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Training Needs Assessment of Mid-Career Agricultural Extension Officers: Evidences from Sasakawa Africa Fund for Extension Education (SAFE) Intervention in North-East Nigeria

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Training Needs Assessment of Mid-Career Agricultural Extension Officers: Evidences from Sasakawa Africa Fund for Extension Education (SAFE) Intervention in North-East Nigeria

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Abstract

The primary objective of this paper is to assess the stakeholders' needs for mid-career agricultural extension training Programmes in north-east Nigeria taking cognisance of the Sasakawa Africa Fund for Extension Education (SAFE) intervention in the region and beyond. The major source of data was a survey of agriculture-related private and public agricultural extension organisations in the six States that constitute the geo-political zone, using structured questionnaire. Although empirical results indicated that majority of the organisations preferred full-time/regular training of their agricultural extension staff and minority of the institutions showed interest in the part-time and short duration Programmes for reasons of shortage of staff and financial constraints, many staff still require further training in these organisations. The

implications of these for the implementation of the Programmes in Adamawa State University, Mubi and North-east Nigeria are explored.

Keywords: agricultural- extension, mid-career, Programmes, training needs

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1.0 Introduction

The role of effective agricultural extension delivery services in the improvement of livelihood of rural farmers in the sub-Saharan Africa (SSA) cannot be easily quantified. Apart from providing the farmers with the necessary knowledge, skills and required technical information to warrant them take effective farm management decisions to enhance their farm practices (Undiandeye *et al.,* 2003; Ani 2007 and Ogunbameru *et al.,* 2008), agricultural extension workers are saddled with the responsibility of ensuring that innovations are passed on to farmers appropriately. The end results are that they are helped to identify and analyse their production problems, make them become aware of the opportunities for improvement in farm yields in order to realise increased income and better standard of living (Ogunbameru *et al.,* 2008). These services cannot be appropriately delivered at the right domain without the utilization of efficient personnel. The attainment of the latter can be hinged largely on the training of the adequate and appropriate manpower to carry out the task.

In Africa and Nigeria in particular, the number of trained extension personnel compared with the farming population, can be said to be grossly inadequate. For instance, Mommoh (2009) reported that although the World Bank recommended a ratio of 1:1000 extension agents to farmers for effective guidance on modern farming practices and marketing of agricultural commodities, the reality in most States of the Federation is 1:15000-20000 extension agents to farmers. Several Programmes that have been tailored towards improving farming practices of the bulk of rural farmers were either phased out as a result of disengagement of the funding partners or due to neglect from the existing government which starved such agencies of funds. Oladele (2004) who examined the effects of World Bank withdrawal of loan on performance of extension services in Nigeria discovered a huge difference in extension activities "before" and "after" the withdrawal, with a very drastic drop in activities of agents of change after the World Bank withdrawal of loan. This development led to a sharp drop in agricultural productivity and by extension a reduction in food produced for the rapidly growing population of the country.

Nigeria is endowed with abundant human and natural resources in terms of vast arable land mass of about 923, 766 square kilometers, favourable climate conditions for growing of varieties of crops (trees, cereals and vegetables) and livestock production and fisheries, including wildlife (Shelleng *et al.,* 2011). However, of the total population (over 150, 000,000) of the country, about 80% reside in rural areas. Of the latter, about 56% are engaged in farming using crude implements/methods in producing crops and livestock. It is against this background that various organisations both government and non-governmental identified effective extension services as the possible sustainable panacea for the decay in the agricultural industry.

The Sasakawa Africa Fund for Extension Education (SAFE) is one of such organisations. Having established SAFE Programmes in Ahmadu Bello

University, Zaria, and Bayero University, Kano in Nigeria, in 2002 and 2007, respectively, to carter for the entire northern parts of the country, the extreme needs for the far north-east and the north-central necessitate the opening-up simultaneously of yet other centers in Adamawa State University (ADSU), Mubi, and the University of Ilorin, Ilorin, both in 2011.

The SAFE Programme in ADSU is meant to serve six States (Adamawa, Bauchi, Borno, Gombe, Taraba and Yobe) that constitute the north-east zone as the catchment areas. However, neighbouring countries that include the Cameroon Republic, Chad and Niger which share boarders with the country may participate. In order to take into account all the stakeholders needs in the zone for the Programme, an Assessment Needs Workshop in which all the agriculture-related organisations both private and public were convened. Deliberations for two days culminated into prioritizing four (4) options namely Crop Production, Animal Production, Irrigation Agronomy and Post-Harvest Technology, for inclusion in the curriculum of study.

The SAFE Programme in ADSU is not only unique in the sense that it has options (4) which differ from same Programme in other universities that only emphasize on crop production, the Programme also takes into account the entire food value chain in the four specialty areas. Saio (2009) noted that this value chain process encompasses linkages that begin with agricultural production at the farmer's level and ends with food consumption at the consumer's domain. Unlike other universities that place significance on production alone which ensures glut with resultant wastages at the rural areas, the present development is holistic and captures the entire food system. This study therefore, assessed major areas of extension needs of the stakeholders in the north-east geo-political zone of Nigeria taking cognisance of SAFE intervention in ADSU with the ultimate hope that farmers in the region and beyond will benefit immensely from the Programme.

2.0 Methodology

2.1 The Study Area

The study was conducted in the north-eastern Nigeria, comprising six States that form the geo-political zone. These States are Adamawa, Bauchi, Borno, Gombi, Taraba and Yobe. Collectively, the geo-political zone covered an area of 272, 908 square kilometers with a total 6population of 18, 971,960 (NPC, 2006). Historically, Blench (1997) traced the major economic activities of the people of the area to farming, trading and handcraft.

Specifically, an array of crops listed includes tubers, cereals, pulses, vegetables & oil-seeds, fruits, spices and others. Main items of trade in the area are agricultural commodities, pottery, textiles and jewelries. Ja'afar-Furo *et al.* (2011) reported that these trades occur intra- and inter-States, and internationally, being bordered by Chad, Niger and the Republic of Cameroon.

2.2 Sampling Procedure and Data Collection

As the SAFE Programme is specifically geared toward improving agricultural production among the communities in the zone, only agriculture-

related organisations were involved. These included both the government and non-governmental institutions/organisations in the area. In this regard, a purposive sampling method was adopted in the selection of the respondents (organisations), which were 62 initially but 50 responded. A total number of 50 organisations formed sample size for the study. Structured questionnaire was employed to elicit information from the organisations. Where necessary, it was supplemented by oral interviews.

2.3 Data Analytical Techniques

The data used in this study were analysed using descriptive statistics. Specifically, frequency distribution, percentage and arithmetic means were applied in realizing the objectives.

3.0 Discussion

3.1 The Distribution of Organisations According to States in the Study Area

The distribution of agriculture-related organisations/institutions in the north-east geo-political zone of Nigeria is shown in Table 1. These organisations are either directly or indirectly connected with the responsibilities of ensuring that appropriate policies towards improving the agricultural sector in the country are made, and also conduct the activities that will lead to the successful implementation of such policies. It could be seen from the Table (1) that majority (68.0%) of the organisations was governmental, with only 20.0% and 12.0% accounting for academic institutions and private organisations, respectively. Further inference from the result in Table 1 shows that up to 88.0% (68.0% & 20.0%) of the organisations were government-owned and only 12.0% were privately-owned. While the former are specifically Ministries of Agriculture in the state government, Department of Agriculture and Natural Resources in the Local Government Councils, Faculties of Agriculture in tertiary institutions, and agriculture-related Departments in the Federal and State Government parastatal; the private organisations are composed of groups, individuals and family owned farms that are meant for commercial purpose.

The implication of the above result is that although the larger population of the area engages in farming and relies heavily on production of crops and rearing of livestock for livelihood, the stronghold of agriculture is still dominated by the government. This trend of development cannot auger well for improvement of agriculture in any developing nation. As Koroma (2007) reported, that for agriculture to develop, a renewed emphasis is required on policies and on building appropriate institutions where a remarkable shift from situations in which heavy investments are channeled in state-owned agricultural institutions that are inefficient to privatized agriculture. In this regard, reforms have to be undertaken to encourage privatization of agriculture more especially among the small-scale stakeholders.

3.2 Distribution of Extension Staff Based on their Qualifications

A larger proportion (36.82%) of the staff was OND holders, 33.07% formed those that attained HND level, whereas SSC holders accounted for 18.16%. The PSC holders were the least with 11.95%. Since HND certificate in any agriculture-related area of specialization is the basic entry requirement for the proposed Degree Programme (B. Agricultural Extension and Innovations) in addition to five credits in not more than two sittings at SSC (including Mathematics and English Language with three other relevant subjects), it could be said that only 33.07% of the entire extension staff in the geo-political zone would be qualified for the Programme. The remaining bulk (66.93%) would be suited for short courses Programmes. These findings are shown in Table 2.

The implication of the above findings is that majority of the experienced extension workers in the region are of low and middle cadre, which further goes to stress the dare need for the proposed Sasakawa extension degree programme in the region if the agricultural production is to be earnestly improved.

3.3 Distribution of Organisations Based on their Mid-Career Extension Needs

The SAFE mid-career extension Programme in ADSU is designed to address practical agricultural extension needs of the rural people. In other words, it is demand-driven with a lot of experiential learning for the trainees. In this regards, the area of needs for the stakeholders were requested to serve as basis for the formulation of the curriculum for the Programme. The result in Table 3 indicates that 96.0% of the stakeholders needed the aspect of marketing of agricultural commodities to be resolved. This was followed by problem of storage and postharvest technology with 90.0%. Value addition on agricultural commodities accounted for 78.0%. While issues pertaining livestock production and disease control, crop production technology; and operation and maintenance of agricultural machines accounted for 70.0%, 64.0% and 60.0%, respectively, the information and communication technology in agriculture recorded about 56.0%, with irrigation farming as the least (50.0%).

Ja'afar-Furo *et al.* (2011) in a survey conducted among rural small-scale entrepreneurs reported that all (100%) the respondents cited inadequacy of markets for agricultural commodities/products in the area. This finding further strongly supported the request of the organisations to include marketing of the agricultural commodities as foremost in the SAFE Programme. Generally, it could be deduced from the result in Table 3 that although there was improvement in the production trend by farmers in the geo-political zone, marketing, storage/preservation and value addition of agricultural commodities still remain major constraints leading eventually to wastages and by extension reduction in the incomes of the small-scale farmers.

3.4 The Course Options Based on Area of Needs of the Organisations

The description of course options is shown in Table 4. The ADSU came up with four courses having carefully studied the entire needs of the stakeholders in the geo-political zone. These courses are Crop Production Technology, Animal Production Technology, Postharvest Technology and Irrigation Agronomy. As briefly described in the Table (4), crop and livestock production courses deal with the entire value chain, with detailed storage, preservation and processing techniques of all agriculture commodities forming the postharvest course. Dry season farming techniques and practices as complement of rain-fed farming are contained in the irrigation agronomy. However, agricultural economics and extension courses were built-in into all these four options in order to serve as vehicle for transmission of this expertise in effective agricultural practices to the rural farming populace.

3.5 Major Constraints to Effective Extension Training for Staff in the Organisations

In an attempt to properly document factors that thwart or rather frustrate the organizations' efforts toward releasing extension staff for further training for any meaningful policy intervention, their views were sought. About 84.0% of the organisations associated the development to lack/improper release of training budgetary funds by the various governments to the respective ministries/departments (Table 5). Further investigations revealed that these funds were either diverted for other government "very important" purposes or simply misappropriated. Even when the funds were released to the implementing organisations, they were at most times inadequate. Therefore, staff generally found it difficult to proceed on training on their meager monthly pay. Auta and Dafwang (2010)' report buttressed this finding with their survey of Agricultural Development Programmes (ADPs) in Nigeria. The authors documented that 73.0% of the State ADPs reported the most common problem of extension services in their organisations as poor funding from their respective State Governments. They reiterated that fund allocations from State Governments were grossly inadequate and often disbursed lately.

Another constraint of paramount importance to the organisations was the inadequacy of trained staff for replacement of trainees. This factor was reported by about 76.0% of the respondents in the study area (Table 5). Although the issue of experienced staff is what cannot be acquired easily from the labour market at any given point in time, adequate long plan of staff training by the organisations would minimize creation of vacuum when the question of staff replacement arises.

Of the entire agriculture-related organisations in the geo-political zone, 70.0% mentioned dearth of information about extension training Programmes as one of their major constraints to staff training. Also, about 50.0% and 40.0% of the organisations associated their inabilities to release staff for extension training to improper planning of training Programmes and bureaucratic bottlenecks, respectively. These constraints are shown in Table 5.

3.6 Individual Staff Reported Constraints to Further Studies

As the SAFE Programme was communicated to these organisations a couple of weeks before its commencement and still insignificant number of candidates were received from the areas, individual members of staff were contacted for their personal reasons for failure to apply. The bulk (79.0%) of the staff indicated lack of entry requirements at the SSC level as their major hindrance to applying for the Programme. Some of the staff had excellent result at their HND level but the fact that they were deficient at SSC results disqualified them. Another 70.0% of the individuals attributed their lukewarm attitudes to seek for admission for the Programme to absence of motivation of extension staff in the field after graduation. Vijayaragavan and Singh (1997) confirmed this situation when they stated that the work motivation and morale of extension staff are very poor in many countries. The authors related the conditions to bureaucratic structure of extension administration, lack of rewards and incentives, poor facilities, poor promotional avenues, and the low esteem given to extension as the major causes of poor motivation and morale. The results are shown in Table 6.

The findings in Table 6 also show that about 49.99% of the individual staff surveyed indicated improper understanding of relevance of extension Programmes as one of the problems hindering furthering their education in this specialty. However, this particular problem was observed among those staff with PSC and SSC holders. Similarly, few (30.01%) staff showed doubt on the status of certificate obtained on graduation from the SAFE Programme. Their fear emanated from the duration of the Programme which is three (3) years against the four (4) to (5) years observed in other conventional universities. But having understood the intensity of the training within the stipulated three years, their doubts were resolved.

4.0 Implication of SAFE Programme in ADSU, North-East Zone and Beyond

The ADSU, Mubi, Nigeria, is a state university established in 2002 with three (3) major Faculties namely Agriculture, Science and Social & Management Sciences. Having adjudged as the fasted growing state university in Nigeria in 2010, the management of the institution is poised towards making eLearning a facet to reckon with or at par with the “giant” universities around the globe. Massive academic staff development is another area that is highly explored.

The Department of Agricultural Economics and Extension is one of the four departments in the Faculty of Agriculture in the University. Saddled with the responsibility of training the best policy makers and extension officers in the field of agriculture in the catchment areas and beyond, the establishment of SAFE would further consolidate efforts of the University in making the Department center of excellence in agricultural extension in the country. In addition, the institution would be popular among the neighbouring nations that

are agrarian and interested in the SAFE Programme, by enrolling their mid-career extension staff for further trainings, thus, projecting the University at the global academic scene.

On a broader basis, there will be more trained extension workers in various fields in the North-east Nigeria and beyond, thereby increasing awareness of small-scale farmers to innovations and by extension improving farm productivity. Similarly, improvements in different methods of food storage would result to reduction in wastages after harvests leading to sustainable income generation by the farmers. Also, with the introduction of value chain in agriculture in the area, farming would no longer be a subsistence issue but considered as agribusiness which will ultimately create employment at various facets of the food system. The end result would be a remarkable paradigm shift from the former small-scale subsistence agriculture which produces fewer yields to a more globalized commercial agriculture with bumper harvests.

5.0 Conclusions and Recommendation

Conclusively, it could be stated that the bulk of the agriculture-related organisations in the North-eastern Nigeria were public-oriented, with OND and HND holders having the larger proportions of extension staff in the study area. Although majority of the organisations would prefer full-time training for their staff, inadequacy of trained staff to serve as replacement for trainees compelled them to opt for short duration courses. The curriculum of the SAFE Programme was drawn based on the major needs of the stakeholders. While foremost of the constraints that thwart the release of staff for training by the organisations include inadequately release of training budgetary funds, inadequacy of trained staff for replacement of trainees and dearth of information about extension training Programmes in descending order, individual staff reported lack of requirements at the SSC level and absence of motivation of extension staff in the field after graduation as the main reasons for not furthering their studies. The ADSU stand the chance of being the best agricultural extension training center not only in the region alone but the country at large, in addition to becoming popular in the neighbouring countries that may be interested in the SAFE Programme.

Based on the findings of this survey, it could be recommended that agencies that intend to improve the rural agriculture through extension practices should appropriately budget training funds for implementing departments and disburse same promptly. Adequate provisions should be made towards getting the field extension staff motivated through increment of staff salary and allowances; and making available the necessary facilities and equipment needed for effective extension delivery services. Also, universities should relax the SSC requirements for well experienced field workers in order to encourage them apply for admission for higher learning. The bureaucratic bottlenecks experienced in some ministries and organisations with regard to staff trainings should be eradicated thereby paving ways for pragmatic development and

practices. Proper human resource development and planning across the strata of all organisations, be it government or private should be implemented appropriately for the benefit of the teeming majority of rural populace. Finally, the Universities and other institutions of higher learning should adequately advertise their Programmes, especially new ones, using the right media so that the target beneficiaries would be accessed.

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7.0 Results

This section of the study documents the findings of the survey in tabular format and attempts to capture the distribution of agriculture-related organisations in the area, staff training needs, curriculum development and general constraints to staff training.

Table 1: Distribution of Stakeholders by States in Northeastern Nigeria (n: 50)

State	Govt. Organisations		Private Organisations		University/College	
	Freq.	*% of Total*	*Freq.*	*% of Total*	*Freq.*	*% of Total*
● Adamawa	10	20.0	-	-	-	-
● Bauchi	07	10.0	-	-	02	4.0
● Borno	04	8.0	01	2.0	04	8.0
● Gombe	06	12.0	01	2.0	01	2.0
● Taraba	02	4.0	02	4.0	01	2.0
● Yobe	05	10.0	02	4.0	02	4.0
Total	**34**	**68.0**	**06**	**12.0**	**10**	**20.0**

Source: Computed from field survey (2011).

Table 2: Distribution of Extension Staff by Qualifications in the Organisations that Require Agricultural Extension Training in the Study Area (n: 3949)

Category of Staff	Part-Time Training		Long Vocation Training		Full-Time Training		Short Courses		Total Number of Staff
	M	*F*	*M*	*F*	*M*	*F*	*M*	*F*	
● Primary School Certificate	52 (1.32)	8 (0.20)	22 (0.56)	6 (0.15	68 (1.72)	26 (0.66)	221 (5.60)	69 (1.75)	**472 (11.95)**
● Secondary School Certificate	47 (1.19)	12 (0.30)	89 (2.25)	34 (0.86)	258 (6.53)	91 (2.30)	140 (3.55)	46 (1.16)	**717 (18.16)**
● Ordinary National Diploma	167 (4.23)	45 (1.14)	72 (1.82)	35 (0.87)	676 (12.12)	212 (5.37)	199 (5.04)	48 (1.22)	**1454 (36.82)**

● Higher National Diploma	241 (6.10)	78 (1.98)	93 (2.36)	80 (2.03)	585 (14.81)	126 (3.10)	65 (1.65)	38 (0.96)	**1306 (33.07)**
Total	**507 (12.84)**	**143 (3.62)**	**276 (6.99)**	**155 (3.93)**	**1587 (40.19)**	**455 (11.41)**	**625 (15.84)**	**201 (5.09)**	**3949 (100)**

Values in parentheses are percentage of total
Source: Computed from field survey (2011).

Table 3: Percentage Distribution of Organisations by Area of Needs for Mid-Career Extension Training in the Study Area (n: 50)*

Area of Needs for Training	**Frequency**	**Percentage of Total Organisations**
● Livestock Production and Disease Control	35	70.00
● Storage and Postharvest Technology	45	90.00
● Marketing of Agricultural Commodities	48	96.00
● Irrigation Farming	25	50.00
● Value Addition on Agricultural Commodities	39	78.00
● Information and Communication Technology in Agriculture	28	56.00
● Crop Production Technology	32	64.00
● Operation and Maintenance of Agricultural Machines	30	60.00

*Multiple responses were observed
Source: Computed from field survey (2011).

Table 4: Description of Course Options Drawn Based on Area of Needs of Stakeholders for Extension Staff Training in Northeastern Nigeria

Course Option	Brief on Course Description
● Crop Production Technology	● The course content generally include physiology of crop production, micro-propagation, soil chemistry, field experimentation, statistics & research methods, supervised enterprise projects, and seminar presentation in addition to agricultural economics and extension courses
● Animal Production Technology	●The course content generally include poultry production, sheep & goat production, applied animal breeding, reproductive physiology & artificial insemination, beef & dairy production, system thinking for changing agriculture, research methods, supervised enterprise projects and seminar presentation in addition to agricultural economics and extension courses.
● Postharvest Technology	●The course content generally include harvest & postharvest technology, agricultural product processing & storage, seed production technology, system thinking for changing agriculture, research methods, agricultural meteorology, supervised enterprise projects and seminar presentation in addition to agricultural economics and extension courses.
● Irrigation Agronomy	●The course content generally include farm design, survey & land use planning, farm mechanization practice, irrigation & drainage, fish technology, processing & storage, system thinking for changing agriculture, research methods, supervised enterprise projects and seminar presentation in addition to agricultural economics and extension courses.

Source: Extracted from Adamawa State University Students' Handbook for B. Agricultural Extension and Innovations (2011).

Table 5: Reported Major Constraints to Effective Extension Training for Staff in Organisations in Northeastern Nigeria (n: 50)*

Constraint	Frequency	Percentage of Total Organisations
● Inadequately Release of Training Budgetary Funds	42	84.00
● Dearth of Information about Extension Training Programme	35	70.00
● Inadequacy of Trained Staff for Replacement of Trainees	38	76.00
● Improper Planning of Extension Training Programmes	25	50.00

● Bureaucratic Bottlenecks in the Organisations	20	40.00

*Multiple responses were observed
Source: Computed from field survey (2011).

Table 6: Reported Major Constraints to Further Studies by Individual Staff in Agriculture-Related Organisations in the Northeastern Nigeria (n:3949).

Individual Staff Constraint	**Frequency**	**Percentage of Total Staff in the Organisations**
● Lack of Entry Requirements at the School Certificate Level	3120	79.00
● Absence of Motivation of Extension Staff in the Field After Graduation	2764	70.00
● Improper Understanding of the Relevance of Extension Programmes by Individual Staff	1974	49.99
● Doubt on the Status of Certificate Obtained after Graduation from Sasakawa Programme	1185	30.01

*Multiple responses were observed
Source: Computed from field survey (2011).