

AGRICULTURE TEACHERS' PERSPECTIVES ON INCORPORATION OF BENEFICIAL OPPORTUNITIES FROM CLIMATE CHANGE TOPIC AND THE TEACHING METHODOLOGIES IN SECONDARY SCHOOL AGRICULTURE IN KENYA

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ABSTRACT

Agriculture syllabus was introduced in Kenyan schools to equip learners with knowledge on the basic principles of farming. Schools offering agriculture had to have competent agriculture teacher(s), a school farm, and water reservoirs. A reliable water source can be harnessed during rainy seasons from classroom rooftops and or surface runoffs and stored in tanks to sustain school farm and associated domestic activities. A key objective of school farm was to; serve as an agriculture laboratory, supplement schools food supplies, and generates income for the school. As climate change increases vulnerability on agriculture, education stakeholders are duty bound to save the agriculture subject from becoming irrelevant in its mandate to revitalise the agriculture sector. Our education system has fallen short in response to climate change which is a challenge to agricultural production and livelihood systems as it's onset destabilizes the resilience that these systems have. This in turn poses incredibility to the agriculture subject translating to a need to scrutinize its content, teaching resources and methodologies to facilitate incorporation of beneficial opportunities from climate change into it. This was anticipated to conform to the agriculture syllabus and in turn the education system to the changing climate. A descriptive survey research design was used. The survey was based on functionalist and pragmatism theories for their practical nature as recommended by agriculture syllabus objectives. The target population was the agriculture teachers in Kenya secondary schools. A sample of a hundred (100) respondents was identified as a representative sample population on first come first served basis. A Likert's score scale questionnaire was used to collect data. The surveys objective was analyzed using frequencies and percentages. The major finding and conclusion of the study revealed that, majority of the agriculture teachers' used for the survey supported and recommended the inclusion of beneficial opportunities from climate change into secondary school agriculture in Kenya, authenticating the conventional agriculture teaching methodologies to facilitate them, and their viability to reduce the cost on learning in the schools.

Keywords: Agriculture teachers; climate change; beneficial opportunities topics; inclusion; perspectives; and secondary school agriculture syllabus

1.0 INTRODUCTION

Agriculture education is a fundamental tool in the development of the agriculture sector which is a key pillar of the Kenya's economy (Wanyama & Chang'ach, 2013). According to Jinzun and

Young gong (2004) agriculture curriculum is crucial in achieving both education for all (EFA) goals and the millennium development goals (MDGs) for eradicating extreme poverty, hunger, promoting gender equity, and ensuring environmental sustainability. Increasingly, climate change is becoming a challenge to agricultural production because it increases cost of production, risks and uncertainties in farming (Government of Kenya (GOK, 2013).

Climate change which is viewed as a challenge can also be seen as an opportunity to transform peoples' economies and place them on a lower carbon, resource – efficient Green Economy Pathway. A key opportunity arising from climate change and variability phenomenon is the provision of energy efficient technologies such as efficient motors, efficient lighting, optimization on compressors usage among others (Food Agricultural Organization (FAO, 2008).

The vulnerability of agriculture activities to climate change and variability is an emerging issue threatening not only Kenya's agriculture but also the world agriculture sector today (Intergovernmental Panel for Climate Change (IPCC, 2010). Secondary school agriculture is therefore expected to inculcate values, attitudes, knowledge as well as technologies in learners needed to counter and turn around some climate change impacts to beneficial opportunities. According to Maguire (2000) and Wallace (1997), agricultural education particularly at secondary school level must adopt new agro-technologies so as to remain relevant and address emerging issues on the agriculture sector.

The agriculture syllabus review and improvement has direct implications on the teaching methodologies. Therefore any attempt geared towards agriculture syllabus review must involve the agriculture teachers who constitute the key curriculum implementers (Hust, 1981b & Watson, 1988 cited by Konyango, 2010).

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 greenhouse) warming the earth's surface and contributing to climate unpredictability.

Climate change is a long-term change in the statistical distribution of weather patterns over periods of time that range from decades to millions of years. It may be a change in the average weather conditions or a change in the distribution of weather events with respect to an average, for example, greater or fewer extreme weather events. Climate change may be limited to a specific region, or may occur across the whole Earth.

According to IPCC (2012), the scientific opinion on climate change is that the earth's climate is unequivocally warming and it is extremely likely (at least 95% probability) that humans are causing most of it through activities that increase concentrations of greenhouse gases in the atmosphere, such as deforestation and burning of fossil fuels. Warming of the climate systems is unequivocal, as evidenced by increases in global average air and ocean temperatures, the widespread melting of snow and ice, and rising global average sea level. According to Hatfield, (2011) most of the global warming since the mid 20th century is very likely due to human activities.

The consequences of climate change is said to be large and varying as indicated by Hassan, (2010), in his research on benefits and costs of climate change for human societies. Benefits and costs of climate change for human society vary widely by location and scale. Hassan (2010) notes that some effects in temperature and polar regions will be positive and others negative elsewhere. Various authors agree that the overall effects of climate change are likely to be more negative than positive with larger or more rapid warming (FAO, 2011; Fisher, 2002; Overseas Development Institute, 2008).

A range of published evidence indicates that the net damage costs of climate change are likely to be significant and to increase with time. Climate change is said to interfere with many ecosystems whose resilience is likely to be exceeded by unprecedented combination of climate change, associated disturbances for example flooding, drought, wildfire, insects, ocean acidification and other global change drivers such as land use change, pollution, fragmentation of natural systems and overexploitation of resources (HLPE, 2011). From the foregoing discussion, it can be concluded that climate change is a challenge with agricultural production and livelihood systems as it's onset distabilizes the resilience that these systems have. Various challenges to climate change have been examined as evidenced from several studies reviewed. Therefore, despite the scientific explanation of climate change, being too wide in scope and too complex to explain in simple language, secondary school agricultural education is presumed to be the vehicle to transmit agro-technologies useful in circumventing the susceptibility of agriculture sector from emerging issues particularly climate change (GOK, 2013).

1.2 Purpose of the survey

This survey sought to address the agriculture teachers' perspectives on incorporation of beneficial opportunities from climate change topic, and the teaching methodologies in secondary school agriculture in Kenya.

1.3 Objective of the survey

The key objective of the survey was to investigate the agriculture teachers' perspectives on incorporation of beneficial opportunities from climate change topic and the teaching methodologies in secondary school agriculture in Kenya.

1.4 Research Question

The research question formulated from the objective was, "What are the agriculture teachers' perspectives on incorporation of beneficial opportunities from climate change topic and the teaching methodologies in secondary school agriculture in Kenya?"

2.0 Literature Review

Climate change can be viewed as a challenge but also as an opportunity to transform economies and place them on a lower carbon, resource – efficient Green Economy Path. Some business opportunities arising from climate change and variability phenomenon include: i) mitigation measures to reduce Green House Gas emissions (GHGs) such as developing and harnessing Renewable Energy Resources, ii) providing adaptation measures to adjust to new incoming impacts of climate change and variability such as water and waste management techniques which adapt to climate change and iii) providing energy efficient technologies such as efficient motors, efficient lighting, optimization on compressors usage among others.

The developed world agriculture sector and its support services if fully tapped by third world countries can be very responsive to creation of beneficial opportunities from the climate change phenomena. For instance secondary school agricultural education knowledge if infused with relevant agro-technologies can cushion schools from the runaway costs of education (KIE, 2008). This is possible through a number of technologies such as; harnessing and storing run-off water from erratic rainfalls for school farm and domestic utility, trapping solar radiation via solar panels and storing the energy in car batteries for lighting, running electric gadgets in laboratories, and pumping as well as heating water in schools, and, trapping wind via wind vans to run dynamos that change the kinetic energy of the wind to electric energy for use at schools.

Consequently, agriculture knowledge can contribute to technological skills on conversion of animal's wastes into biogas through installing anaerobic digesters to digest organic material in the absence of air to generate biogas that can be converted into heat and electricity. Enhancement of carbon sink functions of agricultural soils through zero tillage, soil and water conservation and mixed farming translates that, schools in attempt to reduce climate change impacts to the environment and sustainability of habitable conditions can attract donor funding including, carbon credit trade, global environment facility and payments for ecosystem services that cushion their economies.

Through a well structured agricultural education and agro-technological practices, significant amounts of CO₂ can be removed from the atmosphere and stored in soils through a range of farming practices, such as; organic farming, zero tillage or reduced tillage systems, growing protein crops, planting hedgerows and maintenance of permanent pastures and conversion of idle land to grass land.

The aspects of cushioning people from climate change impacts at local and international forums concur with some key broad objectives of secondary school agriculture curriculum in Kenya. However, while the international forums focus their attention to the reduction of GHGs, enhancement of carbon sink function in agricultural soils, and contribution of renewable energies. The agriculture syllabus addresses environmental conservation for sustainable agriculture production, climate change and variability resilient notwithstanding. This creates the link between incorporation of beneficial opportunities from climate change topic and teaching methodologies in the agriculture.

3.0 Theoretical Analysis

The survey was guided by the functionalist theory of a French sociologist Emile Durkheim (Haralambos, 1980, cited by Konyango, 2010) which sees education as the transmission of the

society's norms, values and accumulated technologies to the schooling generation. The norms and values in this respect include competency of practical students in various academic and non-academic fields.

Durkheim's theory was reinforced by John Dewey's pragmatist perspective of education. Dewey's pragmatist theory lends itself to vocational education, which implies curriculum change in a technological direction (King, 1988; Lauglo & Lillis, 1988). These theories are based on the premise that the school should serve the local community and its needs. The realization of the objectives of teaching agriculture in secondary schools is underpinned by the functionalist and pragmatist theories which conform to industrialization and technological development as envisaged in Kenya's vision 2030 (GOK, 2009).

4.0 Methodology

The survey was largely quantitative and employed a descriptive survey research design. The design was preferred because it's economical, ease in data collection and ability to understand populations from a part of it. The design generally entailed presentation of oriental methodology useful for investigating populations by selecting samples to analyze and discover occurrences.

The study was carried out among agriculture teachers working in secondary schools in Kenya. Kenya is characterized 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. Geographically, Kenya is located within the tropics, with equator passing through it. As a result, the country experiences a humble tropical weather, and a bimodal rain pattern in most parts of it. The target population comprised of the secondary school agriculture teachers in public secondary schools. They were preferred because they engage in the implementation of the agriculture curriculum. A simple sampling technique of first identified first served was used to obtain a representative sample population of one hundred (100) respondents.

A Likert's score scale questionnaire was used to collect data in line with the nature of data required, time available and the survey objective. Questionnaires were deemed ideal for the study, since it was concerned with variables that could not have been directly observed including; views, opinions, perceptions and feelings of the respondents. The sample size was also large (100) and given the time constraints and distances involved, history of maturation could have been best avoided via use of a questionnaire. Since the target population was literate it was unlikely to experience difficulties in filling the questionnaires. The content and face validity of the instrument were done in consultation with peers and other professional researchers. This ascertained the items in each questionnaire were accurate and in harmony with the objective.

To ensure the items asked in the questionnaire were reliable, the instrument was piloted. A group of 30 secondary school agriculture teachers were used. This was as per recommendations by Kathuri and Pals (1993), that, at least 25 respondents are ideal for piloting purposes. Analysis of the pilot test results enabled the researcher to make appropriate changes to various items, resulting in the perfection of the instrument.

Data was collected between October 2013 and March 2014. The researcher ensured cooperation of various key people which, according to Denscombe (2002), is very critical. The researcher started the process by first obtaining a research permit from National Council of Science and Technological

Innovations (NACOSTI) in Nairobi. Afterwards visits were made to the offices of the County Commissioner (C.C.) and County Director of Education (C.D.E.) in various Counties within Kenya. Here, the information on the ensuing survey in the Country was communicated and authorization permits obtained.

Other visits were also made to the respective Sub-county Commissioners (S.Cs) and Sub-county Education Officers (S.E.Os), to notify them of the ensuing survey. Extracts on the secondary schools in each Sub-county, and TSC agriculture teachers available were obtained. Finally, the sampled respondents were followed up for formalization, after which questionnaires for data collection were issued upon consent.

Data analysis involved organizing through coding and classifying it (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. The descriptive analyses involving working out percentages of the occurrence of the responses for the purpose of further inferences were used to analyze the data. This brought forth a logical presentation of the findings. The entire research methodology collected, analyzed and described the data, from which inferences, conclusions and recommendations were drawn.

Table 1: Summary of data analysis

Research Question:	Independent Variable:	Dependent Variable:	Statistical Analysis:
What are the agriculture teachers' perspectives or incorporation of beneficial opportunities from climate change topic, and the teaching methodologies in secondary school agriculture in Kenya?	Agriculture teachers' perspectives.	Incorporation of beneficial opportunities from climate change, and teaching methods.	Descriptive statistics

5.0 Results and Discussions

Data was collected from secondary school agriculture teachers using a Likert's score scale rating questionnaire. The teachers were required to score by ticking (√) in the blank spaces provided, their degree of rating against, or for each sub-topic. The scoring was in accordance with Likert's scale of rating (1 to 5), were 5 represented - strongly positive, 4-positive, 3-neutral, as 2 and 1 represented; negative and strongly negative respectively. This information was presented in the questionnaire by the following key: 1=S.N (Strongly Negative); 2=N (Negative); 3=U (Neutral); 4=P (Positive); while 5=S.P (Strongly Positive). After scoring was done, data were analyzed using frequencies and percentages. The findings are presented in Table 3, followed by interpretations and brief discussions on each sub-topic.

Table 2: Beneficial Opportunities from Climate Change Topic, and Agriculture Teaching Methodologies

Sub-topic	Category of scores in Frequencies (F) & Percentages (%)											
	VN		N		U		P		VP		TOTAL	
	F	%	F	%	F	%	F	%	F	%	F	%
a) Implications of climate change to environment	2	2	7	7	7	7	39	39	45	45	100	100
b) Non-farm ventures e.g. brick making, sand and stone harvesting	9	9	2	12	18	18	31	31	30	30	100	100
c) Renewable energy sources from climate change	2	2	6	6	10	10	40	40	42	42	100	100
d) Adoption of agro-forestry tree species with multiple uses	0	0	4	4	5	5	37	37	54	54	100	100
e) Adoption of crops with multiple edible parts	1	1	3	3	10	10	30	30	56	56	100	100
f) The concept of agro-tourism	1	1	5	5	7	7	38	38	49	49	100	100
g) Acquisition of market oriented skills to diversify incomes from farming	2	2	9	9	19	19	29	29	41	41	100	100
h) The concept of agro-biodiversity	2	2	8	8	15	15	31	31	44	44	100	100
i) The concept of bio-energy production	3	3	5	5	17	17	32	32	43	43	100	100
j) The concept of geo-engineering	3	3	11	11	18	18	28	28	40	40	100	100
Average score per category	2.5	2.5	7.0	7.0	12.6	12.6	33.5	33.5	44.4	44.4	100.0	100.0

a) Implications of climate change to environment

The results in Table 2 indicated that, 84% of the respondents in the study either registered positive or very positive perspectives. Nine percent of them scored negative or very negative perspectives on the suggestion, while another 7% of the respondents held neutral perspectives.

From these findings, majority of the respondents perceived the idea to integrate the sub-topic on the implications of climate change on environment into secondary school agriculture syllabus positively. The idea is also relevant to the agriculture syllabus since agricultural practices and activities are dependent on prevailing climatic conditions. Therefore, on this basis the sub-topic on the implications of climate change on environment was perceived positive to be taught by the use of the agriculture teaching methodologies.

b) Engagement in non-farm ventures

The results in Table 2 on this proposal indicated that, 61% of the respondents either held positive or very positive perspectives in view to teaching the sub-topic using the Agriculture teaching methodologies. Twenty one percent of them had a different opinion and scored negative or very negative perspectives on the suggestion, while another 18% of the respondents held neutral perspectives.

Based on these finding, most respondents registered positive perceptions in support of the idea to integrate the sub-topic on engaging in non-farm ventures such as brick making, sand and or stone harvesting among others into secondary school agriculture syllabus. Since farming business is faced by numerous risks and uncertainties particularly on climate change and variability. It is expected that, farmers who cannot find alternative avenues of livelihoods, but have land, may try these suggested alternatives in order to diversify their incomes.

c) Renewable energy sources from climate change

The results in Table 2 on this sub-topic indicated that, 82% of the respondents involved in the survey either held positive or very positive perspectives confirming the sub-topic viable in relation to facilitate it using the various agriculture teaching methodologies. Whereas 18% of them either scored negative or very negative perspectives on the proposition, as another 10% of the respondents held neutral perspectives.

The findings that most of the respondents registered positive perspectives in favour of integrating the sub-topic on alternative sources of clean energy from climate change phenomena into secondary school agriculture syllabus were consistent with the unit on farm power and machinery in the present syllabus. The unit highlights aspects of harnessing energy from wind, solar radiation, biomass and water among others (KIE, 2008). Therefore, based on this relevancy, the sub-topic was perceived to fit facilitation using the conventional agriculture teaching methodologies.

d) Adoption of agro-forestry tree species with multiple uses

The results in Table 2 on this particular sub-topic indicated that, 91% of the respondents either held positive or very positive perspectives confirming the sub-topic suitable in regarding imparting it using the conventional agriculture teaching methodologies. Four percent of them scored negative or very negative perspectives, as yet another 5% of the respondents held neutral perspectives.

From these findings, most of the respondents confirmed their positive perspectives on integrating the sub-topic on adoption of agro-forestry trees with multiple uses into secondary school agriculture syllabus. This was consistent with a unit on agro-forestry in the present secondary agriculture syllabus (KIE, 2008). Therefore on this basis, integration of agro-forestry trees with multiple uses sub-topic into secondary school agriculture syllabus was thought to benefit instructing it using the agriculture teaching methodologies.

e) Adoption of crops with multiple edible parts

The results in Table 2 on this sub-heading pointed out that, 86% of respondents either recorded positive or very positive perspectives. However, 4% of them either, scored negative or very negative perspectives on the plan, while another 10% of the respondents held neutral perspectives.

Most of the respondents held positive perspectives in support of the view on integrate the sub-topic on adoption of plants with multiple edible parts into secondary school agriculture syllabus. This was

thought consistent with an agricultural principle of adequate food production and sustainability. It is on this basis, therefore, that the sub-topic would benefit using the available agriculture teaching methodologies to facilitate it if it were integrated into secondary school agriculture syllabus.

f) The concept of agro-tourism

The results in Table 2 on this sub-topic confirmed 87% of the respondents involved in the survey to either held positive or very positive perspectives qualifying the sub-topic as relevant for facilitation using the conventional agriculture teaching methods. However, 6% of them either scored negative or very negative perspectives to the suggestion, while another 7% of the respondents held neutral perspectives.

Majority of the respondents positively perceived the idea to integrate the sub-topic on agro-tourism into agriculture syllabus as relevant to agricultural education. This idea could open the minds of rural farmers to not only aim at producing agricultural commodities but also to attract tourists to the farming sites. It was hoped tourists would enjoy adventuring as well as buying fresh agricultural goods directly from the farms and boost farm businesses. Therefore, if the sub-topic were integrated into secondary school agriculture syllabus it was perceived would appropriately accommodate facilitation using the usual agriculture teaching methods.

g) Acquisition of market oriented skills to diversify incomes from farming

The results in Table 2 on this sub-topic indicated that, 70% of the respondents used in the survey either scored positive or very positive perspectives qualifying the sub-topic as relevant in terms of facilitating it using the agriculture conventional teaching methods. Nevertheless, 11% of them registered negative or very negative perspectives on the suggestion, while another 19% of the scored neutral perspectives.

A majority of the respondents perceived the idea to integrate the sub-topic on acquisition of market oriented skills to diversify incomes from farming into agriculture syllabus content positively. Similar skills are mentioned in the present secondary school agriculture syllabus particularly in 'the principles of agricultural economics' though inadequately. On this basis therefore, the sub-topic if integrated into secondary school agriculture syllabus was perceived to fit facilitation using the usual agriculture instructional methods.

h) The concept of agro-biodiversity

The results in Table 2 on this sub-topic indicated that, 75% of the respondents either held positive or very positive perspectives confirming the sub-topic suitable in view to tackle it via the conventional agriculture teaching techniques. Though, 10% of them registered negative or very negative perspectives on the suggestion, as yet another 15% of the respondents held neutral perspectives.

From the findings, most of the respondents favoured the suggestion to integrate the sub-topic on the concept of agro-biodiversity into secondary school agriculture syllabus in their perspectives. This sub-topic is relevant to an agricultural principle that advocates on diversity of plants species and animal breeds of high economic quality. Therefore, based on this relevancy, the sub-topic if integration into the secondary school syllabus in the light to address beneficial opportunities from climate change topic it would benefit facilitation using the agriculture instructional methods.

i) The concept of bio-energy production

The results in Table 2 on this sub-heading indicated that, 75% of the respondents used in the survey

either scored positive or very positive perspectives terming the sub-topic viable for handling using agriculture teaching methodologies. Even though, 8% of them either held negative or very negative perspectives on the proposition, while 17% of the respondents' registered neutral perspectives.

Most of the respondents perceived the proposal on integrating the sub-topic on the concept of bio-energy production into secondary school agriculture syllabus positively. This concurred with the present agricultural economic concepts on diversification of farm products (KIE, 2008). The advocacy is on production of as many goods and services as there are human needs. Therefore, on that basis the sub-topic if integrated into the secondary school agriculture syllabus in the light to address beneficial opportunities from climate change topic, would conveniently be taught using agriculture instructional methodologies.

j) The concept of geo-engineering

The results in Table 2 on this sub-heading confirmed that, 68% of the respondents involved in the survey either held positive or very positive perspectives confirming the sub-topic relevant in terms of teaching it using the conventional agriculture teaching methods. Whereas, 14% of them either scored negative or very negative perspectives on the suggestion, while another 18% of the respondents indicated neutral perspectives.

On the basis of the findings, most of the respondents held positive perspectives in view to integrating the sub-topic on the concept of geo-engineering into secondary school agriculture syllabus. This sub-topic is pertinent to agricultural education. Therefore, based on this fact the sub-topic befits integration into the syllabus to address beneficial opportunities from climate change topic through facilitation using agriculture instructional methodologies.

k) Overall perceptions

Upon computing the average scores from all the categories on "beneficial opportunities from climate change topic, and agriculture teaching methodologies", the results revealed positive or very positive perspectives had the highest rating of 77.9% on average. On the other hand those who held negative perspectives on the suggestion were 9.5% while another 12.6% of them on average scored neutral perspectives.

6.0 Conclusion

The main conclusion drawn from the survey is that, the teacher's verdict on integration of beneficial opportunities from climate change topics, and agriculture teaching methodologies, confirmed the worth to embrace them. This creates a window for schools as well as farmers to exploit the beneficial opportunities arising from climate change and variability phenomena.

7.0 Recommendation

The major recommendation drawn from the study was that, the secondary school agriculture education is a precursor to the agriculture sector and can open a window for schools to establish business ventures to generate in-comes that reduce on the running costs for the schools. Agriculture education translates to equipping people with desirable agro-technical skills, knowledge and attitudes that enable them to manipulate their immediate environment for a gain. This predisposes agricultural education at secondary school level as a fundamental tool in the development of the agricultural sector.

In the wake of the shifting global climates that predispose agriculture sector among others to various impacts, there is need to create a robust knowledge in agro-technologies and integrate them to the existing agriculture knowledge. This creates peoples resilience as well as enable them to exploit the beneficial opportunities accruing from climate change impacts. Therefore incorporating the beneficial opportunities from climate change into agriculture syllabus creates a window for business opportunities among schools and farmers to diversify their incomes.

8.0 References

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