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**IMPACT OF AGRICULTURAL EXTENSION
SERVICE ON THE DEVELOPMENT OF
AGRICULTURE IN BILLIRI LOCAL
GOVERNMENT AREA,
GOMBE STATE**

BY

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MARCH, 2018

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**PROJECT SUBMITTED TO THE DEPARTMENT OF
AGRICULTURAL EDUCATION, SCHOOL OF UNDERGRADUATE
STUDIES, FEDERAL COLLEGE OF EDUCATION (TECHNICAL)
GOMBE, IN AFFILIATION WITH ABUBAKAR TABAWA BALEWA
UNIVERSITY (ATBU) BAUCHI, IN PARTIAL FULFILLMENT OF
THE REQUIREMENT FOR THE AWARD OF BACHELOR OF
TECHNOLOGY (B. TECH) AGRICULTURAL SCIENCE**

MARCH, 2018


APPROVAL PAGE

This project has been read and approved as meeting requirement for the award of bachelor of technology education, department of agricultural education school of undergraduate studies, federal college of education (technical) Gombe in affiliation with Abubakar Tafawa Balewa University (ATBU) Bauchi.

 9/3/2018

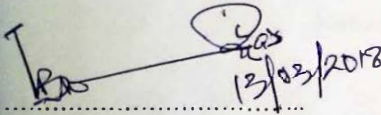
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DECLARATION

I declare that this project work impact of agricultural extension services on the development of Agriculture in Billiri local government area Gombe state has been performed by me in the department of agricultural science school of vocational education, federal college of education (Technical) Gombe Gombe state under the supervision of mal. Abubakar Shehu Umar. all information presented and derived from literature review has been acknowledge.

I also declare that no part of this project had been in any way (previously and currently) presented in any institution


..... 12/3/18

Muhammad Umar

13/32479/D/GM/6

DEDICATION

This work is dedicated to Almighty Allah who bestowed me the knowledge, wisdom, strength and powers for the success of this project and to family members especially my beloved Mother Fatima.

AKNOWLEDGEMENT

I am most grateful to the source of my wisdom and strong pillars of my life, Allah Almighty for making it possible for me to carry out this research and for seeing me through right from the beginning to the end of this course. It is quite impossible to acknowledge all of information and assistance received in carrying out and completing this research work. I sincerely appreciate the commendable effort of my dear supervisor Mal. Abubakar Shehu Umar for his friendly advice, care, reproof and scolding cannot be over emphasized as he goes along way making this project work a huge success. I am grateful sir.

My respect and gratitude goes to my dean school of undergraduate studies Dr. E.B. Arfor, Head of Department School of Agriculture Education Alh. Sule Y. Godi and all the lectures of Agriculture Education Department their support and guidance toward my success, my gratitude to my beloved wife Fatima, her prayers and support.

Finally, I wish to express my profound gratitude to my beloved family members & sister Sani, Lawan, Addayo.

ABSTRACT

This project work identified the impact of agricultural extension services on the development of agriculture in Billiri local government area, the objectives of this study include to determine the socio economic characteristics of the farmers in Billiri local government area, to determine the contribution of extension services to farmers in Billiri local government to determine the method used by the extension workers in disseminating, a new ideas to farmers. Random sample techniques was used to select five villages in Billiri which include Tudun Kwaya, Tal, Kalmi, Baganje, and Billiri north where twenty (20) farmers were selected in each of the five areas selected making a total of 100 farmers as our sample. Questionnaire and verbal interview was used to collect Data from the respondents, frequency and simple percentage (%) was used to analyzed the data collected, the result reveals that farmers in the study area are middle aged men and women but majority are men, majority of the farmers are illiterate, majority of the farmer agreed that extension agent have greatly contributed to the development of agriculture in their area. it was therefore recommended that farmers should be encouraged to be well educated, number of extension workers should be increase, Gov't should provide input to farmers in a subsidized price and at the right time.

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CHAPTER ONE

INTRODUCTION

1.1 Background of the study

The impact of agricultural extension services in the development of agriculture throughout the world is not in doubt. It has reined one of the prime movers in the development of agricultural and in variable by in the defined agricultural extension in a short concise, phrase or statement attempt to define it properly would involve lengthy explanation of several principle and philosophies However, different authorities and experts have defined extension in different forms and ways, all ending on the improvement of standard of living at the people. Fishers (2002) defined extension as a system of education extending beyond the class room to individual on the forms and it available to every member of the family. Fisher thus analyzed extension in terms of family approach system whereby all members of the family are taking in to consideration in planning extension program.

Van den Ban and Hawkins (1988) defined extension as involving the conscious use from communication of information to help people form sound opinion and make good decision. They explained extension systematically as a process which helps farmers to analyze their present and expected futile situations. Helps farmers to become aware of the problems, which can be arise in such analysis, increase knowledge and develop into problems solving and helps to structure farmers existing knowledge help farmers to acquire specific knowledge related to certain problem solutions and their consequences so that they can act on possible alternatives, help farmers to evaluate and improve their own opinion farming and decision making skills.

Asiabaka (2002) tried to look at extension from modern perspective and thus, explained it from the aim, which extension sock to accomplish which is to teach both the rural and urban

clientele how to determine their problems using their own resources in addition Asiabaka (2002) said that extension is having hence important dimension namely educational component, which involves changing the behavior complex and attitude of the peoples, economic dimension, which include increase the incomes of the clientele, increase crop yield, better of financial management, better method of food preservation, social dimension which also include improve health of the clientele, leadership development, better growing development co-operation and increase zeal for development.

Maunder (1972) defined extension as a science, which deals with the creation, transmission, and application of knowledge designed to bring about planned changes in the behavioral complex of people with a view to help them live a better life through learning new ways of improving their vocation, enterprise and institution. Obibuaku (1983) saw extension as an internal system of education meant to improve the living standard of the local people who did not have the opportunity of formal education. According to Jones and Garforth (1997) Agricultural extension is important because in the first place, information about good or new agricultural practice in a particular environment from research station or farmers experience can be assembled synthesized and made available to use. Secondly this information can be used especially for educational purpose to further investigation it or to disseminate knowledge. Thirdly It result in creation of organizational and administrative setup at which can be make dissemination of technologies, easier. Natural Calamities such as famine crop failing and problems like soil degradation and economic crises can result in immediate initiation of extension work.

Asiabaka (2002) summarized that clientele of extension one not only farmers, rather other member of the citizenry who will benefit from the extension service.

Extension is both a political and an organizational instrument implemented to facilitate development and it ranges from transfer of mono-crop technology to participatory problem solving educational approaches, which aims at reducing poverty and entering community involvement in the process of development (Rivera and Qamar 2003)

Nigerian agriculture is rainfall dependent and subsistence oriented. Most of the agriculture outputs come from small scale farmers who undertake the transitional farming practices using the tradition farming tools. There is a significant variation in terms of Land form, soil types, climates farming practices, etc. Which provides the country with different types of livestock and variety of food crops, vegetables and fruits other individual also practice irrigation agriculture that is artificial application of water to the land or soil it is used to assist in the growing of agricultural crops, maintenance of land escapes, and vegetation of disturbed soils in dry areas during period of in-adequate rainfall. There is a significant variation in terms of land form, soil types, climates, farming practices etc. which provide country with different types of restock and varieties of food crops, vegetables, and fruits (Snyder, 2005)

Carlsson et al, (2005) reported chemical fertilizers and improved seeds are the most important input adopted by Nigerian farmers, even though extension packages are applied livestock sector, high value commercial crops (e.g. coffee cocoa, rubber, cowpea onion, groundnut etc.) as well as food crops (e.g. Maize, sorghum wheat, millet etc.)

The establishment of agricultural development in 1910 in Southern part of Nigeria may be regarded as the first attempt to lay foundation of extension services in Nigeria. A significant department was established for the whole country in 1921. Three ministries of agriculture in the north, eastern and western Nigeria were established. Each region ministry has a research institute a school of agriculture and field service decision. The school of agriculture was to produce

trained extension personal that would be in the field services decision which was to teach unique. This was the beginning of the organization of agriculture.

In the early year at extension, the native administration is native local authority. Local government, head at deprotonate at agriculture and they played very important role in the development at their respective area in the field of agriculture. The extensions in these day travel on foot and bicycles from one farm to another and from one village to another to advice farmers mainly on export crops production. In the northern region to involve the problems in the extension it agricultural, committee of leaders areas were formed with a district head as a chairman the minutes of these communities were sent to local government. The functions of these communities include:

1. To recommend farmers to get loans
2. To select farmers who demonstrate some practical's on fields.
3. To recommend seed growers to control and manage communal forest and grazing area.

1.2 Statement of the Research Problem

A part from the service rendering by extension agents, there is still existing problems such as lack of involvement of farmers in the extension programmed some of the programs that are developed are government project with little or no consultation with the farmer. There are so many advantages and disadvantages attached to the extension programs, therefore this extension research work will find out most of the impact of agricultural extension services on the development of agriculture in Billiri local government area of Gombe State.

1.3 Objective of the Study.

The main objective of this study is to examine the impact of agricultural extension services in the development of agriculture in Billiri local government Gombe State. Specific objectives are: -

1. To examine the socio-economic characteristic of the farmers in Billiri local government area Gombe State.
2. To determine the contribution of extension services to farmers in Billiri local government area Gombe State.
3. To examine the method used by extension workers in disseminating of new ideas to the rural people.

1.4 Research Questions.

1. What is the socio-economic characteristic of farmers in Billiri local government area?
2. What are the contributions of extension agent to farmers in Billiri local government areas?
3. What are the methods used by extension workers in disseminating of new ideas to farmers in rural areas

1.5 Significance of the Study.

This research work the impact of agricultural extension services on the development of agriculture in Billiri local government area be at great benefit to Billiri local government area Gombe State and Nigeria in general as it will reveal the role played by the extension services, which will also help the government to know the area needed to be improved this research work with also be of great benefit to any individual who may wish to use it for study purposes.

1.6 Hypothesis

There is significant relationship between agricultural extension services and the increase in agricultural products produced by the farmers.

There is no significant relationship between the agricultural extension services and the increase in agricultural product produced by the farmers.

1.7 Limitation of the study.

This research work is limited in to the impact of agricultural extension services on the development of agriculture in Billiri local government area of Gombe State.

1.8 Definition of farms.

- I. Agriculture: - is defined as the cultivation of crops and rearing of animals for man use it involves the rearing of different animals also raising and taking care of different crops Qampar (2005)
- II. Extension: - is defined as a system of disseminating new information from the research institutions to the farmers within a shortage possible time or extension is the process whereby the beneficial idea of research are taking to the farmers and problems of farmers are taken to research institutes for solution (Mander, 1972)
- III. Development: - is defined as a gradual growth of something so that it becomes more advice or creating something new and also make it more advanced (Mander 1972)
- IV. Impact: - this is a significant or strong influence an effect or to affect something.
- V. Services: - is an action of helping or doing work for something service is also an organize system or labour and material aids used to supply the needs of the public (Asiabaka 2002)

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.1 Meaning of the Term Agricultural Extension.

The word extension is derived from an educational development in England during the second half of the nineteenth century 1850, discussion began in the two ancient universities of Oxford and Cambridge about how they could serve the educational needs near to their homes of the rapidly growing populations in the industrial urban area. It was not until 1867 that a first practical attempt was made in what was designed university extension but the activity developed quickly to become a well established movement before the end of the century. Initially most of the learning given was on literacy and social topics but by the end of 1890s agricultural subjects were being covered by peripatetic lectures in rural areas (Jones 1994). The growth and success of this work in Britain influence the initiation of similar activity elsewhere especially in the United States there in many states, comparable out of the college lectures were becoming established by the 1890s during the first two decades of this century, the extramural work of the land grant colleges, concerned with serving the need of farm families, was to expand dramatically and become formally organized, but the use of the term extension continued and has persisted as the designation for the work.

2.2 The Distant Origin of Extension Services.

The dissemination of relevant information to farmers however has a long if chequered history prior to the emergence of modern form agricultural extension in the nineteenth century. The first known example was in Mesopotamia (roughly present day Iraq) around 1800BC. Archaeologists have unearthed clay tablets of the time of which were inscribed advice on watering

crops and getting rid of rats-important for mitigating any potential loss of taxation revenue from farmers (Ahmed 1982 as a quoted in been Saad 1990). Some hieroglyphs on Egyptian columns also gave advice on avoiding crops damage and loss of life from the Niles flood. An important advice was the beginning of agricultural writing during the ancient Greek and Phoenician, but some of them were adapted by roman writers. From the second century BC to the Fourth century SC Several important Latin text were written frequently drawing on practical farming experience which aimed to help Roman land owners to maintain and improve their estate and their revenue (White, 1970)

2.3 History of Agricultural Extension in Nigeria.

Anaeto (2003) reported extension started as just with the aim of disseminating information to people who were not privileged to attend formal education. Agricultural extension can be defined as an advise and assistance given to the farmers and families through procedures or new farming methods and techniques in order to improve their production efficiency and income bettering their level of living and uplifting the education and social standard of the farmers Essentially agricultural extension provide farming with the scientific knowledge, so that they could solve their problems, it also the primary means of change the reason for change the value of change the result you can achieved the process by which its change it helps farmers to learn about what alternatives that exist in farming so that they can choose the best alternatives for themselves it encourage the people to: -

- I. Discuss the condition under which they live
- II. To obtain a dear inside to their problems
- III. it encourages people to decide how to overcome this problem either individual or collectively in order to achieve better standard of living

2.4 The Existence of Modern Agricultural Extension.

The first agricultural extension services of a modern kind came into existence as the result a crisis and the initiative of the occupant of a high office of authority the crisis was the outbreak of potato blight in Europe in 1845. In Ireland it is effective were particularly severe because the predominantly the peasant population relied potatoes in their diet and the potato famine persisted until 1851. The Earl of clarendon, soon after his arrival in Ireland wrote a letter (Jones, 1982) to the president of the royal agricultural improvement societies of Ireland (founded in 1841) which acted as the central society for numerous local agricultural societies this letter, no less than official directive. urged the society to appoint itinerant lectures to travel around the most distressed districts to inform and show small farmers, in simple terms. How to improve their cultivation and how to grow nutritious real crops other than potatoes" Lord Clarendons practical instructors in husbandry" As they became known, were rent rally appointed, deployed and paid and reported weekly to the society in Dublin with some local control of their activities being exercised by the major land owners in their areas. Over the four years of its existence, the scheme was funded to about half its total cost by land owners and charitable donation with the remainder coming from government controlled funds (Jones, 1979, 1981).

The potato famine, also led to consideration being given in Wurtemberg to employing itinerant farm advisors, but the proposal failed to gain approval (R. Buhler, personal communication). However, from the mid-1850s, first in Wurtemberg, Prussia, itinerant agricultural teachers extension workers began to be appointed under the auspices of central agricultural societies after some ten years the system grew rapidly influenced in part by the cries among small growers resulting from the devastations caused by phylloxera aphid infestations and became formalized (Jones, 1981). Normally, the extension workers spent their

districts giving talks, demonstration and advice to farmers. During the remainder of the year they though farmers some at winter agricultural schools. Although officially they were part of the school activities. Their work was in all cases supported heartily by state funds, and their advice was free to farmers. When the system was adopted in the widow of Bavaris to 1896, it was an integral part of the state civic service. The extension workers were grandly little royal agricultural teacher (Mese field, 1950).

AGRICULTURAL EXTENSION TOWARDS THE MODERN ERA

2.3 The direct antecedents of organized agricultural research and dissemination of its result which occurs in nineteen century Europe and north America can be traced back fourteen century. Between 1300 and 1700 European societies become transformed it's medieval feudal forms in recognizing modern social system. It was a period of complex, multi standard development. Along with the growth of national state and Europe exploration and "discovery" of the rest of the world war the new "leaving" this involved not only a fresh appreciation of discovered classical writing. And arts forms, but also novel ideas and activities, a spirit of humanism and rational enquiry. All of the was considerably facilitated by the invention of printing using movable type usually attributed Gutenberg around 1450, and the rapid diffusion over Europe of the printing press for whose output there existed a ready market. (Russell, 1966).

The earliest known renaissance agricultural text was written in latin by petro descresenzi in 1304 and was becomes the first book on agricultural to be printed in the mid fifteenth century. Others soon followed, often based on the old Latin text or on the collected wisdom of formers and their families. A well known example a compendium of Tudor England was Thomas Tussers A hundredth good pointers of husbandries published

in 1557 and expended in 1573 to fire hundred good point with a many on "good house wife" (Tusser 1580) less popular but at greater significance, were Francis become writings early in the next centaury based on his observations and Scientifics experiments on his estate North of London the beginning of the application of science and scientific method to agriculture (Russell 1966).

2.5 Modernization of Agricultural Extension

In the early year, extension services were in their formative stage, their were relatively small in scale and limited in the scope at their work and contact with farmers and their organization was often some what haphazard even though based on legislation. They were organized predominantly either by central or local governments on by agricultural colleges, usually in close association with experiment stations, or by farmers organizations (Agricultural societies, co-operatives farmers unions, or chambers of agriculture) or combinations of those parent bodies. As the centaury progressed to their parent affiliations, government funding has become relative more important. their objectives have become board, especially in the north trained and more professional. in addition, several other kinds of organizations have development comparably work; agricultural related commercial companies, agricultural community marketing board, concerning to assure the supply and quality of their specific products; agricultural development project, mainly at considerable territorial scale; and a variety of non-governmental (organizations specially religions and charitable involved in agriculture and rural development).

As agricultural extension organization has grown changed, they have invariably become more bureaucratic with district Hierarchical structure. The work of disposed extension workers

had to be administrated and controlled so that one or more levels of intermediary structure (for example, district region) have been created between the field level agents and their headmasters. This the management of extension activities has become a major pre-occupation, and many organization have been opened to the criticism of been too heavy and top down in their approach. How, with the finding deride largely from nation revenues (or international denors), senior managers have necessarily had to account for justify their organization activities, this has been equally pronounced in the north as in the south of the African, where after Coloniel territories, gained their independence, extension work has commonly been raining vented and staffed by nationals under the aegis it their new administrations (usually minsters of agricultural) (Garforth 1986).

During past quarter centaury, the work of extension services has often become more main focus remains on agriculture (mainly food) production. but there has been a growing recognition of the need to reach, influence and benefit the multitudes of small, resources-poor farmers. Strong effort has been made training and visit system. Among the commercial farmers, a major problem has become surplus production within farmers facing economics and policy pressure to restrict it. Associated with intensive production methods, many issues and problems regarding environmental deterioration and fire stock welfare have also arised. Thus these have become important aspect of extension work, particularly socio-economic guidance which focuses both on means by which farmers might maintain then income levels from their resource (for example, introduction of novel crops or livestock and involvement of various rural enterprises) and on the ways of assuring the longer term welfare of formers and their families. Agricultural extension services are thus adding strong social dimension of their activities.

Agricultural extension has now become recognized as an essential mechanism "input" into modern farming. Since commercial farmers can derive direct financial benefit from these

inputs, there is a trend towards the privatization of the extension organizations often as parastatal or quasigovernmental agencies when they had previously received free of charge. This trend is strong and there are examples of it beginning in some countries particularly in Africa the pace of change in the organization function, strategies and approaches of agricultural extension is clearly accelerating.

2.6 The Future of Agricultural Extension Services

The need for agricultural and rural information and advisory services is likely to intensify in the foreseeable future. In much of the world agriculture faces the challenges of keeping pace with rapidly increasing population land, farmers will have to become more efficient and specialized. From government perspective whatever priority is given to production, extension will remain a key policy tool for promoting ecologically and socially suitable farming practices. Some of the most promising recent developments in extension methodology have occurred where the key agency is environmental or is concerned with equity, for example the need for joint management for forest by professional and local forest users and intergraded post management. A consistent theme running through the innovative approaches being used such as participation rural appraisal (chamber 1993) is a fundamental change in what are the perspective role of extension agent and clients. The agents is no longer seen as the expert who has all the useful information and technical solutions; individually and collectively local problem are recognized as a major sources, solutions to local problem are to be developed in partnership between agents, clients since the scale at which extension supports it thus often largely no longer that the individual form, extension workers need new skill of negotiation, conflict resolution, and the nurturing of emerging community organization (Garforth 1986)

The future is also likely to witness a reversal of recent trends toward bureaucratization within hierarchical extension services and a reduction in their level of public funding moreover, a rapid increase can be expected in the use of information technology in support of extension. The forces for change in these areas (as mentioned by Rivera, 2001) will come from four directions

I. Economic and policy climate:

With the collapse during the past decades of socialist forms of economic organization the (dominant) role of public sectors in national economic have become questionable with strengthening trends to reduce levels of public spending thus government extension services and these which are largely publicly financed are and will continued to be under pressure to become more efficient to reduce their expenditure and staff and to pass on (some of) the cost of provision to their client who directly benefit financially.

II. Social context in rural areas:

In the future rural populations will undoubtedly be progressively better educated while their exposure to the mass media will continue to reduce their isolation and detachment from information, ideas and awareness of their situation within a national and international context. However, this exposure will not reduce the need for extension, rather giving rise to the changing demands on agricultural producers from population growth, increasing urbanization, legislative changes and market requirements the more knowledgeable farming population will require different kinds of extension services.

III. System of knowledge:

Recognition of the local specific nature of farming systems and the agricultural information systems which support them is an important source of the pressure towards the de-bureaucratization, and devolution of extension services. This also implies that the

extension workers and farmers as experimenters, developers and adopters of technology and devote more energy on communities within their local areas.

IV. Information technology

The continuing rapid development at telecommunication and computer based information technology (IT) is probably the biggest factors for change in extension one which will facilitate and reinforce other changes.

there are many possibilities for the potentially application of the technology in agricultural extension it will birring new information services to rural overs over which for mers as these will have much great he control than other current information channels even if every former does not have a computer terminal these could become rapidly available at local information resouces centres with computer carrying experts system to help farmers to make decision

2.7 The basic concept of agriculture extend service the crucial impact of agricultural extension (i.e farmers education) in the social and economic development of the nation, can not be over-emphasized. Never before in Nigerian history has the necessary for educating and raising the predictive capacity, of our farmers been of such important as it is today. Increased agricultural productivity depends primarily upon the accept of cultural and technological changes at the rural farm level.

This for Nigerian agricultural particularly Gombe state. to improve our farmers here no alternatives but to learn and adopt recommended scientific farming technique sin place of their traditional practices. Perhaps, the slow development of Nigerian agriculture can be attributed to the in-ability of the Nigeria, farmers to respond positively to new ideas, they must be property educated on how best apply the new ideas or practice to their farming activities; this is because the new ideas are complex, technical and can hereby be understand by most of our for more.

Combe state can not achieve increase agricultural productivity on rural for, except through the provision of basic agricultural evocation particularly, the non formal or extension type that will help more millions of the farmers from traditional to progressive farming, thereby improving the overall quality of rural life. It is not very easy to outline agricultural extension in short consist, phrase or statement. Any attempt to define property, would involve length explanation of several principles and philosophies. However, different activities and export have defined extension in different forms and ways, all ending on the improvement of the standard of living of the people, Fisher, 7002) defined as a system of education extending beyond the classroom to individuals on the family. Fisher, thus analyzed extension in terms of family approach system whereby all members of the family are tation into consideration in planning extension program.

Unanama Ban and Hawkin (1988) defined extension as involving the ancious use of communication at information to help people from sound opinion and make good decision. They explain, extension system systematically as a process -which help farmers to analysis their present and expected future decision helps farmers to become aware of the problems which can arise in such an analysis. Increase knowledge and develops into problems and helps to structure farmers existing knowledge relates to certain problems solution and their consequences so that they can act on the possible alternatives, helps farmers to evaluate and improve their own opinion farming and decision making skills.

2.8. Scope of Agricultural Extension Services

Extension services is the different pregnant projects/recommendation, which the extension service make available to their client able through the use of extension education process. Agricultural extension services encorn pass all aspect of agriculture. It includes the provision of the timely information, the linking of framers with the source of farming input and

other inputs and credits facilities and most importantly. The provision of education services to farmers

The mistake people have been making was that of limiting agricultural extension services to helping farmers to procure their plating inputs and other inputs needed on their farms; but people through had experience have come to realize the fact that for any agricultural project or program to succeed, agricultural extension must be fully involved, so as, the participate In all it is activities from planning to excursion. Modern agricultural extension worker In Nigeria today, covers a wide spectrum of service, which includes improvement in production, marketing, storage, processing, fish farming, agro-forestry, inputs supply and distribution, man power development, home economics/women in agriculture, irrigation, land management, farm mechanization erosion control, livestock management, human resources/development. Administration/management programs etc (Anacto 7103).

It is important to emphasized here extension is a weak instrument when its stands but it become powerful when combined with price in centives input supply, credit, seed multiplication and so forth (Centada 1970). This becomes an improvement on already known relationship between research extension farmer linkages thus, resulting in birth of research extension farmers-inputs linkages (REFILS). The truth remain that even this linkage has not really improved out lock of extension services hence, Areato (2003) mentioned the need for involving extension services in direct input distribution and addition to their educational services.

CHAPTER THREE

RESEARCH METHODOLOGY

This chapter deals with the some important aspects of the research which include description of the area of the study population of the study, sample and sampling techniques, method for data collection as well as the method used for data analysis.

1. Area of the study.

The study was conducted in Billiri local government area of Gombe state. It is situated in the north-east zone of Nigeria. The area has the tropical climate marked by wet and dry season. The area has within the sudan savannah climate zone of Nigeria with an estimated population of 13, 549 people (NPC 2006) and land mass of about 1, 626 km² and located approximately between latitude 9° 50' N - 11° 09' N, 8° 33' 00" E - 9° 33' 00" E. Generally the soil type is known as loamy and sandy loam which makes it suitable for agricultural production.

2. Population of the study.

The population of the study for this research work comprises of farmers in Billiri local government area, with an estimated population of about 13, 449 people.

3.3 Sample and sampling techniques

Ramadan sampling technique was used to select five (5) villages which include Tudun Kwarya, Tal kalmia, Baganje and billiri north. Twenty (20) farmers were selected in each of the five (5) areas selected making a total of one hundred (100) farmers. The reason of selecting the villages selected as a sample is due to the fact that they have high percentage of farmers.

3.4 Instrument used for data collection.

The instrument used for data collection for this research work was the use of the instrumental questionnaire, and verbal interview, the questionnaire was given to farmers who can read and write to fill it to the best of their knowledge while verbal interview was conducted to the farmer's respondents who cannot read or write.

1.5 Method used for data analysis.

The method used for data analysis our collected data was the use of frequency and simple percentage where the formula $x/y \times 100/1$ was used

Where x = number of respondents

y = total number of respondents

CHAPTER FOUR

CHAPTER FOUR CONSIST OF ANALYSIS AND DISCUSSION OF RESULT

1 Distribution of Respondents based on the Age

S/N	AGE	FREQUENCY	PERCENTAGE
	20 – 25 Years	40	40
	30 – 45 Years	30	30
	46 – 55 Years	20	20
	Above 55 Years	10	10
	Total	100	100

Age which is similar to sex determine the proportion or quality of production, from the table above it can be clearly seen that 40 respondents representing 40% of the total number of respondents are between the age of the 20 – 25 year, 30 respondents representing 30% of the total number of respondent are between the age of 36 – 45 year, 20 respondents representing 20% of the total number of respondents are between the age of 46 – 55 years, 10 respondents representing 10% of the total number of respondents above 55 years of age.

4.2 Distribution of respondents based on gender

S/N	GENDER	FREQUENCY	PERCENTAGE
1.	Male	80	80
2.	Female	20	20
3.	Total	100	100

From the table above it can be clearly seen that 80 respondents, representing 80% of the total number of respondents are males, while 20 respondents, representing 20% of the total number of respondent are females.

3 Distribution of respondents based on qualification.

S/NO	QUALIFICATION	FREQUENCY	PERCENTAGE
1.	Primary school certificate	20	20%
2.	Secondary school certificate	50	50%
3.	HND/NCE Certificate	20	20%
4.	Degree Certificate	10	10%
TOTAL		100	100%

From the table above, it can be seen that 20 respondents, representing 20% of the total number respondents attends only primary school 50 respondents representing 50% of the total number of respondent have secondary school certificate 20 respondents, representing 20% of the total number of respondents, obtained HND and NCE Certificate 1 respondents, representing 10% of the total number of respondents are degree holders.

4.4 Distribution of respondents based on Occupation.

S/N	OCCUPATION	FREQUENCY	PERCENTAGE
1.	Farming	70	70%
2.	Civil Servant	0	0%
3.	All of the above	30	30%
4.	Businessmen/women	0	0%
TOTAL		100	100%

From the table above it can be clearly seen that to respondent, representing 70% percentage of the total number of respondents are farmers.

4.5 Distribution of respondents based on whether extension agents education farmers on how adopt new techniques of farming in their locality.

S/N	RESPONSES	FREQUENCY	PERCENTAGE
1.	YES	70	70%
2.	NO	30	30%
TOTAL		100	100%

The table above shows that majority of farmers representing 70% of the total number of respondents have agreed that they have been educated on how to adopt new techniques of farming in their locality.

This shows that extension services have contributed to the development of agriculture in the area of study.

4.6 Distribution of responses based on the type of innovation impacted to farmers by extension agents.

S/N	RESPONSES	FREQUENCY	%
1.	We were taught on how to adopt new meth	20	20
2.	We were taught on how to apply fertilizer	20	20
3.	We were taught on how to control weed and insect	20	20
4.	We were taught on how used improved seed	20	20
5.	All of the above	20	20
TOTAL		100	100

From the table above, it can be seen that, 20 respondents, representing 20% of the total number of respondents have taught on how to adopt new method of farming 20 respondents, representing 20% of the total number of respondents were taught how to apply fertilizer 20 respondents, representing 20% of the total number of respondents were taught how to control weed and insects 20 respondents, representing 20% of the total number of respondents were taught how to use improve seed, while, 20 respondent, representing higher number or 20% of the total number of respondents have benefited from all the services of extension agents in their locality.

1.7 Distribution of respondents based on whether there is any increase in their production after adopting new technique of farming

S/N	RESPONSES	FREQUENCY	PERCENTAGE
1.	YES	80	80%
2.	NO	20	20%
TOTAL		100	100%

From table below, respondents, representing 80% of the total number of respondents have agreed that there is an increase in their production after adopting new techniques of farming While 20 respondents representing 20% of the total number of respondents disagreed with the statement, considering the fact that majority agreed this show that extension services have made positive impact on food production.

4.8 Distribution of respondents based on how they assess the services of extension agents in their locality.

S/N	RESPONSES	FREQUENCY	PERCENTAGE
1.	Excellent	20	20%
2.	Very Good	60	60%
3.	Good	10	10%
4.	Fail	10	10%
TOTAL		100	100%

The table above shows that 20 respondents representing 20% of the total number of respondents responded Excellent, 60 respondents representing 60% of the total number of respondents responded very good 10 respondents representing 10% of the total number of respondents responded good, while 10 respondents responded fail therefore, the result from the table above indicated.

4.9 Distribution of respondents based on the methods used by extension agents in disseminating new ideas to farmers

S/N	RESPONSES	FREQUENCY	PERCENTAGE
1.	Individual contact	20	20%
2.	Group Contact	20	20%
3.	House to house	10	10%
4.	All of the above	50	50%
TOTAL		100	100%

The table above shows that to respondent which represents 20% of the total number of respondents agreed said that the extension agent used individual contact and 20 respondents, which is 20% of the total number of respondents agreed that group method was used, 10 respondent which is 10% of the total number of respondents that all the methods were used in disseminating new ideas to them and so respondents representing 50% of the total number of respondents said all the above mentioned method were used.

4.10 Distribution of respondents based on the methods among the methods used by the extension agent, they considered good for them and their community

S/N	RESPONSES	FREQUENCY	PERCENTAGE
1.	Individual contact	0	0%
2.	Group Contact	20	20%
3.	House to house	70	70%
4.	All of the above	10	10%
TOTAL		100	100%

Based the tables 20 respondents, which is 20% of the total number of respondents are in the opinion respondents that group contact method is good to respondents to representing 70% of the total number of respondents, said house to house is better while 10 respondents representing 10% of the total number of respondents consider all of the methods can be used.

4.11 Distribution of respondents based on whether agricultural extension agents gives adequate attention and support to farmers especially when the need arise?

S/N	RESPONSES	FREQUENCY	PERCENTAGE
1.	YES	70	70%
2.	NO	30	30%
TOTAL		100	100%

This table shows that, to respondents representing 70% of the total number of respondents agreed that the extension agent have given them adequate attention and support to formers when they need it. this show that Agricultural extension agents, gives adequate attention and support to farmers especially when the need arise.

4.12 Distribution of respondents based on how they assess the relationship between traditional rulers and extension agent.

S/N	RESPONSES	FREQUENCY	PERCENTAGE
1.	Very good	10	10%
2.	Good	50	50%
3.	Satisfactory	30	30%
4.	Poor	10	10%
TOTAL		100	100%

From the above table 10 respondents, which represents 10% of the total number of respondents assess the relationship between traditional ruler and extension agents as very good and 50 respondents, which represents 50% of the total number of respondents assess the relationship between the traditional rulers and the extension agents as good 30 respondents representing 30%

of the total number of respondent assess to the relation as satisfactory while 10 respondent representing 10% of the total number of respondents assess the relationship between the traditional rulers and the extension agents as poor.

4.13 Distribution of respondents based on how they assess the relationship between the agricultural extension agents and people in their community.

S/N	RESPONSES	FREQUENCY	PERCENTAGE
1.	Very good	10	10%
2.	Good	50	50%
3.	Satisfactory	30	30%
4.	Poor	10	10%
TOTAL		100	100%

The table above shows that, 10 respondents representing 10% of the total number of respondents assess the relationship between agricultural extension agents and people in their own community as very good 50 respondents representing 50% of the total number of respondents representing assess if is good 30 respondents representing 30% of the total number of respondents assess the relationship as satisfactory while 10 respondents representing 10% of the total number of respondents assess the relationship between the agricultural extension agents and people in the community as poor.

CHAPTER FIVE

SUMMARY CONCLUSION AND RECOMMENDATION

5.1 Summary

Farmer's in the study area are middle aged men and women, and that a greater proportion of the farmers are male. Only 10% of the farmers in the study area are commercial farmers- It can be seen that greater proportion of the farmers are illiterate (46%). About 64% of farmers agreed that extension agent have greatly contributed in the rural development of agriculture. Therefore, the hypothesis that agricultural extension service has contributed to development of agriculture in Billiri Local Government is accepted. 70% of farmer agreed that they have benefited a lot from the visit given to them by extension workers. This is in accordance with Adeniji (1991) embroider that extension programme be brought to the rural farmers by Agricultural Extension agents at their homes or villages. Group contact method which represent 50% of the farmers shows that, Extension agent give more emphasis on all of the above different type of method in dissemination of new ideas (innovations) to farmers. majority of the respondent are in the opinion that agricultural extension services lead to the increase in agricultural production (Food production) 68% of agricultural extension service led to increase in food production. In the final analysis, farmers from Billiri Local Area are: middle aged people, majority of the farmers are males, more of subsistence farming, and mainly people with little or no formal educational background.

5.2 Conclusion

Based on the findings of this study it was concluded that Agricultural Extension Service has led to increase in food production as such has reduced the conservational attitude of the farmers Extension workers in the study area have greatly contributed to some extent to the development of agriculture. Farmers from Billiri Local Government Area are middle aged

people, majority of the farmers are male, more of subsistence farming, and mainly people with little or no formal educational background. The result of this research work also reveal that there is a good relationship between extension workers and traditional rulers there is also a good relationship between farmers and the extension workers as majority of the farmers/respondents reveals that adequate affection and support is given to them by the extension workers especially when the need arise.

5.3 Recommendations

Based on the findings of this study, the following recommendations were made:

1. The number of Extension workers that visit the farmers should be increased and their efforts intensified so that they will be able to reach all the farmers and solve their problems.
2. Government and other financial agencies should be more liberal in granting loan to the farmers and giving them sufficient time before paying back loans.
3. The Government through Ministry of Agriculture should supply agricultural inputs such as fertilizer at appropriated time and as a subsidize price to increase greater percentage of use.
4. The ministry of agriculture should organized public enlightenment, seminars, and conferences on the effective techniques of modern farming. These forums should be extended to our villages where farmers are living.
5. More extension centers should established and the existing ones should be maintained
6. To aid the services of extension agents, and conducive atmosphere for better services delivery, the government should provide social amenities to the rural areas (farmers) such as pipe bone water, roads, bridges, electricity among other; The absence of these basic social amenities will forms parts of the problems of lack visitation by extension agents.

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APPENDIX I

Federal College of Education (Tech.) Gombe
Faculty of Agriculture,
Department of Agriculture
In Affiliation of (ATBU) Bauchi.
19th December, 2017.

Dear Respondent,

I am a final student of the above name institution, correctly carrying out a research work on the topic "Impact of agricultural extension service on the development of agriculture in Billiri Local Government Area, Gombe state, kindly fill the questionnaires to best of your knowledge and assume that the information given to me is academic purpose and I will be happy and treat it confidently.

Yours Faithfully,

Muhammad Umar
13/32479/D/GM/6

APPENDIX II
QUESTIONNAIRE

(1) Age of the Respondent

- (a) 20 - 35 years
- (b) 36 - 35 years
- (c) 46 - 55 years
- (d) Above 55 years

(2) Sex (Gender)

- (a) Male
- (b) Female

(3) Qualification

- (a) Primary school certificate
- (b) Secondary school certificate
- (c) HND/NCE certificate
- (d) Degree certificate

(4) Occupation

- (a) Farmer

- (b) Civil servant
- (c) All of the above
- (d) Business man/woman

(5) Did agricultural extension agent educate farmer on how to adopt new technique of farming in your locality?

- (a) Yes (b) No

(6) What types of innovation imparted to you by the extension agent

- (a) We were taught on how to adopt new method of farming
- (b) We were taught on how to apply fertilizer
- (c) We were taught on how to use Improved seed
- (d) We were taught on how to control weeds and insect
- (e) All of the above

(7) Is there any increase in your production after adopting new technique of farming .

- (a) Yes (b) No

(8) How will you assess the service of extension agent in your locality

- (a) Excellent
- (b) Very good
- (c) Good
- (d) Fail

(9) What are the method used by extension agent in disseminating new ideas to you

- (a) Individual contact
- (b) Group contact
- (c) House contact
- (d) All of the above

(10) Which method among the method used by agricultural extension agent do you consider good for you and your community

- (a) Individual
- (b) Group contact
- (c) House to house
- (d) All of the above

(11) Are the agricultural extension agent gives adequate attention and support to farmer especially when the need arise

- (a) Yes (b) No

(12) How will you assess the relationship between traditional rulers and extension agent

- (a) Very good
- (b) Good
- (c) Satisfactory
- (d) Poor

(13) How will you assess the relationship between agricultural extension agents and people in your own community?

(a) Very good

(b) Good

(c) Satisfactory

(d) Poor