



ISSN 2278 – 0211 (Online)

## Perceptions of Teachers towards Integration of Adaption Strategy Topics on Climate Change into Secondary School Agriculture Syllabus on the Strength of Relevance to Teaching Resources in Machakos County, Kenya

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### **Abstract:**

*Secondary school agriculture syllabus was introduced in Kenya to equip learners with knowledge on the basic principles of farming. In the wake of the last quarter of the 20<sup>th</sup> Century, climate change became the single most challenge to the Worlds agriculture sector, developing countries being the most vulnerable. To tackle the phenomena, each country ought to find appropriate solutions to secure its own agricultural production. In Kenya, lack of knowledge on climate change adaptations affects the agriculture syllabus in meeting its objectives, which in turn poses incredibility to the entire agriculture syllabus on the strength the content, teaching resources and methodologies. The problem that the study sought to investigate therefore is lack of empirical data on the perceptions of teachers towards integration of adaptation strategy topics on climate change into secondary school agriculture syllabus on the strength of relevance to teaching resources. The purpose of the study, therefore, was to investigate the perceptions of teachers towards the integration of adaptation strategy topics on climate change into secondary school agriculture syllabus on the strength of relevancy to teaching resources in Machakos County. The design of the study was descriptive survey research design. The target population was three hundred and fifty (350) agriculture teachers in public secondary schools in Machakos County. A sample of a hundred (100) agriculture teachers was selected through proportionate stratified random sampling technique. A structured questionnaire was used to collect data from the respondents. The objective of the study was analyzed using frequencies and percentages. The major finding of the study indicated that, an overwhelming majority of the respondents agreed to the proposal that the topic befits facilitation using the available agriculture teaching resources. The main conclusion drawn from the study is that, the teacher's verdict on integration of adaptation strategy sub-topics of climate change into agriculture syllabus with respect to their relevancy to available teaching resources confirmed a significant worth to embrace them. The major recommendation drawn from the study was that, the secondary school agriculture education is a precursor to the agriculture sector, as it translates to equipping people with desirable agro-technical skills, knowledge and attitudes that enhance their livelihoods.*

**Keywords:** Perception, Integration, Climate change adaptation, Secondary school agriculture syllabus, Agriculture teachers, Climate change, teaching resources

### **1. Introduction**

The agriculture syllabus content in Kenya broadly covers principles of; crops production, livestock husbandry and soil science. Other areas covered are; agricultural economics and agricultural engineering. Agricultural skills and knowledge are recommended to be taught both theoretically in a formal classroom setting and practically in a school farm/laboratory by professionally qualified teachers (KIE, 2008). Strong scientific evidence indicates that, the drifting climate change and variability pose a serious environmental concern for agriculture production today, than ever before (IPCC, 2010). A problem that, the secondary school agriculture education syllabus is presumed to curb and sustain. It is expected that, if a significant breakthrough in agriculture education at secondary school will be made, it will first have to transform the syllabus to respond to the changing climate. However, there can be no meaningful breakthrough in the agriculture syllabus appraisal if the agriculture teachers are not allowed to participate in it whether in part, or

exclusively, as their views, opinions, perceptions feelings and attitudes form the basis upon which this study was based. Despite agricultural production being highly sensitive to climatic conditions, climate change related topics are inadequately covered in the entire agriculture syllabus. For instance, out of a total of thirty three units constituting the agriculture syllabus, only two, provide aspects tending to climate change adaptations in particular, water supply, irrigation and drainage, and risks and uncertainties in farming. These few topics therefore, provide a credible background upon which adaptation strategy topics on climate change should be included into secondary school agriculture syllabus. A well designed secondary school agriculture syllabus can turn out to become integral part of the concerted efforts to tackle climate change (UNDP, 2012). The World governments need not tell us what must be done at the individual level. But what they can do is to simplify the science of climate change so that every school leaver has an idea of how to rescue this earth for the future generations (Food Agricultural Organization (FAO, 2012). The concepts of climate change are simple if explained well, even though the science is multifaceted (Prasad, Ranghieri, Trohanis, Kessler & Sinha, 2009). Climate change by definition, refer to any change in climate overtime. Climate variability on the other hand refers to variations in the mean state and other statistics of climate on all sequential and spatial scales beyond that of individual weather events (Prasad, *et al.*, 2009). United Nations Population Fund (UNFPA, 2009) explains climate change as the variation of the earth's climate caused by atmospheric accumulation of greenhouse gases (GHGs) such as carbon dioxide and methane because of human activity. The European Commission Directorate-General for Agriculture & Rural Development (ECDGARD, 2008) further concur that, climate change is caused by high concentrations of greenhouse gases in the atmosphere, due to human activities that adds to the natural "greenhouse gases" thus increasing the earth's temperature. As asserted by Prasad *et al.* (2009), climate change is triggered by human-induced GHGs emissions which absorbs and re-emits infrared radiation. When pollution adds these gases to the earth's atmosphere, they trap more solar energy in our planet (like in a green house) warming the earth's surface and contributing to climate unpredictability. Studies on secondary agriculture curriculum, particularly by Onyango (1982); Kathuri (1990 and 1993) and Konyango (2010) have revealed inconsistencies in secondary school agriculture teaching approaches, where at one time the emphasis is on practicals, and at another time theory. However, the main objective remains striking a balance between helping the students not only to pass examinations but also to motivate them to transfer the skills and principles learned to productive labour. Therefore, despite the scientific explanation of climate change and variability being too wide in scope and too complex to explain in simple language, secondary school agricultural education was presumed to be the vehicle to transmit skills and knowledge useful in liberating the agriculture sector from emerging issues (like the changing climate) (GOK, 2013). The adaptations to climate change can be achieved through integration of selected climate change topics in secondary school agriculture syllabus on the strength of relevance to teaching resources. The methodology through which this was envisaged to be achieved was by creating an independent unit on climate change and making the few aspects on climate change in the current syllabus fundamental parts of it. This was contemplated to be realized through reshuffling the identified aspects of climate change and variability into four key concepts/themes that is, introduction to climate change and variability, adaptations to climate change, mitigations of climate change and cost-reduction and sustainability strategies from climate change. The concepts/themes were addressed within the level and scope of understanding by the secondary school learners (Schneider, 2008). The study on "the perceptions of teachers towards the integration of adaptation strategy topics on climate change into secondary school agriculture syllabus on the strength of relevance to teaching resources in Machakos County" therefore sought to address the teachers' opinions to that effect.

## 2. Statement of the Problem

Research on secondary school agriculture syllabus review and improvement has concentrated on, the agriculture variables like use of more motivating teaching methodologies, and reshuffling of the content arrangements to create better linkages among the subject units. Other variables studied have included annexing some content from the secondary agriculture syllabus that due to the changes in technology have rendered them archaic and the position of the agriculture teacher-student relationship in a rapidly changing society. Yet agriculture and the associated sectors that the agriculture education aims to develop through provision of basic principles of farming, have increasingly become susceptible to emerging issues (particularly the rapidly changing climate). The problem that was investigated was the lack of documented studies that have hinted on integration of climate change topics in secondary school agriculture syllabus on the strength of relevance to teaching resources in Machakos County. The intriguing question remains whether, the secondary school agriculture syllabus on the strength of relevance to teaching resources could be reviewed to adapt and use any benefits from climate change and variability which makes agriculture susceptible. Lack of streamlining the agriculture syllabus on the strength of relevance to teaching resources to adequately tackle climate change translates to a shortfall in the agriculture subject's capacity to effectively meet its key objectives. Such objectives include promotion of: self-reliance, resourcefulness, and problem-solving abilities in agriculture; agricultural activities which enhance environmental conservation; and consciousness of healthy promoting activities in agricultural production.

## 3. Objectives of the Study

The objective of the study was to investigate:

- The perceptions of teachers towards integration of adaptation strategy topics on climate change into secondary school agriculture syllabus on the strength of relevance to teaching resources in Machakos County;

#### 4. Research Questions

- What are the perceptions of teachers towards integration of adaptation strategy topics on climate change into secondary school agriculture syllabus on the strength of relevance to teaching resources in Machakos County.

#### 5. Location of the Study

The study was carried out among agriculture teachers working in public secondary schools within Machakos County. The County is characterised by varying agro-climate zones ranging from zone I to VI, which represent high, medium and low agriculture potential areas prevalent in the entire country. Machakos County generally experiences a flourishing agricultural economy. As a result, most public secondary schools located in the County offer agriculture subject, as an alternative to business studies, French, drawing and design, electricity and building and construction among other technical disciplines. Therefore a majority of secondary schools in the County have well established agriculture departments and trained agriculture teacher(s). Geographically, Machakos County is located in the former Eastern Province of Kenya. It borders Embu County to the North, Kitui to the East, Makuani to the South, Kajiado to the South-West, Nairobi and Kiambu to the West and Murang'a and Kirinyang'a to the North-West. Machakos County comprises of eight Sub-Counties formerly Districts, including; Machakos, Athi-River, Kathiani, Kangundo, Matungulu, Mwala, Yatta and Masinga. The number of public secondary schools in Machakos County was three hundred and ten (310).

#### 6. Methodology

The study employed a descriptive survey research design. The design was chosen because it generates the views, opinions, feelings and or perceptions of the target population on the subject matter under investigation. The study was carried out among agriculture teachers working in public secondary schools within Machakos County. The number of public secondary schools in Machakos County was three hundred and ten (310). The population under study comprised of all the trained secondary school agriculture teachers in public secondary schools. The total population of the study was three hundred and fifty (350) agriculture teachers employed by the Teachers Service Commission (TSC). The researcher identified this group of respondents because they were 'information rich' with respect to the purposes of the study (Gall, Borg, & Gall, 1996). Stratified random sampling technique was used to obtain a sample size of one hundred and five (105) agriculture teachers selected from the eight (8) sub-counties of Machakos County. Thirty percent (30%) of agriculture teachers were sampled from each sub-county to obtain a hundred and five (105) respondents for this study. According to Kathuri and Pals (1993), a sample size of a hundred (100) respondents is said to be ideal number for a survey research in social sciences. However, for the purpose of taking care of the attrition, the researcher sampled out 105 respondents for the study. The researcher relied on a structured questionnaire as the main tool for collecting data from the respondents. Questionnaires were deemed ideal for the study since it was concerned mainly with variables that could not have been directly observed such as views, opinions, perceptions and feelings of the respondents. Such information could best have been collected through use of questionnaires than the other alternative instruments (Gall *et al*, 1996). Quantitative data was collected from 100 respondents sampled from 310 public secondary schools in Machakos County. All the secondary schools offering agriculture subject and with TSC posted agriculture teachers were identified from each Sub-county. Eight (8) enumerators were used to conduct the interviews. Permissions to meet the agriculture teacher(s) were sought. The agriculture teachers who were present at the time of the visits were briefed about the exercise and their consent to participate was sought. Those who agreed to participate had their identification and mobile telephone contacts recorded in a writing pad and assured of the confidentiality of the information they were to supply in the questionnaire. They were then allowed to react to the briefing through asking questions where they needed further clarifications. Those who conceded to participate in the study were supplied with questionnaires to study, critically think about, and fill in the information they deemed appropriate in their own free time. Finally, they were later contacted via their cell phones on the appropriate day and time the filled questionnaires could be collected. The optimum time the respondents were allowed to fill the questionnaires was one week, however, those who requested additional time due to varied reasons were added an extra week. The return rate to the filled questionnaires was 97 percent. Since the sampled respondents were 105, the 97 percent return rate was enough to obtain the minimum required number that is 100 for quantitative survey research in social sciences as per Kathuri and Pals, (1993). The quantitative data obtained after data collection was synthesised through selecting and organizing it into topical themes and central ideas or concepts. Data analysis involved coding and classifying data (also called categorizing or indexing) into numerical values depending on the appropriate scales of measurements before keying it into a computer master data sheet for reorganization using Statistical Package for Social Sciences (SPSS) programme version 17.

#### 7. Discussions and Findings

Data on the perceptions of teachers towards integration of adaptation strategy sub-topics on climate change into secondary school agriculture syllabus with respect to relevance of the teaching resources are presented in Table 1, followed by interpretations and brief discussions on each sub-topic.

Sub-topic	SD		D		U		A		SA	
	F	%	F	%	F	%	F	%	F	%
a) The meaning and importance of climate change adaptations	2	2	3	3	10	10	34	34	51	51
b) Adoption of adaptable crops and livestock	0	0	5	5	8	8	37	37	50	50
c) Adoption of modern technologies on farming	3	3	2	2	7	7	43	43	45	45
d) Adoption of bio-tech crops and livestock	6	6	7	7	19	19	36	36	32	32
e) Flexible approaches on farm production methods	1	1	6	6	10	10	41	41	42	42
f) Alternative sources of food	4	4	3	3	15	15	29	29	49	49
g) Diversification of farm enterprises	1	1	2	2	10	10	32	32	55	55
h) The concept of insurance schemes on crops and livestock	3	3	6	6	19	19	42	42	30	30
i) The concept of mixed farming, mixed cropping and intercropping	1	1	6	6	6	6	39	39	48	48
j) The concept of pre and post-harvest crop management	2	2	4	4	6	6	32	32	56	56

Table 1: Adaptation Strategy Sub-topics to Climate Change in Relation to the Agriculture Teaching Resources

Key:

F – Frequency

% - Percent

### 7.1. Meaning and Importance of Climate Change Adaptations

The findings on the perceptions of teachers towards the integration of the meaning and importance of climate change adaptations in reference to facilitating it using the existing agriculture teaching resources are presented in Table 2.

Responses	Frequency	Percent (%)
Strongly disagree	2	2.0
Disagree	3	3.0
Undecided	10	10.0
Agree	34	34.0
Strongly agree	51	51.0
Total	100	100.0

Table 2: Meaning and Importance of Climate Change Adaptations

The findings indicated that, majority of the teachers (85%) either agreed or strongly agreed to the proposal that, the sub-topic was relevant in terms of facilitating it using the existing agriculture teaching resources. However, (5%) of them disagreed or strongly disagreed to this suggestion, while (10%) of the teachers remained undecided. Based on the results analysis, most teachers supported the idea to integrate the sub-topic on meaning and importance of climate change adaptations into secondary school agriculture syllabus. This finding was also predicted by the researcher as some climatic aspects influencing agricultural production are already addressed in the principles of crops production though to a limited scope. The fact that, these climatic aspects are taught through the convectional agriculture teaching resources is a proof that, adaptation measures to climate change and variability if integrated into the agriculture syllabus will conveniently be taught using the available agriculture teaching resources.

### 7.2. Adoption of Adaptable Crops and Livestock

The findings on the perceptions of teachers towards the integration of adoption of adaptable crops and livestock into the agriculture syllabus with a view to teach it using the existing agriculture teaching resources are presented in Table 3.

Responses	Frequency	Percent (%)
Disagree	5	5.0
Undecided	8	8.0
Agree	37	37.0
Strongly agree	50	50.0
Total	100	100.0

Table 3: Adoption of Adaptable Crops and Livestock

The results revealed that, most of the teachers (87%) either agreed or strongly agreed that, the sub-topic was relevant to be taught by use of the existing agriculture teaching resources. On the other hand, (5%) of them disagreed to the submission, while (8%) of the teachers remained undecided. From the results analysis, majority of the teachers supported the idea to integrate the sub-topic on adoption of adaptable crops and livestock into secondary school agriculture syllabus. This finding was also predicted by the researcher as the idea is also addressed in the agriculture syllabus though to a limited scope and breadth. Since this idea is taught through the convectional agriculture teaching resources, if the sub-topic were integrated into the agriculture syllabus will conveniently be taught using the available agriculture teaching resources.

### 7.3. Adoption of Modern Technologies on Farming

The findings on the perceptions of teachers towards the integration of adoption of modern technologies on farming into the agriculture syllabus with the intention to teach it using the existing agriculture teaching resources are presented in Table 4.

Responses	Frequency	Percent (%)
Strongly disagree	3	3.0
Disagree	2	2.0
Undecided	7	7.0
Agree	43	43.0
Strongly agree	45	45.0
Total	100	100.0

Table 4: Adoption of Modern Technologies on Farming

The outcome indicates that, a significant proportion of the teachers (88%) either agreed or strongly agreed to the idea that, the sub-topic was viable in relation to teaching it using the available agriculture teaching resources. Of a contrally idea though, (5%) of them either disagreed or strongly disagreed to the proposition, while (7%) of the teachers remained undecided. In view to this result analysis, majority of the teachers supported the idea to integrate the sub-topic on adoption of modern technologies on farming into secondary school agriculture syllabus. This finding was expected by the researcher as the idea is also addressed in the agriculture syllabus to a limited extend. The fact that this concept is taught by the use of the locally available agriculture teaching resources, it is on the same strength that, if the sub-topic were integrated into the agriculture syllabus it will be facilitated using the same agriculture teaching resources.

### 7.4. Adoption of Bio-Tech Crops and Livestock

The findings on the perceptions of teachers towards integration of adoption of bio-tech crops and livestock into the agriculture syllabus with the motive to impart it using the existing agriculture teaching resources are presented in Table 5.

Responses	Frequency	Percent (%)
Strongly disagree	6	6.0
Disagree	7	7.0
Undecided	19	19.0
Agree	36	36.0
Strongly agree	32	32.0
Total	100	100.0

Table 5: Adoption of Bio-tech Crops and Livestock

The outcome indicated that, majority of the teachers (68%) either agreed or strongly agreed that the sub-topic was suitable in view to imparting it using the agriculture teaching resources. Though, (13%) of them either disagreed or strongly disagreed to the scheme, while (19%) of the teachers remained undecided. In this regard, majority of the teachers supported the idea to integrate the sub-topic on adoption of bio-tech crops and livestock into secondary school agriculture syllabus. This finding was anticipated by the researcher as the idea is relevant the agriculture syllabus content. Therefore with respect to this relevancy, the concept on adoption of bio-tech crops and livestock in farming is deemed fit to be taught by the use of the available agriculture teaching resources if integrated into the agriculture syllabus.

### 7.5. Flexible Approaches on Farm Production Methods

The findings on the perceptions of teachers towards the integration of the sub-topic on flexible approaches on farm production methods into the agriculture syllabus with the intention to teach it using the existing agriculture teaching resources are presented in Table 6.



Responses	Frequency	Percent (%)
Strongly disagree	1	1.0
Disagree	6	6.0
Undecided	10	10.0
Agree	41	41.0
Strongly agree	42	42.0
Total	100	100.0

*Table 6: Flexible Approaches on Farm Production Methods*

The findings revealed that, majority of the teachers (83%) either agreed or strongly agreed to the proposal. On the other hand (7%) of them either disagreed or strongly disagreed to it, while (10%) of the teachers remained undecided. From the results analysis, majority of the teachers supported the idea to integrate the sub-topic on flexible approaches on farm production methods into secondary school agriculture syllabus. This finding was anticipated by the researcher as the idea is also covered in the agriculture syllabus though to a limited scope and breadth. In this regard, since this concept is taught by the use of the locally available agriculture teaching resources, it is on the same strength that, this sub-topic if integrated into the agriculture syllabus will facilitate using the same agriculture teaching resources.

#### 7.6. Alternative Sources of Food

The findings on the perceptions of teachers towards the integration of the sub-topic on alternative sources of food into the agriculture syllabus with the aim to teach it using the existing agriculture teaching resources are presented in Table 7.

Responses	Frequency	Percent (%)
Strongly disagree	4	4.0
Disagree	3	3.0
Undecided	15	15.0
Agree	29	29.0
Strongly agree	49	49.0
Total	100	100.0

*Table 7: Alternative Sources of Food*

The findings revealed that, majority of the teachers (78%) either agreed or strongly agreed that; the sub-topic was relevant to be facilitated using the agriculture teaching resources. However, (7%) of them disagreed or strongly disagreed to the suggestion, while (15%) of the teachers remained undecided. From the results analysis, majority of the teachers supported the idea to integrate the sub-topic on alternative food sources into secondary school agriculture syllabus. This finding was anticipated by the researcher as the idea is relevant to the agriculture syllabus content. Therefore with regard to this relevancy, the concept on alternative food sources is deemed ideal to be taught by the use of the locally available agriculture teaching resources if integrated into the agriculture syllabus.

#### 7.7. Diversification of Farm Enterprises

The findings on the perceptions of teachers towards the integration of the sub-topic on diversification of farm enterprises into the agriculture syllabus on the premise to facilitate it in classroom using the existing agriculture teaching resources are presented in Table 8.

Responses	Frequency	Percent (%)
Strongly disagree	1	1.0
Disagree	2	2.0
Undecided	10	10.0
Agree	32	32.0
Strongly agree	55	55.0
Total	100	100.0

*Table 8: Diversification of farm enterprises*

The findings indicated that, a large proportion of the teachers (87%) either agreed or strongly agreed that, the sub-topic was relevant to be taught using the agriculture teaching resources. However, only (3%) of them disagreed or strongly disagreed to the suggestion, while (10%) of them remained undecided. With respect to the results analysis, majority of the teachers supported the idea to integrate the sub-topic on diversification of farm enterprises into secondary school agriculture syllabus. This finding was expected by the researcher as the concept is also addressed in the agriculture syllabus though to a limited extend. In view of the fact that this concept is taught by the use of the locally available agriculture teaching resources, it is on the same strength that, this sub-topic if integrated into the agriculture syllabus will handled using the same agriculture teaching resources.

### 7.8. The Concept of Insurance Schemes on Crops and Livestock

The findings on the perceptions of teachers towards the integration of the sub-topic on the concept of insurance schemes on crops and livestock with the aim to teach it using the existing agriculture instructional materials are presented in Table 9.

Responses	Frequency	Percent (%)
Strongly disagree	3	3.0
Disagree	6	6.0
Undecided	19	19.0
Agree	42	42.0
Strongly agree	30	30.0
Total	100	100.0

Table 9: The Concept of Insurance Schemes on Crops and Livestock

The findings indicated that, majority of the teachers (71%) either agreed or strongly agreed that, the sub-topic was appropriate to impart in an ordinary agriculture learning lesson. Only (4%) of them disagreed or strongly disagreed to the scheme, while a whopping (21%) of the teachers remained undecided. Based on the results analysis, majority of the teachers supported the idea to integrate the sub-topic on the concept of insurance schemes on crops and livestock into secondary school agriculture syllabus. This finding was expected by the researcher as the concept is also covered in the agriculture syllabus though to a limited extend. In view of the fact that this concept is taught by the use of the locally available agriculture teaching resources, it is on the same strength that, this sub-topic if integrated into the agriculture syllabus will handled using the same agriculture teaching resources.

### 7.9. The Concepts of Mixed Farming, Mixed Cropping and Intercropping

The findings on the perceptions of teachers towards the integration of the on sub-topic the concepts of; mixed-farming, mixed cropping and intercropping ability to be taught by use of the existing agriculture teaching resources are presented in Table 10.

Responses	Frequency	Percent (%)
Strongly disagree	1	1.0
Disagree	6	6.0
Undecided	6	6.0
Agree	39	39.0
Strongly agree	48	48.0
Total	100	100.0

Table 10: The Concepts of; Mixed Farming, Mixed Cropping and Intercropping

The findings indicated that, most of the teachers (87%) either agreed or strongly agreed that, the sub-topic was suitable to be facilitated by use of the convectional agriculture teaching materials. Nevertheless, (7%) of them disagreed or strongly disagreed to the proposition, while (6%) of the teachers remained undecided. Based on the results analysis, majority of the teachers supported the idea to integrate the sub-topic on concept of mixed- farming, mixed cropping and intercropping into secondary school agriculture syllabus. This finding was expected by the researcher as the idea is also covered in the agriculture syllabus though to a limited extend. In view of the fact that this concept is taught by the use of the locally available agriculture teaching resources, it is on the same strength that, this sub-topic if integrated into the agriculture syllabus will handled using the same agriculture teaching resources.

### 7.10. The Concept of Pre and Post-Harvest Crop Management

The findings on the perceptions of teachers towards the integration of the sub-topic on the concept of pre and post harvest crop management in response to teaching it by use of the existing agriculture teaching resources are presented in Table 11.

Responses	Frequency	Percent (%)
Strongly disagree	2	2.0
Disagree	4	4.0
Undecided	6	6.0
Agree	32	32.0
Strongly agree	56	56.0
Total	100	100.0

Table 11: The Concept of Pre and Post-harvest Crop Management

The findings indicated that, a majority of the teachers (88%) either agreed or strongly agreed that, the sub-topic was relevant to teach using the available agriculture teaching resources. However, (6%) of them disagreed or strongly disagreed to the suggestion, while (6%) of the teachers remained undecided. From the results analysis, majority of the teachers supported the idea to integrate the sub-

topic on the concept of pre and post harvest crop management into secondary school agriculture syllabus. This finding was anticipated by the researcher as the idea is relevant to the agriculture syllabus content. Therefore with regard to this relevancy, the concept on alternative food sources is deemed ideal to be taught by the use of the locally available agriculture teaching resources if integrated into the agriculture syllabus.

## 8. Conclusions and Recommendations

The major findings of the study were that:

- The main conclusion drawn from the survey is that, the teacher's verdict on integration of adaptation strategy sub-topics of climate change into agriculture syllabus with respect to their relevancy to available teaching resources confirmed a significant worth to embrace them.
- The major recommendation drawn from the study was that, the secondary school agriculture education is a precursor to the agriculture sector, as it translates to equipping people with desirable agro-technical skills, knowledge and attitudes that enhance their livelihoods.

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