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Use of Community Extension Approach for Upgrading Poultry Production in West African Agricultural Productivity Programme (WAAPP) Adopted Communities of Kano State, Nigeria.

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ABSTRACT
In an effort to enhance protein availability within BUK-WAAPP Project Communities in Kano State, coupled with the demand from the members of the community particularly women and children for improved poultry species, it thus becomes inevitable to upgrade local chicken within the community using community extension approach. The main objective of the study was to use community extension approach for upgrading poultry production in rural communities of BUK-WAAPP Project. Twenty (20) households were purposively selected each from the four (4) adopted villages (Danbare Doka, Danja and Kwami). The basis for such selection was being the beneficiaries of the WAAPP programme. Pre-tested, structured questionnaire was used to collect primary data from the beneficiaries of the BUK-WAAPP intervention. The results show that the mean age of the households in Danbare and Danja were the same (49years each). There were marginal differences in the number of males and females in the two communities of Danbare and Doka. Thus, in Danbare, (51%) were males, with (49%) females. When the highest level of education was evaluated in relation to gender perspectives, it was realised that virtually all the adult females and aged males had non-formal education as their highest educational attainment. All the respondents in the four adopted villages emphasised that they benefitted more from upgrade of the local chicks and knowledge in raising the chicks. The year they enjoyed these benefits was mainly 2014. Since the WAAPP intervention in 2014, the life of the beneficiaries has positively changed through the transfer of various technologies. Level of poultry production in the adopted villages has generally increased by more than 50%. The intervention has recorded a huge success in enhancing linkages among beneficiaries from different communities. WAAPP – BUK has changed the attitudes of these beneficiaries in the adopted villages toward improved poultry practices and prepared them for future challenges in capacity building and self – actualisation. Empowering youth at early stage of their careers would undoubtedly increase their level of engagement in agricultural activities.
Keywords: Community, Extension, upgrade, poultry, production,

INTRODUCTION

There are two distinct poultry production systems in Nigeria, as in most developing countries of Africa and Asia. Each of these two systems is associated with features of scale, stock, husbandry and productivity that therefore define the two distinct production systems. The two systems are conventionally referred to as the Commercial Poultry and the Rural Poultry, respectively. The Commercial Production System as the name implies is industrial in its prototype and therefore based on large, dense and uniform stocks of modern poultry hybrids. It is capital and labour intensive; as well as inputs and technology demanding.

Adene and Oguntade (2006) argued that the rural poultry is by convention a subsistence system which comprises stocks of non-standard breeds or mixed strain, types and ages. It is generally of small scale, associated with household or grass root tenure and little or no veterinary inputs. The rural poultry sector is therefore in its original sense, a village-based, household or individual holding and occupation which has however been extended to non-village settings in peri-urban localities, mainly by the middle class dwellers. The common features to all these intermediate grades are in their subsistence scale generally, with minimal or no inputs and labour overheads. However, Adene and Oguntade (2006) emphasized that between these two rather distinct prototypes, intermediate grades have evolved over time, in response to the national agro-economy and consumer demands. Thus as can be seen later from existing statistical data and from findings in the current review of poultry sector, intermediate grades which constitute what has now been globally tagged "Family Poultry" is comprised of the rural or indigenous poultry types in some cases or a mixture of both indigenous and exotic hybrids or even totally exotic breeds.

In another development, with the changing dynamics of farming and agri-food markets domestically and internationally, agriculture offers new opportunities for job creation. Agriculture accounts for the second largest source of employment in the world and employing over one billion people globally in 2009 (Proctor and Lucchesi, 2012). Therefore, the sector can be the main source in assisting the government to provide employment opportunities to youth. Youth may actively join farmers‟ communities or associations and having different economic activities where they can get better income as well as having a desire to develop their own community (Sarah *et al.,* 2010 cited by Abdullah *et al*., 2012). Despite its shortcomings, investing in young people living in rural areas is a key to enhance agricultural productivity and food security.

In related development, the World Bank in 2005 designed the African Action Plan (AAP) as the centerpiece of its strategy to help Africa and its sub- regional groups such as the Economic Community of West African State (ECOWAS) to reach the Millennium Development Goals (MDG) of reducing the number of hungry people by 50% by 2015. The AAP emphasizes three focal areas – one of which is strengthening the drivers of economic growth. ECOWAS, in response to the AAP, then formulate the West African Agricultural Productivity Program (WAAPP) as an implementing instrument for achieving two principal objectives of the focal areas which are: to make agriculture more productive and sustainable, and to support sub-regional integration.

The Community Extension Approach developed in India covers a broad spectrum of operations such that the scope of extension agent's activities is wider and beyond focusing on agriculture. Hence, it is also called Rural Extension. It is noted for being a participatory 'self-help' system. Adoption of useful and practical technologies to farmers and their family members' livelihoods was central to this approach.

The overriding philosophy of this extension approach is that activities should be based on clientele's felt needs; built around the desire of people to be liberated from poverty and pain and self-help operated. It aims at; i) improving the quality of life at community level, ii) reducing rural poverty and iii) fostering social development by improving the general standard of living in the rural areas through the application available human and natural resources at people's disposal.

This approach had been applied in the implementation of some broad-based rural development programmes in Nigeria including: The Directorate for Food, Roads and Rural Infrastructure (DFRRI). The Better Life Programmes. The Family Support Programmes National Special Food Security Projects.

Objectives of the Study

The main objective of the study was to use community extension approach for upgrading poultry production in rural communities of BUK-WAAPP Project. Other objectives are to;

- describe the socio-economic characteristics of the WAAPP beneficiaries in the communities;
- determine the perception of the respondents in respect to the benefits derived from the BUK-WAAPP Community Extension Approach and
- examine the contribution to the improvement of living conditions of WAAPP adopted villages and schools through achieving the goals.
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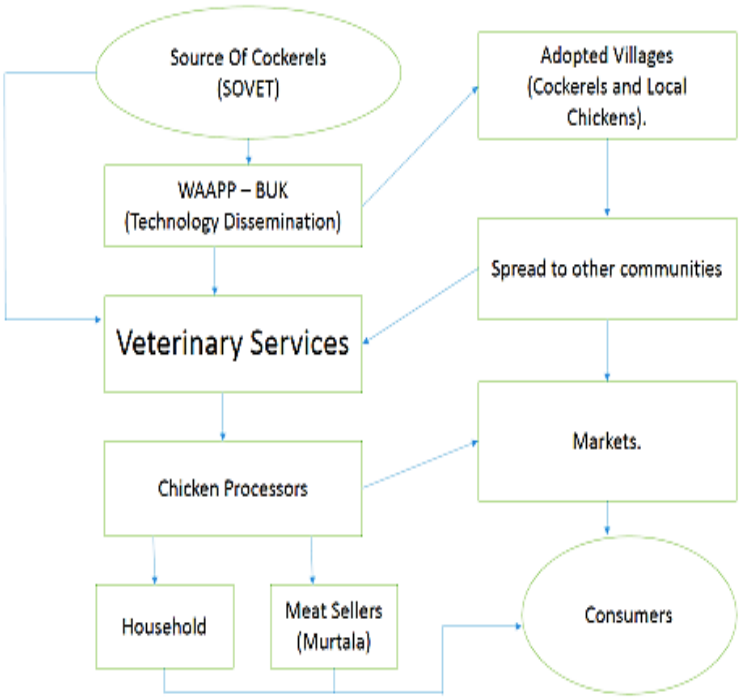

Figure 1: Framework of the use of community extension approach for upgrade of local chickens

METHODOLOGY

Study Area

This study was conducted in Kano State of Nigeria, West Africa. Kano State is located in the North Western part of Nigeria on latitude 11° to 34° N and longitude 8° to 34° E, and 472.45 meters above sea level. It has a total land of 20,760 square kilometres and is predominantly inhabited by Hausa and Fulani ethnic groups.

The sampling procedure for the study was multistage in which the first stage involved a purposive selection of the study sites (Danbare, Doka, Danja and Kwami) considered as adopted villages in the BUK-WAAPP intervention. The second stage also involved a purposive selection of the households' that are beneficiaries of the intervention with particular interest to gender mainstream in the study sites.

Experimental Procedure

The study was conducted in BUK-WAAPP Project participating communities. Female farmers' groups and youth participating in BUK-WAAPP Project were purposively selected and each farmer group was supplied with local hens and exotic breed of cocks to be mated at 8 hens to 1 exotic breed of cock to give a mating ratio of 8:1. The indigenous cocks within the community were withdrawn to circumvent the usual territorial protection. The improved cocks were fed with grower mash for 30days with gradual introduction of grains and other household waste that was available to other hens. The entire chickens were dewormed, deloused and vaccinated against the common poultry diseases. Furthermore, upon hatching the chicks were brooded along with feeding of chick starter for a period of 30days. Anti-stress was administered accordingly and the brooding of the chicks, feeders and drinkers were supplied to participating groups.

Records to be collected

Number of eggs laid, number of chicks hatched, weight of chick at hatching, survival and mortality records, weight of chicken at week 20, cost of production, incremental benefit, qualitative and quantitative characteristics will be assessed from the improved cocks, the local hens and their offspring.

Responsibilities of participants:

Each participating group will be responsible for:

i. Provision of hens for upgrade in a proportion of 8 hens to an improved cock.
ii. Routine sanitation for the hens and cock(s).
iii. Provision of housing for the chickens.
iv. Feeding and watering for the hens.
v. Provision of source of heat for chicks.

BUK-WAAPP Responsibilities:

i. Provision of improved cocks.
ii. Provision of feeders and drinkers for chickens.
iii. Provision of medications (de-wormers, de-lousers, vaccinations)
iv. Trainings of beneficiaries on management of chickens.
v. Provision of stabilization feed for the cocks.
vi. Provision of starter feed for chicks.
vii. Monitoring and evaluation

Sample Size

Twenty (20) households were purposively selected each from the four (4) adopted villages (Danbare Doka, Danja and Kwami). The basis for such selection was being the beneficiaries of the WAAPP programme. Although there were dominant adult females' membership of the group, still some youth males and females were involved to meet the objectives of the project. Three cockerels were distributed to each participating woman in four (4) WAAPP - BUK adopted villages, which was presumed to serve at least 8 local chickens, with aim of improving semi-intensive poultry production in these communities. Thus, 80 households were supplied with cockerels with start-up feeds, anti-stress, vaccines, antibiotics and feeders.

Data Collection Procedure

Pre-tested, structured questionnaire was used to collect primary data from the beneficiaries of the BUK-WAAPP intervention. Some of the structured questions include those on the knowledge about the intervention and the institutions conducting the activities, and the benefits derived from the intervention from 2010 to 2015. Questions on the socioeconomic status and the activities involved by the farming households were also asked. In addition to the questions on production of the farming households, their processing and marketing aspects were also assessed. Knowledge on the BUK-WAAPP technologies, major problems encountered in enterprises and constraints faced were also assessed.

RESULTS AND DISCUSSION

Demographic Characteristics of the Households

The measure of the demographic characteristics in this survey is important in understanding certain features that are responsible for impact assessment in various agricultural activities in the adopted villages. Cultural, economic and environmental imperatives have serious effect on the roles of households and individuals in relation to agricultural productivity, food security and general rural development.

Age of the Households

Age was measured by the age in years of each respondent at the time of survey. The age distribution of the farming households in this study varies from one community to another. However, the mean age of the households in all the communities were slightly close. The mean age of the households interviewed in Danbare and Danja were the same (49years each). But the maximum and minimum ages of the households in Danbare were found to be 75 and 32 years respectively. This was an indication of wide distribution of age among the group members in the two communities. Different classes of the households were represented in these communities. That has also been the case in other two communities surveyed, with slight differences in mean ages of 47 years and 46 years in Doka and Kwami respectively. The maximum age of the farming households in these communities were the same (63), while the minimum ages of the households were found to be 30 and 21years for Doka and Kwami respectively.

Gender Composition in the Farming Household Size

Gender composition in the farming households is illustrated in figure 1 below and is an important component of this study in identifying the contributions of each sex to agricultural productivity, particularly through participation in various agricultural activities. When the number of participating households in the study was considered, it was found that there was great disparity in the number of male and female households in all the communities as explained in the methodological perspectives. However, when the households' size was assessed in respect to the gender composition, there were more male members in the households than females in all the communities. In assessing individual community, the results show that the household size was large in Danbare with up to 301 household members, which was closely followed by Doka with 267 households. This was probably due to the closeness of these communities to the city (Kano). There were marginal differences in the number of males and females in the two communities of Danbare and Doka. Thus, in Danbare, 153 (51%) were males, with 148 (49%) females. In related development, there were 139 (52%) males and 128 (48%) females. The slight differences between males and females in the adopted villages could be promising in more females' involvement in future WAAPP activities in the two communities.

The differences were high in the two non-adopted villages of Danja and Kwami. In Danja there were 252 household members, with 135 (54%) males and 117 (46%) were females. Kwami was found to have the least number of households (191), with 105 (55%) males and 86 (45%) females. The general assessment of the gender composition in respect to farming household size in all the communities indicates reasonable percentages of females in all the households, which would definitely increase their participation in the existing and new roles in this and future WAAPP activities.

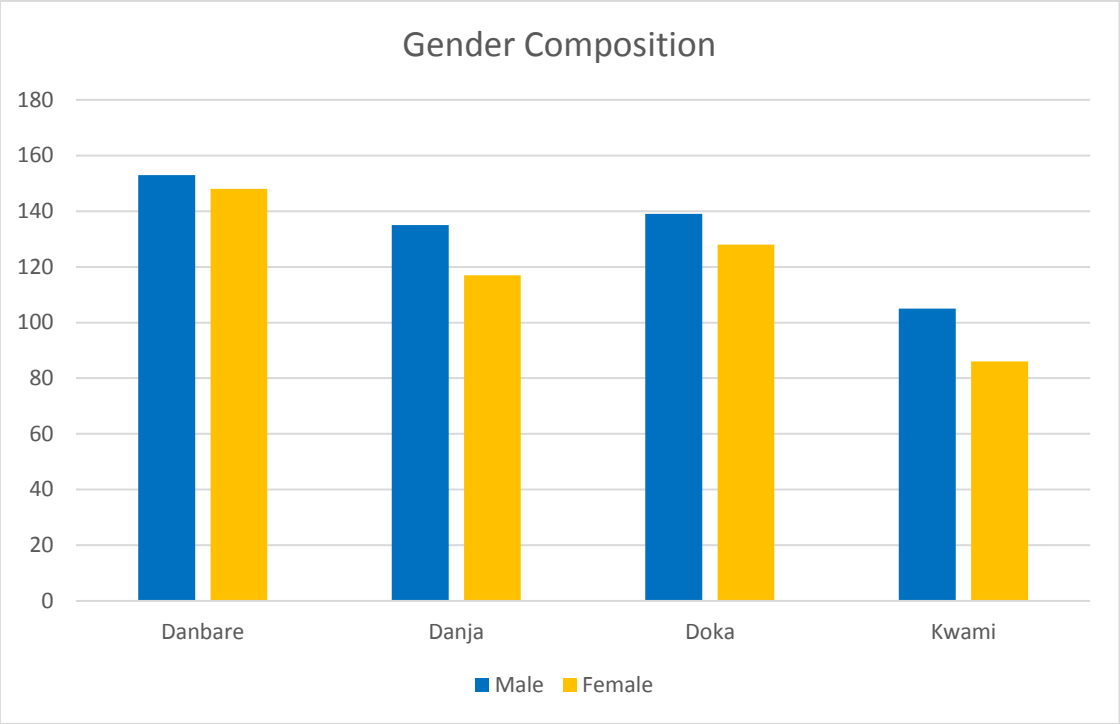

Figure 1: Gender Composition of the Adopted and Non-adopted villages.

Highest level of education

Measure of the educational status of the farming households in this survey is important in understanding the type of technology and to whom should be disseminated for effective utilisation. The results of the educational status is shown in figure 2 below. It revealed that the educational attainment of the household heads in the communities was generally low. However, the levels of educational attainment vary from one community to another, with more than ten of the household heads had non- formal education, which was followed by Doka. It was interesting to find that the two adopted villages (Doka and Danbare) had the highest number of the household heads with post –secondary and secondary as their highest educational levels respectively.

When the highest level of education was evaluated in relation to gender perspectives, it was realised that virtually all the adult females and aged males interviewed had non-formal education as their highest educational attainment. The probable explanation is that, there were very low enrolments to formal education in those days in the northern Nigeria especially among the child females.

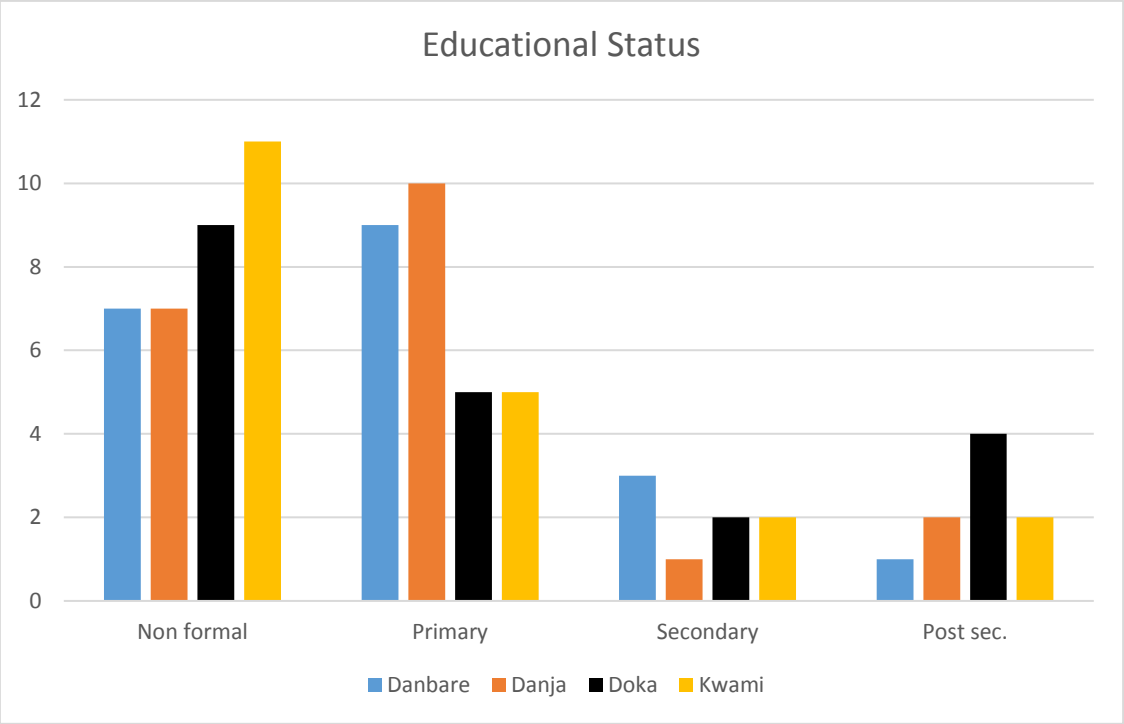

Figure 2: Highest level of education in the adopted villages.

Benefits derived from BUK-WAAPP community extension approach

From figures 3 and 4, when the household heads were asked about the benefits they so far derived from BUK-WAAPP community extension approach for upgrading the poultry production over the last four (4) years, the responses were similar. All the respondents in the four adopted villages emphasised that they benefitted more from upgrade of the local chicks and knowledge in raising the chicks. The year they enjoyed these benefits was mainly 2014. Extension advisory services which are important aspect of technology dissemination according to them need to be strengthened. However, most females in the communities complained for the inability of the programme to distribute cockerels to them, which would be a great benefit for promoting poultry production, thus assuring food security and raise their income status. AROCs in the adopted villages were claimed to be avenues for interaction. The farming households in the adopted villages meet on weekly basis to discuss various agricultural and rural development issues. This according to them strengthened their linkages and promotes group cohesion among them. Sharing of useful information and knowledge among the beneficiaries was strongly enhanced.

Empowering women and youth which is central to this study, was found to be an important benefit derived from the intervention. However, the sustainability of the intervention was not captured in the study, which is important for utilizing the technologies and extending to others.

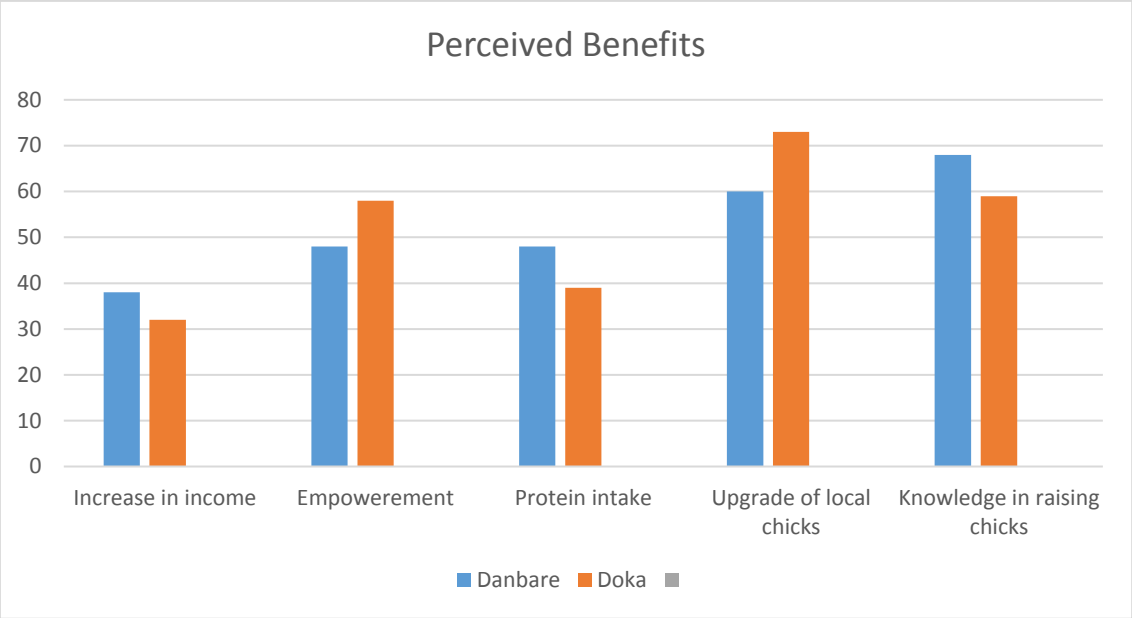

Figure 3: Perceived Benefits Derived from the Upgrade in Poultry Production.

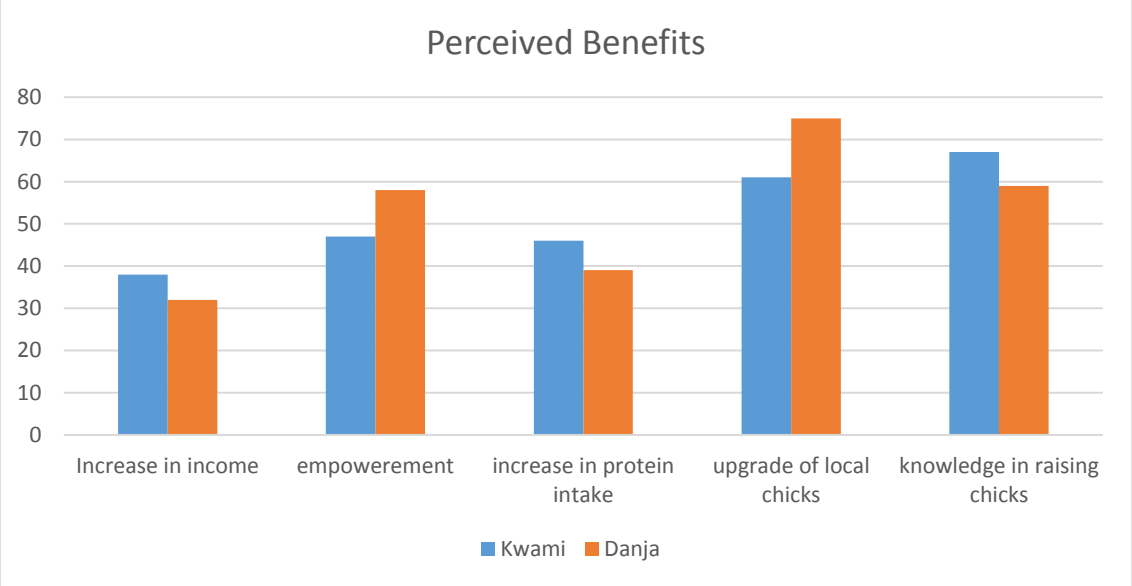

Figure 4: Perceived Benefits Derived from the Upgrade in Poultry Production.

CONCLUSION AND RECOMMENDATIONS

Since the WAAPP intervention in 2014, the life of the beneficiaries has positively changed through the transfer of various technologies. Level of poultry production in the adopted villages has generally increased by more than 50%. The intervention has recorded a huge success in enhancing linkages among beneficiaries from different communities. Such linkages were in turn helpful in promoting farmer to farmer exchange of ideas and technologies for sustainable agricultural practices. Empowering youth at early stage of their careers would undoubtedly increase their level of engagement in agricultural activities in the near future. This would in turn increase food security status of the country and uplift the livelihoods of the youth in Nigeria. WAAPP – BUK has positively changed the attitudes of these beneficiaries in the adopted villages toward improved poultry practices and prepared them for future challenges in capacity building and self – actualization.

- With many of the beneficiaries having non-formal education, WAAPP – Nigeria should target more of the community members with formal education to ease the level of technology uptake.
- Extension advisory services which are important aspect of technology dissemination need to be strengthened.
- Sustainability of the intervention was not captured in the study, which is important for utilizing the technologies and extending to others.

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