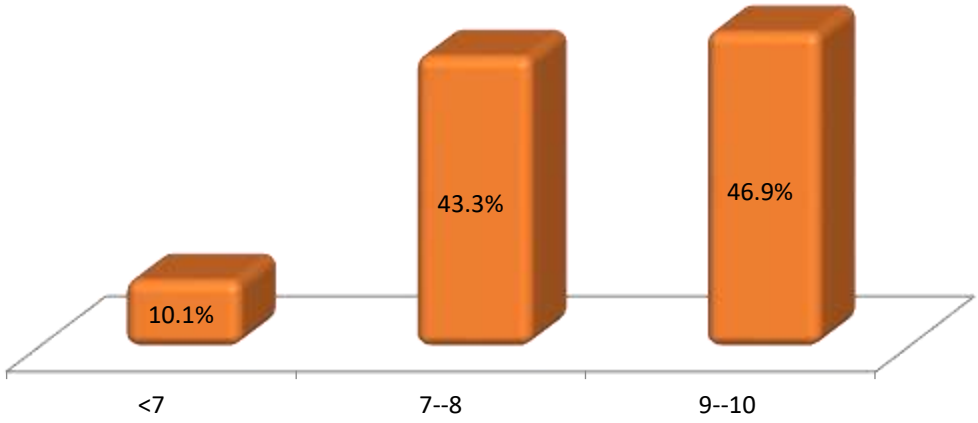


Figure 4: Distribution by extent to which the training met respondents' expectation

2.2 Level of awareness on Climate Smart Agriculture

Figure 5 show that on a scale of 10, more than half (56.7%) scored between 9 and 10 point, 40.0% scored between 7-8 point, while a minority (3.3%) indicated less than 7 points. This suggests that participants at the workshop were better informed about Climate Smart Agriculture after training. This would further help in erasing every form of doubts or uncertainty as regards Climate Smart Agriculture.

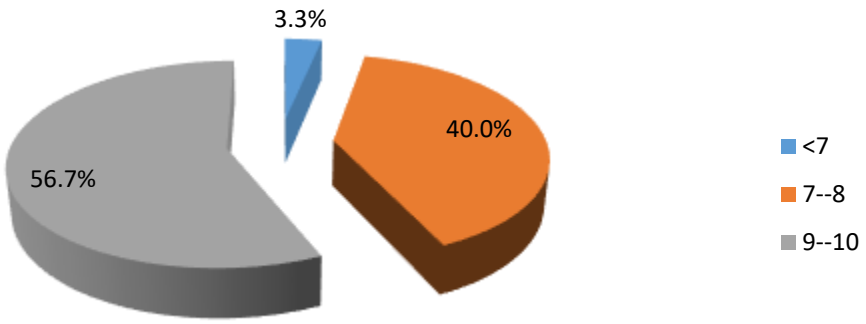
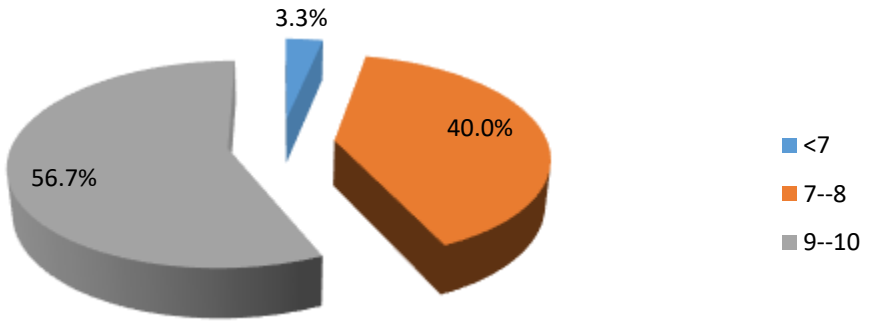


Figure 5: Distribution by level of awareness on Climate Smart Agriculture



2.3 I now fully understand Climate Smart Technologies

Figure 6 reveals that half (50.0%) of the respondents scored between 9-10 points, while 30% and 20% scored 7-8 and less than 7 points, respectively. The fact that respondents scored above average is an indication that they fully understood what Climate Smart Technologies entails. This result is an indication that the training was effective.

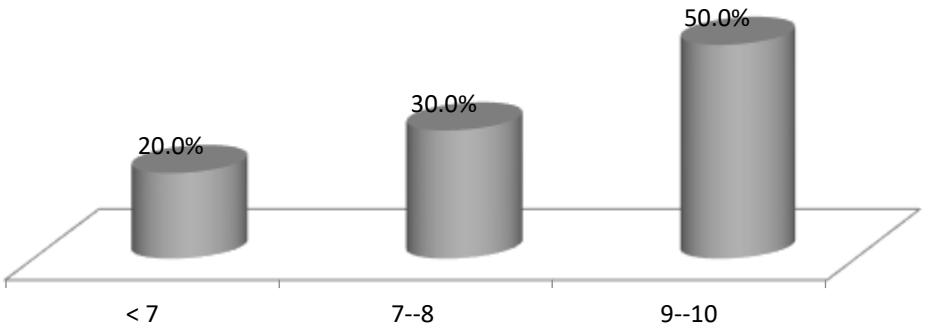


Figure 6: Distribution by respondents' level of understanding on Climate Smart Technologies

2.4 Relationship between Organic Agriculture with Climate Smart Technologies

With respect to relationship between organic agriculture and climate smart technologies, Figure 7 reveals that on a scale of 10, 46.8% of the respondents scored between 9 and 10 point, 43.3% of them scored between 7 and 8 points, while 6.6% and 3.3% of the respondents scored 7-8 and less than five points, respectively. This suggests that majority of the respondents can effectively relate organic agriculture with climate smart technologies. Their ability to relate organic

agriculture with climate smart technologies is an indication that the training impacted positively on the dispositions of participants

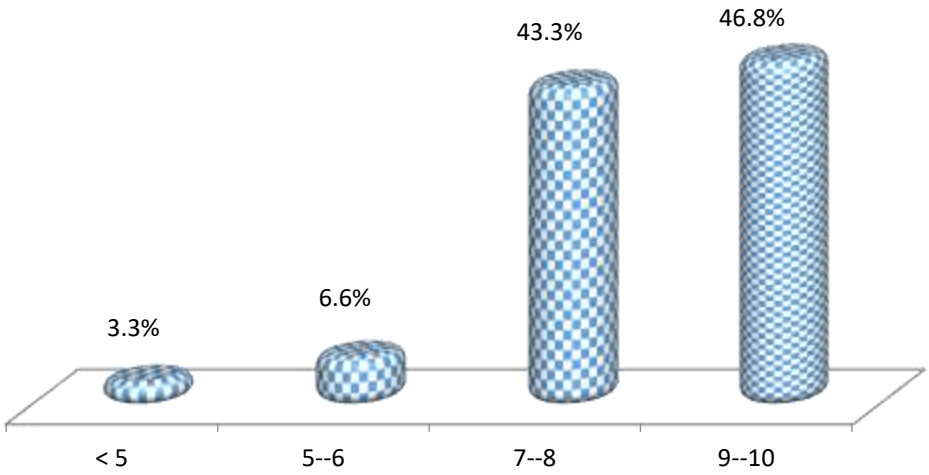


Figure 7: Percentage distribution by relationship between Organic Agriculture with Climate Smart Technologies among participants

2.5 Improved knowledge on Climate Smart

The rating of participants as regards whether the training enhanced their knowledge on Climate Smart reveals that majority (73.4%) of respondents scored between 9 and 10 points, while 26.6% scored between 7 and 8 points. This shows that participants have known more about Climate Smart after training. This may likely clear possible doubts or wrong dispositions towards Climate Smart.

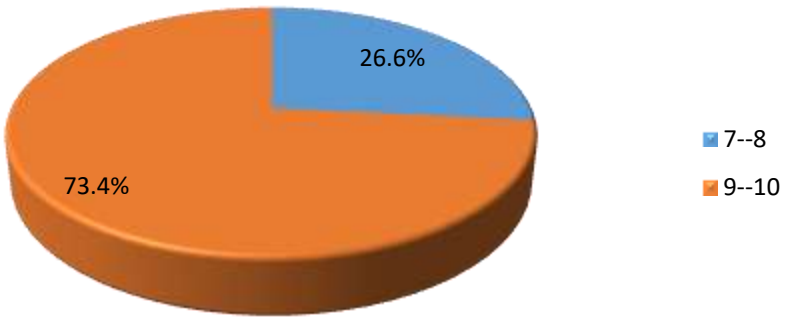


Figure 8: Percentage distribution of participants about improved knowledge on Climate Smart Technologies after the workshop

Conclusion

Although participants at the workshop had favourable dispositions towards climate smart technologies in achieving better quality and sustainable livestock production prior to the training, and also showed a high level of enthusiasm towards propagating the technologies to farmers at the end of training. However, most of the participants were not conversant with Climate Smart technologies before training. The study established that after training, majority of the participants were: better informed on what Climate Smart Technologies entails, able to relate organic agriculture with climate smart technologies and had improved knowledge on Climate Smart. Conclusively, the study found that the training was effective as it met the expectations of participants.