Assessment of In-Service Training Programme Attended by Secondary School Agricultural Science Teachers in Kwara Central Senatorial District, Nigeria

Kayode Ojo Afolabi
University of Ilorin, Ilorin

Abstract
The paper examined the in-service training programmes attended by Agricultural Science Teachers in Secondary School in Kwara Central Senatorial District, Nigeria. Specifically, the study determined the demographic characteristics of the respondents, the in-service training programmes attended by the respondents, the organisers or sponsors of the in-service programme, areas where agricultural science teachers obtained training, constraints to agricultural science teachers' in-service training programmes and strategies for improving in-service training programmes. The study adopted a descriptive survey research design. One hundred and twenty (120) agricultural science teachers were randomly selected from a population of 200 Agricultural Science teachers in 94 senior secondary schools in the study area. The data collected were analysed using descriptive statistics namely: frequency, percentage and mean. The findings showed that the majority of the respondents were male aged between 29–35 years, had B.Ed. degree and teaching experience between 1–5 years. The in-service programmes attended by agricultural science teachers include seminars and workshops. Ministry of Education, Teaching Service Commission, Ministry of Agriculture and Natural Resources and Universities were major organisers of in-service training programmes. Based on the findings, the study recommended that school administrators and relevant government agencies should provide adequate funding or set aside special fund for periodical training and re-training of agricultural science teachers.

Keywords: *in-service training, in-service teachers, agricultural science teachers, secondary school.*

Introduction

The quest for advancement by developing nations demands for a quality education system. To have a quality education system, the government and major policy makers in the education sector must provide conducive learning environments, which consist of both material and human resources. For the human resources aspect to be able to deliver quality education that will meet the aspirations of the nation, such human resources must be well qualified before entry into the teaching service as well as kept updated while in the service through in-service training and professional development. The importance or vital role of in-service training to teachers cannot be over-emphasized

because the quality of knowledge and skills that the teacher imparts into the learner is a function of the quality and currency of the knowledge and skills possessed by the teachers. Therefore, there is the need to always appraise the type and quality of in-service training attended by teachers of different subjects in schools including agriculture.

Education is the springboard to socio-economic growth and development of every nation. World Bank (2007) noted that education is the route to enhance development economically and socially. It is the pivot for developing a better life and better universe. Education is the aggregate of all the means through which the younger ones or young adult develop positive values in the form of ability and other behaviours that are desirable to the society (Fatum, 2004). This informs the reason for Federal Republic of Nigeria's (2013) assertion that there is need for functional education to promote united and progressive Nigeria. School is a functional social organisation to provide functional education and the school activities need to be relevant, practical, and comprehensive; and interest as well as ability should determine individual direction in education (Adewale, 2011). For the school system to be able to determine individual's direction in life, then the school should be effective.

Useful adults need to produce for the society and learners in schools ought to be exposed to different subjects taught in school. Darko, Offei-Ansah, Shougi, and Jun-ping (2015) expressed the view by stating that education which is the way to national development can only be achieved with sustainable investment in human capital through teaching and learning. Among the subjects taught in schools through which an individual is being developed to live successfully in the society is Agriculture. The teaching and learning of agriculture in schools is generally referred to as Agricultural education.

The Concept of Agricultural Education

Daluba (2004) defined agricultural education as a component of agriculture which encompasses the methods, principles, guidelines and techniques geared towards preparing learners to improve their knowledge. attitudes as well as skills in agriculture. Acquiring these attributes will require inculcation of food production techniques that will meet the needs of ever-increasing population. Agriculture education can also be adjudged to be the techniques of equipping both young and old with prerequisite knowledge and skills for productive livelihood. Thus, teaching of agriculture involves ensuring that learners are imparted with the fundamental principles of agriculture that are

necessary for agricultural production (Olajide, Odoma, Okochukwu, Iyare, & Okhaimoh, 2015).

In addition, there is also need to teach and allow learners to participate in practical and projects that will enable them to develop required skills and competencies in agricultural production. Adedoyin (2003) remarked that agricultural training should be capable of building the learners capacity to an extent that they will be job creators, productive workers as well as being able to cope with the demands of life thereby living quality life. To achieve this, qualified, competent, and dedicated teachers are the most vital tool for sustainable human and material development. United Nation Educational Scientific and Cultural Organisation (UNESCO, 2003) remarked that teacher education is integrally related to quality education and closely linked to curriculum renewal, improved learning outcomes, and a positive school environment. Abdulaziz (2013) emphasized the role of teacher by noting that teachers are the initiator of all curriculum related activities; they motivate students to learn from them as well as help the students to apply the newly acquired knowledge in real life situation. Also, in the field of agriculture, sustainable agriculture requires innovative teachers who are up-to-date in the field. Fareo (n.d.) noted that the high speed at which knowledge are being undaunted due to development in Information Technology (IT), and which has made existing knowledge to be obsolete, has made knowledge acquired in schools to be no longer enough for any professional who wants to be effective in the profession.

However, some teachers still rely on the traditional or conventional methods, techniques or approaches which they were used to during their training and hardly want to consider other options in accordance with what is being recommended or prescribed in the new curriculum (Ibrahim, 2008). Moreover, in this era of ICT, efficient inculcation of knowledge and skills in agriculture will entail that the teacher is proficient in the use of information technology devices to enhance the teaching and learning processes. Therefore, it is important that practicing classroom teachers engage in in-service training to bridge important gaps which may exist between institutional training and actual practice. Engaging in upgrading or in-service training will also improve serving teachers' knowledge, skills and competences as well as update them with the modern practices in their field. Ranjan (2013) noted that education is dynamic based on the changing society. Also, the advancement in science and technology which brought about knowledge explosion

is constantly leading to change in curriculum and syllabus. Hence, in-service training of teachers is necessary to save teachers from dire consequences.

In-service Training

According to Egonmwan (2008), in-service training is the upgrading and updating of the knowledge and skills of employees and the modelling and reorientation of their attitude, so that they can be more effective, efficient and productive in the performance of their job. They need to be developed at the onset of their arrival to the service, during their service career, and to the point of separation from service. This informs the UNESCO's teacher training initiative which is aimed at redirecting policies, improving institutional capacity, improving teacher quality, and stemming off the teacher shortage in order to achieve Education for All (UNESCO, 2003).

Nadia (2000) stated that the major purpose of in-service training is to re-orientate teachers to new goals and values, to prepare them to cope with curriculum change, to train them in new teaching and learning methods, and to provide them with the knowledge and skills to teach new learning areas. The aim is to provide effective practice-related in-service training that meets the requirements of the new curriculum that results in improved teaching and learning in the classroom. This training is more important to agriculture teacher, since they are the people in charge of developing manpower for the agricultural sector.

In addition, sustainable food production also demands quality agricultural educators. An agricultural teacher is expected to possess the content and pedagogical knowledge and skills needed in teaching profession. These knowledge and skills are planning instruction, implementation of the planned instruction, evaluating learning and managing practical agricultural activities. Ajayi and Fapojuwo (2013) stated that agricultural education and training were broad range of activities which are providing education and training programmes for those who work and benefit from agriculture and rural development activities. In addition. Darko, Offei-Ansah, Shouqi, and Jun-ping (2015) remarked that the teaching and learning of agriculture, which is an applied science, demands learning of facts and figures, rules, laws, formulae as well as understanding of basic scientific principles guiding concepts and explanations and observed phenomena. Thus, this peculiarity in agriculture demands that teachers need to be constantly updated.

Numerous programmes have emerged over the years in response to enhancing career development of

agricultural science teachers in secondary schools. These programmes enumerated by Ogunsaju (2000), include vocational institutes which refer to secondary or post-secondary education designed to provide vocational education, or technical skills required to perform the tasks of a particular job; workshops which is a period of discussion and practical work on a particular topic or subject, where group of teachers share their knowledge and experience; conference which is a meeting for discussion or exchange of views; and field trip which provides an avenue for the in-service teacher to see the activities of his field. Ranjan (2013) also listed various forms through which in-service teacher education could take to include: seminars, workshops, conferences, refresher courses, study groups, experimental schools and correspondence courses.

Moreover, agriculture is continuously changing with technological innovations and expanding international trade. Due to this continuous change, the Federal Republic of Nigeria (2013) believes that agricultural education also needs to change "if it is to remain a vital part of Nigeria education". Among these changes is the Federal Ministry of Education review of secondary school curriculum, in which Fishery and Animal Husbandry are recently, made a separate but trade subject in senior secondary schools (Ibrahim, 2008). As such, teachers have complex role and have more demands on them. It is by responding to these developmental changes that necessitate in-service education so that the gap between advancing knowledge and practice can be bridged.

Experiences have shown that government has been making series of efforts to update teachers' knowledge about the recently revised curriculum through series of conferences, seminars, teachers upgrading programmes and workshops. According to UNESCO (2003), the quality of teachers is a major concern for many countries because it determines the quality of education that is offered to their nation which in turn has a great impact on the development of a particular country. As a result of this concern, countries are conducting in-service training for professional development to their serving teachers as a way of improving the quality of education in their countries to meet the global demand of well skilled personnel in the world of work (UNESCO, 2003). Also, a lot of policy statements had been issued to teachers to upgrade themselves if they want to remain in teaching especially for those who have no teaching qualification (TRCN, 2006). All these pointed to the opportunities created by

government for in-service training of teachers (agricultural science teachers inclusive).

In spite of these opportunities, the extent to which agricultural teachers avail themselves to these opportunities seems to be uncertain or undetermined. Also, the apathy shown by youths towards agriculture as well as the failure rate being recorded among agricultural students in secondary school also calls for concern to examine if agricultural science teachers have also benefited from these in-service opportunities and the nature of knowledge they acquired from those training. Hence, the need for this study on the in-service training opportunities attended by secondary schools' agricultural science teachers in Kwara Central Senatorial District.

Purpose of the Study

The main purpose of the study was to assess the in-service training programme attended by secondary school agricultural science teachers in Kwara Central Senatorial District of Nigeria. Specifically, the study examined the demographic characteristics of agricultural science teachers in the study area; in-service training programmes attended by agricultural sciences teachers; organisers/sponsors of in-service training programmes for agricultural science teachers; areas where agricultural science teachers obtained in-service training; constraints encountered by secondary school agricultural science teachers in their in-service programmes; and strategies for improving in service training programmes for agricultural science teachers in the study area. Based on the purpose of the study the following research questions directed the course of study:

1. What are the demographic characteristics of agricultural science teachers in the study area?
2. What are the in-service training programmes attended by agricultural science teachers?
3. Who are the organisers/sponsors of in-service training programmes for agricultural science teachers?
4. What are the areas where agricultural science teachers obtained in-service training?
5. What are the constraints encountered by secondary school agricultural science teachers in their in-service programmes?
6. What are the strategies for improving in-service training programmes for agricultural science teachers in the study area?

Method

Study Design, Area, and Sample

This study adopted the descriptive survey research design. The study was carried out in Kwara Central Senatorial District consisting of four local government areas which are Ilorin-west, Ilorin south, Ilorin east and Asa local government areas of Kwara State. The population for this study comprised of 200 agricultural teachers teaching in public secondary schools in all the four local government areas of Kwara Central Senatorial District. One hundred and twenty (120) agricultural science teachers were randomly selected from a population of 200 agricultural science teachers in 94 senior secondary schools in the study area.

Data Collection Instrument, Procedure, and Analysis

The research instrument that was used for the study was a researcher designed questionnaire. The researcher visited the schools and sought permission from appropriate authorities of the schools before administering the questionnaire to the agricultural science teachers. Data collected was analysed with the aid of a computer using Statistical Package for Social Sciences (SPSS) version 21.0. Data was analysed using frequency, percentage and mean.

Results

Research Question 1: What are the demographic characteristics of agricultural science teachers in the study area?

This research question sought to describe the demographic characteristics of agricultural science teachers in the Kwara Central Senatorial District. From the study, 57.5% of the respondents were male and 40% of the respondents were between 22–28 years of age; 45% were between the ages of 29–35 years and no respondent was 50 and above years of age. Most of the respondents were at the age range of 29-35 years. Table 1 shows respondents distribution based on gender.

Table 1
Demographic Characteristics of the Respondents

Variables	Grouping	Frequency (n)	Percentage (%)
Gender	Male	69	57.5
	Female	51	42.5
Total		**120**	**100**
Age range (Years)	22–28	48	40.0
	29–35	54	45.0

	36–42	15	12.5
	43–49	3	2.5
	50 and above	0	0.0
Total		**120**	**100**
Educational qualifications	NCE	3	2.5
	HND	27	22.5
	B.Ed.	52	35.0
	BSc. (Ed)	24	20.0
	M.Ed.	12	10.0
	M.Sc.	9	7.5
	M. Tech	0	0.0
	Ph.D.	3	2.5
	Others	0	0.0
Total		**120**	**100**
Teaching experience	1–5 Years	66	55.0
	6–10 Years	36	30.0
	11 Years and above	18	15.0
Total		**120**	**100**

Note: $n = 120$

From Table 1, the educational qualifications reveal that most of the respondents, (35%) have B.Ed. other categories are HND, B.Sc. Ed, M.Ed., and M.Sc. which represent 22.5%, 20%, 10%, and 7.5% respectively.

Equal proportions of respondents, 2.5%, have N.C.E and Ph.D. None of the respondents has MTech and other qualifications. Relating to years of teaching experience 55% of the respondents had experience of 1–5 years and 30% of the respondents had 6–10 years of experience. The year of teaching experience of most of the respondents was 1–5 years.

Research Question 2: What are the in-service programmes attended by agricultural science teachers?

This research question sought to find out the in-service programmes attended by agricultural science teachers. Table 2 presents percentage distribution of in-service training programmes attended by agricultural science teachers in the Kwara Central Senatorial District.

Table 2
Distribution of In-service Training Programmes Attended by Agricultural Science Teachers

No.	In-service Training Programmes	Yes	Percentages	Rank
1.	Part Time Studies	57	47.3	3rd
2.	Sandwich Programme	33	27.6	6th
3.	Distance Learning (online)	36	30.5	5th
4.	Correspondence Courses	12	10.0	10th
5.	Workshops	75	63.2	2nd
6.	Seminars	96	80.1	1st
7.	Meeting/Peer Group Activities	57	47.3	3rd
8.	Media Programmes (Radio and Television)	27	22.8	8th
9.	Subject Associations	33	27.6	6th
10.	Professional Associations (STAN, NUT)	18	15.9	9th

Note: $n = 120$

From the Table 2, ranking of the in-service training shows that seminar was the most attended programme. This is followed by workshop in the 2nd rank.

Part time studies and meeting/peer group activities paired as the 3rd in the rank. Also, online distance learning ranked 5th. Attendance of sandwich programme and training by subject associations paired as the 6th in-service training attended by the agricultural science teachers. It can be inferred from the responses that the form of training mostly attended by agricultural science teachers are seminars, workshops, part time studies and peer group training activities.

Research Question 3: Who are the sponsors/organisers of in-service programmes for agricultural science teachers?

Research question 3 sought to find out the sponsors/organisers of in-service programmes for agricultural science teachers. Table 3 shows major organisers/sponsors of in-service programmes for agricultural science teachers as Ministry of Education/Teaching Service Commission (67.5%) and Ministry of Agriculture (27.5%).

Table 3
Analysis of Organiser /Sponsors of In-service Programmes for Agricultural Science Teachers

No.	Organisers/Sponsors of In-service Programmes	Frequency (n)	Percentage (%)
1.	Ministry of Education/Teaching Service Commission	81	67.5
2.	Ministry of Agriculture and Natural Resources	33	27.5
3.	Universities	3	2.5
4.	Non-Governmental Organisations (NGOs)	0	0.0
5.	Textbook Authors/Publishers	0	0.0
6.	UNESCO/DFID/World Bank	3	2.5
7.	Examination Bodies (WAEC & NECO)	0	0.0

Note: $n = 120$

In addition, 2.5 % of the respondents identified Universities as minor organisers / sponsors of in-service programmes for agricultural science teachers. None of the respondent indicated that Non-Governmental Organisations, Subject Authors/Publishers or Examination Bodies (West African Examination Council (WAEC) and National Examination Council (NECO) organised in-service programmes for agricultural science teachers. It can be deduced that majority of in-service programmes for agricultural science teachers are organised by Ministry of Education/Teaching Service Commission and Ministry of Agriculture and Natural Resource.

Research Question 4: What are the areas where agricultural science teachers obtained training?

Research question 4 sought to identify the areas where agricultural science teacher obtained their training. Table 4 revealed areas where agricultural science teachers obtained in-service training. The mean values of responses which is above 2.50 on all statements indicated that teachers obtained in-service training in all areas.

Table 4
Mean Ranking of Areas Agricultural Science Teachers obtained In-service Training

No.	Areas of In-service Training	SA	A	D	SD	Mean	Rank
1.	ICT utilisation	48	42	24	6	3.10	4th
2.	Teaching methodology	30	69	21	0	3.08	7th
3.	Evaluation/Assessment in agricultural science	24	72	24	0	3.00	9th
4.	Timeliness of agricultural operations	51	57	12	0	3.33	1st
5.	Counselling services	39	57	18	6	3.08	7th
6.	Management of students in agricultural fields	24	69	21	6	2.93	14th
7.	Lesson planning and delivery	24	69	27	0	2.98	12th
8.	Leadership/Administrative skills	27	66	9	0	3.15	3rd
9.	Application of problem-based learning	27	54	27	0	3.00	9th
10.	Implementation of new curriculum in fishery and animal husbandry	24	54	12	0	3.10	4th
11.	School and farm record keeping	48	51	21	0	3.23	2nd
12.	Laboratory management techniques	27	72	15	6	3.00	9th
13.	Planning and management of school farm	12	96	6	6	2.95	13th
14.	Teaching of difficult topics or concepts in Agricultural Science	33	72	9	6	3.10	4th
15.	Working with cultural, socially, and economically diverse students	24	57	30	6	2.78	15th

Note: $n = 120$

Research Question 5: What are the constraints encountered by secondary school agricultural science teachers in their in-service programme?

Research question 5 explored the constraints encountered by secondary school agricultural Science teachers in their in-service training programme. Table 5 shows the constraints to agricultural science teachers' in-service programmes in secondary schools. From Table 5, respondents agreed to items 1, 2, 3, 4, 5, 6, and 7 with mean values of 3.30, 3.10, 3.08, 3.03, 3.03, 3.00, and 3.05 respectively. Also, on items 8, 9, and 10, respondents agreed to the statements with mean values of 2.93, 2.98, and 2.93 respectively. This indicates that all the factors

listed serves as major constraints to agricultural teachers' in-service training programme.

Table 5
Mean Ranking of Constraints to Agricultural Science Teachers In-service Programmes in Secondary Schools

No.	Constraints	SA	A	D	SD	Mean	Rank
1.	Inadequate funding from school and government	54	48	18	0	3.30	1st
2.	Lack of awareness on the part of agricultural science teachers about the in-service programme	30	78	6	6	3.10	2nd
3.	Unsuitable scheduling of programme	33	63	24	0	3.08	3rd
4.	Improper arrangement of the event resulting to loss of interest	27	72	18	3	3.03	5th
5.	Distance of school to the venue of in-service programme	33	66	12	9	3.03	5th
6.	Lack of interest on the part of agricultural science teacher.	18	84	18	0	3.00	7th
7.	Inadequate motivation on the part of agricultural science teacher	30	69	18	3	3.05	4th
8.	Inadequate means of communication among stake holders of in-service programme	24	72	21	3	2.98	8th
9.	Discrepancies in the required knowledge and the training provided.	30	57	27	6	2.93	9th

Note: $n = 120$

Research Question 6: What are the strategies for improving in service training programmes for agricultural science teachers in the study area?

Research question 6 sought to find out the strategies for improving in-service training programmes for agricultural science teachers in the study area. Respondents strongly agreed that all the statements 1-9 as

the strategies to improve in-service training programmes attended by agricultural science teachers in the study area. Table 6 shows the strategies for improving in-service programmes in agricultural science.

Table 6
Mean Ranking of Strategies for Improving In-service Programmes among Agricultural Science Teachers

No.	Strategies	SA	A	D	SD	Mean	Rank
1.	Proper planning of in-service programmes for agricultural science teachers	66	45	3	6	3.43	1st
2.	Conduct need analysis for agricultural science teachers before training	51	57	3	9	3.25	6th
3.	Timely release of fund from the funding agencies for sponsoring of in-service programmes.	45	60	12	3	3.23	7th
4.	Employment of qualified trainers/facilitators by Ministry of Education	45	63	12	0	3.28	4th
5.	Adequate timing of scheduling of training programmes to the convenience of agricultural teachers.	42	69	9	0	3.28	4th
6.	In service programmes should be centrally located for easy access to the venue	36	66	15	3	3.13	9th
7.	Agricultural science teachers should be motivated to attend in-service programmes	57	48	15	0	3.35	3rd
8.	Adequate publicity for in-service training programmes should be disseminated few weeks before the training	36	75	9	0	3.23	7th
9.	The objectives and purpose of in-service programmes should be highlighted in letter of invitation.	69	30	18	3	3.38	2nd

Note: $n = 120$

Discussion

This study investigated the in-service training opportunities attended by agricultural science teachers in secondary schools in Kwara Central Senatorial District, Nigeria. The findings revealed that the most prominent in-service training programmes attended by secondary school agricultural science teachers are seminars and workshops. This could be as a result of the fact that most of the teachers already possess Bachelor degree and what they need is to only update their knowledge about recent innovations in their field and which could be done through seminars and workshops in few days. This is in line with the assertion of Mohammed (2006) that continuing professional development are those form of in-service on the job training workshop or post qualification courses which may be formal or informal, structured or unstructured. However, the findings are also in line with the report of Ranjan (2013) who found that the various forms of in-service teacher education include: seminars, workshops, conferences, study group, fresher courses and experimental schools. However, in this present study agricultural science teachers are exposed more to seminars and workshops.

The findings also revealed that the prominent areas which agricultural science teachers obtained training are timeliness of agricultural operations, school and farm records keeping, leadership and administrative skills, implementation of new curriculum in fishery and animal husbandry and teaching of difficult topics or concepts in agriculture. These areas of emphasis during training could be as a result of the areas where the organisers felt more confident in training the teachers. This is because the organisers of the programme for agricultural science teachers were mostly Ministry of Agriculture and University Agriculture Teachers. If the organisers were from Ministry of Education, the area of pedagogy would have been stressed. This finding also shows that teacher retraining programmes should not be limited to pedagogy and teaching principles alone but also in the core content area of the field of study and any other aspects that impinge on human development.

This finding supports Teachers' Registration Council of Nigeria (TRCN, 2006) who found that teachers need continuous professional development programmes which include technology and creative arts, HIV/AIDS prevention and management, drug abuse and cultism, gender and child rights protection as well as other pedagogical competences. This finding also corroborates with the assertion of Newman and Johnson (1994) who explained that

vocational agriculture programs needed to redirect their focus and update their content. Dodds (2001) also remarked that the role of teachers' professional development is to build new pedagogical theories and practices and to assist teachers' in developing expertise in their field. Ajayi and Fapojuwo (2013) also stressed that agricultural education should put greater emphasis on practical field work, students' conducted field surveys training on farm activities and problem-solving exercises tutored towards local needs.

The study also found that constraints facing in-service training programmes are inadequate funds, inadequate means of communications or publicity, late awareness about the programmes, improper scheduling of training, lack of motivation and long distance to training venue. Actually, the problem of funding has been a recurring issue in any worthwhile programme in Nigeria while the busy schedule of agricultural science teachers would also make any training programme slated during the working hours unsuitable for them. The issue of constraints to training was also recorded by Chikanga (2003) that training institutions in most third world countries are in need of financial resources to provide information and communication facilities for training. Ajayi and Fapojuwo (2013) also noted that reduction in funding of agricultural training programmes has led to the inability to maintain high training as well as slow down the pace at which teachers and agricultural institutions response to modernisation.

Finally, the finding revealed that well explained programme objectives and purpose, employment of qualified and dedicated facilitators and availability of funds are the leading suggested strategies for improving in-service programme among agricultural science teachers. This is in line with Ajayi and Fapojuwo (2013) who observed that periodical training should be organised for agricultural science teachers in accordance with their needs. They also suggested that funds should be provided by government as well as from other sources like private organisations.

Conclusion

The study revealed that in-service training has been an avenue for teachers to upgrade their knowledge, skills and attitudes. Agricultural science teachers require adequate knowledge of subject matter, attitudinal relevance and practical skills to be able to teach agricultural science in secondary schools. However, in spite of such opportunities that have been provided by the government, the peculiar nature of agricultural education has not enabled the

agricultural science teachers to fully benefit from such opportunities which serve as the major reasons for which in-service programmes should be provided for various categories of agricultural science teachers in the secondary schools in the Kwara Central Senatorial District, Nigeria. The following recommendations were made based on the findings and conclusions from the study:

1. The objective of in-service training programme should be well spelt out in the letter of invitation to enhance adequate attendance by stakeholders.
2. In-service programmes should be centrally located for easy access by agricultural science teachers.
3. School administrator or heads and relevant government agencies should provide adequate funding or set aside special fund for in-service training and re-training of agricultural science teachers.
4. School heads and government agencies should always avail agricultural science teachers of the opportunities available in-service training programmers through provision of adequate information on such training programmes.
5. Agricultural science teachers should be adequately motivated to attend in-service training programmes through provision of feeding, lodging, transportation fees by the school management.

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