

Capacity Building And Training Requirement For Effective Fisheries And Aquaculture Extension In Nigeria - A Review

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ABSTRACT: This paper examines the importance of capacity building and training requirement for the benefit of fisheries and aquaculture extension in Nigeria. It involves the analysis of secondary data bothering on the management of agricultural extension in Nigeria over time vis-avis various agricultural development programmes in the past in which fisheries and aquaculture extension was apparently de-emphasized or neglected at the implementation phase. It is therefore recommended as a way forward towards actualizing the Unified Agricultural Extension System objective that a favorable reform in the Nigerian agricultural extension system will be a necessary avenue to put fisheries and aquaculture extension in proper perspective for effective service delivery which will be a good entry point to achieving the millennium development goals of combating hunger, extreme poverty and attainment of food security in Nigeria. [Nature and Science. 2009;7(4):66-71]. (ISSN: 1545-0740).

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Introduction

The educational and knowledge status of most extension staff fell short of much desired goal of bringing about rural and agricultural development through qualitative and committed extensions service. Yet this grade of extension workers constitutes the contact point between the extension service and farmers in the rural areas. Knowledge is a product of field experience and consistent training over time. These have not been forth-coming as the inability of the extension outfit to actualize such important incentives has been hinged on various reasons which hovers on inadequate funds, lack of willpower on the part of the past governments, misplaced priority, official mismanagement and general lack of commitment and sacrifice on the part of some extension agents. The predominance of poorly trained extension staff upon whom many categories of farmers depend has not been able to achieve a great deal of success in rural development where agriculture is the major occupation. Agricultural development constitutes a complex network of interrelationship amongst all the agricultural sub sectors including fisheries, livestock and crop agriculture. It is therefore important that concerted efforts be put in place by all concerned stakeholders in agriculture for improved capacity building necessary for effective service delivery. This paper specifically aimed at discussing capacity building in the fisheries subsector of agriculture vis-avis the extension - training requirement for the fisheries extension officers. Analysis of secondary data was adopted and attempt was made at assessing of the status and potential fisheries and aquaculture in Nigeria, make an overview of past efforts aimed at promoting agricultural development in relation to fisheries and aquaculture in Nigeria and finally discuss the extension training requirement of the extension staff while effort was made to suggest suitable modalities in line with the policy of Unified Agricultural Extension System as a way forward to achieving result oriented fisheries and aquaculture extension in Nigeria.

Status and Potential of Fisheries and Aquaculture in Nigeria

The land, water and fisheries resources of Nigeria are quite encouraging, a coastline of about 800km and vast sea area of about 256000 square kilometers. The first 300km western coast is blessed with inter-connecting lagoons while the remaining 5000km coastline consists of deltaic channels of River Niger and its tributaries. The country has extensive ecosystem estimated to cover over 0.5 million hectares (Tobor, 1993). IFAD report (1998) further observed a favourable hydrology of the country dominated by two major river systems, the Niger and Benue into which over 370 smaller rivers covering about 10.8 million hectares. Similarly Nigeria is blessed with Lake Chad along with 12 other man-made lakes with considerable surface area and a diversity of fish resources which is capable of yielding more than half a million tones of fish annually if fully developed (Tobor, 1993). The greatest yet untapped potential however lies in aquaculture, which is capable of supplying up to 1.3 million tones of fish from the vast areas of perennial fresh and brackish water swamps (IFAD, 1998).

Although the contribution of fisheries to the G.D.P is small (3-4%), it occupies a very significant position in the primary sector providing employment for over five hundred thousand people and contributing to over 40% of the animal protein intake of the people particularly the resources poor. Tobor (1993) observed that national demand for fish is well over a million metric tons of which about 360,000 tones is produced locally while about 40,000 tones is imported annually leaving a short fall in excess of a quarter of million tones. This is in contrast to an estimated potential production of 1.83 million tones. It is self evident that the full realization of the agricultural potential of any country be it developed or developing economies depends on the country's information management capabilities. In Nigeria, the management of agricultural (fisheries, crop, livestock or forestry) information is saddled on the extension department of the Agricultural Development Programme (ADP) under the aegis of the Federal Ministry of Agricultural and Rural Development. The concept of the Agricultural Development Project is premised on the fact that interrelated factors comprising the right technology, effective access to physical inputs and effective market strategy are essential to modernizing any aspect of Nigeria's agriculture. The commitment of the government to this concept led to the establishment of ADP in every state of Nigeria including Abuja, the Federal Capital Territory (FCT) (Akpoko, 1993)

It must be noted however, that allied to the establishment of the ADPs, the Federal Government of Nigeria experimented on many related programmes aimed at boosting food production in the country. Foremost among these are:

- River Basins Development Authority (RBDA) This programme was started in the mid 1970 specially designed for identifying and developing water resources of the river basins, which are important for supporting and promoting agriculture. It had an extension component, which gives advisory service to the farmers in the project areas. The programme was criticized for over emphasizing adhoc extension operations with inadequate research-extension-farmer linkages, which led to weak, and vague technical recommendations.
- The National Accelerated food production Programme (NAFPP) launched in 1973 with specific emphasis on the production of six basic food crop-cassava, maize, millet, rice, sorghum and wheat. In its operationalization, it involves extension, research and agro-service components.
- Operations Feed the Nation (OFN). The Federal Military Government launched this in 1976. In principle, the OFN emphasized self-sufficiency in food production especially in crops and livestock agriculture. It was criticized however for achieving little in practice as it was shrouded in excessive propaganda (Akpoko, 1993).
- Green Revolutions Programme (GRP). The Shagari Administration launched this programme in 1979 and it was aimed at achieving self-sufficiency in food production within five years. The extension component of the programme was faulted for spending much time in input distributions at the expense of the educational function.

Given the brief expositions of the operationalization of the various program above, a critical analysis of each of the past government efforts shows that the entire extension component lacked commitment to fisheries development. Fisheries and aquaculture have always been lumped up with other sub sectors of agriculture on paper in the formative period while little is done on fisheries extension in practice. The development has led to mismanagement of our fishery resources in most of our water bodies due to lack of effective co-ordinations and inadequate information for proper resources utilization by the fisherfolks. Similar trend applies to culture fisheries, which are known to be the greatest untapped potential of about 1.3 million tones of fish annually for the country. It must be emphasized that this is only realizable with proper planning in favour of effective extension activities beyond the present epileptic level where everything is left at the mercy of government

Present Status of Fisheries and Aquaculture Extension in Nigeria

History has shown that the first major attempt at promoting fisheries extension in Nigeria dated back to the colonial days when fisheries development division in the agricultural department was created in 1945 (Mijidadi and Arokoyo, 1988).

Within this period extension activities concentrated on improving the efficiency of fishing gear, craft and post harvest handling. At this time, the use of nylon fishing net, hooks, cement made sinkers, ropes, buoys and flags, improved processing and cement anchors were actually in vogue, and indeed

marked the beginning of improved fishing technologies introduced in the 1960s (Bolorunduro and Bukar, 1989).

The post colonial period witnessed the creation of the National Accelerated Food Production Programme in 1973 which paid lip service to fishing development, in favour of crop agriculture and the Special Fish Development Project of the Directorate of Food, Roads and Rural Infrastructure (DFRRI) introduced in 1986 by Babangida Administration. The formation had impact on capture fisheries through the provision of input at subsidized rates, training in the use of mechanized canoe, advocated the change from the use of dug-out canoes to medium-sized on-shore fishing vessels and within the first four years of the later, the project was reported to have published four extension guides to arouse public interest in fish farming (Akpoko, 1993).

At present, the sole agency saddled with the responsibility of transferring fisheries and aquaculture technologies from research to farmers in Nigeria is the Agricultural Development Programme, which began as an integrated agriculture development project in enclave areas in the mid 70s. The ADP utilizes the on-farm adaptive research approach as a strategy for effective transfer of agricultural technologies in the country through its extension officers (Okoye, 2000). The adoption of Unified Agricultural Extension System (UAES) through a resolution passed by National Council on Agriculture (NCA) in 1990 created a new concept, which supposedly prepare the extension agents/officers to have scheduled, and regular contact with farmers and solely deliver messages on crops, livestock, agro forestry, land management and fisheries. The extension services delivery in the country before this NCA resolution on adoptions of UAES, had been on paralld arrangement characterized with bringing assorted message to the farmers by different groups, a situation which was criticized from confusing the farmers due to lack of co-ordination.

The question therefore is, to what extent has the UAES been effective in the transfer of fisheries and aquaculture technologies? It is practically evident that it requires high degree of commitment to personnel training and intensified capacity building for any extension agent to be a catalogue of knowledge covering the wide and diverse disciplines as mentioned earlier. The ADPS have the difficult task of ensuring that the added responsibility needed by every extension agent in order to meet the expectation of Nigerians and specifically fish farmers and fisherfolks on this concept of unified Agriculture extension services is realized. The implication is that more money has to be expended on recruiting, training and retraining of officers couple with adequate and periodic monitoring and evaluation for desirable result to be achieved in fisheries /aquaculture extension.

Training Requirement for Fisheries and Aquaculture extension officers.

The concept of Unified Agricultural Extension System (UAES) which put additional intellectual and technical responsibility on the change agents has created the urgent need for building more capacity with regard to the extension personnel through recruitment of relevant people of varying qualifications and subjecting them to training and retraining. This implies that more funds would have to be sourced by the extension outfit in order to liaise with training institutions such as the universities for specialized training needs of extension officers in fisheries/aquaculture. In a similar vein, specific institutions and other local centers could be established to handle the training of village extension officer who often make scheduled contact with artisanal fishermen. For the benefit of efficiency and cost effective extension operations specialized training institutions such as National Agriculture Extension Research Liaison Services (NAERLS) and the Agriculture and Rural Management Training Institute (ARMTI) could be equipped to give regular training on fisheries extension/aquaculture management for higher officers. This is important for promoting knowledge, skills and positive attitudinal change among extension agents. Specific areas requiring improvement though training in the fisheries/aquaculture extension include:

1. Technical Know - how
2. Clientele's problems Diagnostic ability
3. Techniques of communications
4. Management and administration of extension.

Categorization of Training Required by Fisheries/Aquaculture Extension Officers

For effective training of fisheries and aquaculture extensionist the following categorization is recommended.

1. Advanced training for senior extension officers.

Officers in this category include Subject Matter Specialist (SMS) and Agricultural Extension Officer (AEOs). These officers are first degree or HND certificate holders with formal training in agriculture but have nevertheless not been given the right training for their job. This training category has a systematic approach such as follows:

a. **Special Supplementary courses:**

This is necessary to augment the residual knowledge of the trainee. The training could be planned and implemented in close cooperation's with the fisheries administration and sponsors of fisheries and aquaculture development programmes, similar to this training is the Monthly Technology Review Meeting (MTRM) of Agriculture Development Programme (ADPs). It is a type of training that places special emphasis on practical work rather than theoretical orientation.

b. **Induction course:**

This course is required for the fisheries/aquaculture extensionist in the following ways;

- i. It introduces the new officer to the social-economic circumstances in the development region e.g fisherfolks communities
- ii. Informs him about the aims of past and present development activities and difficulties encountered by the development institutions, which could be socio-economic, cultural or religious.
- iii. It arouses the officer awareness of the relevant institutions, superior officers and the subordinates.
- iv. Familiarizes the officer with his range of work, his responsibilities, and the rules and procedures that he must follow.
- v. Motivate the officer to approach his/her work with positive attitude.

c. **On- the Job training**

After the induction course the fishery extensionist can take full responsibility of his job with regular supervision from experienced colleague who visit and counsel him on regular basis. He could also attend short duration course monthly for he can exchange ideas with other officers on problem encountered.

d. **Continuous Further Training:**

This is an additional training the extension officer receive while doing his/her job in order to improve his qualifications for his present or future work. Area of focus under continuous further training includes;

- i. Refresher course:-These are aimed at refreshing the memory and to bring the participant extension officer up to date in order to cope with the content and method of the extension programmes. These courses are good opportunities to remedy deficiencies are in training that has become apparent during the season but also to introduce new, positive experience in his work.
- ii. Special Courses:- These are carried out at irregular intervals when further training on a specific topic becomes necessary for a successful fisheries/aquaculture extension e.g. fish disease control or water quality management. These courses usually deal in detail with fish production techniques, pond management or out break of parasites and diseases in fishpond that need urgent solution.
- iii. Seminars: seminars involve the fisheries extension trainee participating and tackling problem himself or herself and then working out solutions together. Expert may make little contribution while seminar leader uses his skills to guide the discussion, structure the contribution of individuals and direct them toward solutions. Expert may intervene where necessary.

Seminars are valuable in boosting the technical know-how of the extensionist because they involve active learning that result is productive solutions to problems of strategy, planning and formulation of idea. It also encourages team work cooperation and reduction of bureaucratic behaviour in extension organization.

- iv Extension conference: All fisheries extensionist should be allowed to attend annual conferences of extension officers where they discuss past and future extension programme and also exchange ideas.

- e. Further training abroad: where adequate level of training is not available in the country, training of our fishery and aquaculture extensionist should be allowed and sponsored for overseas training if they are professionally and personally suitable and are prepared to continue to work in their field and the organization on return. It is also important that the substance and aims of further training can clearly be defined in consultation with the training centre abroad

In addition to the above training needs all fishery/aquaculture extensionist must undergo basic training in extension methodology in order to enable the officers to:

- Analyse the socio-economic conditions of fisherflocks and fishfarmers.
- Identify people of influence and communication structures
- Spot obstacles to fisheries and aquaculture extension and eliminate them
- Apply the principle of free discussion
- Form groups to be counseled.
- Use a variety of extension methods as teaching aids

Conclusion

Agricultural extension in Nigeria is an old development strategy for the agricultural sector. It has long been used to manage agricultural information in Nigeria with specific reference to the transfer of technological innovations to farmers in crop, livestock, forestry and ideally fisheries and aquaculture. Fisheries and aquaculture extension have not had a fair share of this development policy for Nigerian agriculture over time probably due to inadequacy in prioritization, which seemingly created the observed long and secondly, the relative newness of aquaculture in Nigeria compared to crop and livestock farming. This situation is further worsened by the inadequate funding systems of the Agriculture Development Programme (ADPs), which creates epileptic periods of activity and dormancy in the organization. This implies that if urgent actions are not evolved and more productive and result oriented reform operationalized in the Nigerian extension systems which will cover all relevant aspect of agriculture, fisheries and aquaculture would still be the neglected subsector suffering misplaced priority in the scheme of things.

Unified Agriculture Extension Systems of the ADPs seemed to have facilitated unification of message transfer to farmers but much still need to be done in the area of capacity building and added training requirement for the extensionist especially in fisheries and aquaculture. This will require more funds, more planning and more coordination on the part of the government, relevant institutions, individual stakeholders and donor agencies. This will go a long way in making fisheries and aquaculture research and information management a rallying point in the development of Nigerian agriculture

Recommendations

In order to use fisheries/aquaculture management as an entry point to achieving the millennium development goals of combating hunger and reducing poverty in Nigeria, proper management of the extension component of fisheries is imperative. This task is achievable through effective training and retraining of fishery/aquaculture extensionist for good performance.

Cost effective and efficient fisheries/aquaculture extension is only achievable through adequate funding and sufficient fund could be sourced for this great challenge through the following ways;

- i. Funding of extension management and administration should not be left only at the mercy of the federal government. Both state and local governments should be clearly involved constitutionally so that ambiguities in the level of involvement do not arise when funding is to be provided.
- ii. Stakeholders should be properly coordinated and all institutions requiring the service of fishery extensionist should facilitate linkage with appropriate institutions for extension training in the needed areas.
- iii. Private organizations, donor agencies and interested individuals should be encouraged to assist government in promoting fishery and aquaculture extension through the provision of fund in sufficient magnitude.
- iv. The federal, state and local government should facilitate the establishment of Agricultural Extension Trust Fund for which fisheries and aquaculture should have a fixed percentage. This action point should be supported by law from the National Assembly with further encouragement from the state houses of assembly of all the 36 states.

- v. Aquaculture and fisheries training centres should strengthen the aspect of extension training which involves major courses that is capable of enhancing practical competence of extension workers through the use of latest proven technologies in fisheries
- vi. Extension officers should be encouraged with necessary incentives and *morale* boosters in addition to salaries in order to create a better sense of belonging along side other civil servants.

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