

Contributions of Agricultural Development Programmes (ADPs) to Rural Livelihood and Food Security in Nigeria

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Abstract: The contributions of Agricultural Development Programmes (ADPs) to rural livelihood and food security in Nigeria were extensively reviewed. The genesis and historical development of the ADP system were presented. It was noted that the Agricultural Development Project (ADP) via the Training and Visit (T and V) system started with the growth from the first three enclave projects at Funtua, Gusau and Gombe which were started in 1975/76 as enclave ADPs. Other generation of ADPs were identified as the Accelerated Development Area Programme (ADAP), phased ADPs and state-wide ADPs respectively. The critical mandate/objective of the ADPs is to boost agricultural production as well as contribute to rural livelihood and food security. In order to achieve this goal, the programme implementation strategies of the ADPs were identified to include a re-organised and revitalized agricultural extension system, an effective farm input distribution system, an autonomous ADP management unit, a rigorous monitoring system and a joint state/federal responsibility. In addition, the components of the ADPs which constitute the vehicle for achievement of her objectives are crop production, on-farm adaptive research, farm input distribution, farmer training, media support, infrastructural development, rural agro-industrial scheme, staff development and programme funding. The ADP system was noted to have made remarkable success in the agricultural and rural landscape in Nigeria. The achievements and impact of the ADPs were identified to be in the area of revitalized extension service, local capacity building, rural infrastructural development, input distribution, technology development, transfer and adoption, as well as improved rural livelihood and food security. Significant ADP achievements in the above focus areas have guaranteed programme continuity for the past two decades in Nigeria. These achievements notwithstanding, higher performance were constrained by undue political interference by some state governments, cash flow instability due to irregular payment of counterpart funding by some state governments, rapid staff turn-over in most ADPs and adverse effects of some macro-economic policies of government, among others. In order for the ADP system to make greater impact, it is recommended that there should be increased political support by the governments, increased community/beneficiary participation, commercialization of more ADP activities and more private sector involvement and intensification of extension-research linkage.

Key words: Nigeria, ADPs, contributions, rural livelihood, food security, farmers, commercialization

INTRODUCTION

Historical perspective: The genesis of agricultural extension is usually associated with the establishment of a Department of Botanical Research Moore plantation, Ibadan, Nigeria in 1983. Establishment of a rudimentary extension service first came up as a stated objective of the Department of Agriculture after the amalgamation of North and South into a single political entity in 1914. Even then, focus was on improving the quality of major export crop production through routine provision of supplies and services while the education functions were ignored.

Since 1954, when the Federal constitution came into force, extension service in Nigeria has been decentralized.

A Federal Ministry of Agriculture which had no responsibility in extension work (except regulatory functions) came into being in 1968 with the creation of twelve states.

The year 1962 was significant in Nigerian extension service as it marked the absorption of extension experts from the United States Agency for International Development (USAID) in both western and eastern regions. This marked the beginning of the teaching extension principles and methods to field extension staff. (Okpongette, 2000).

Over the period under review, many schemes and programmes were initiated with the view to boosting agricultural production as well as contribute to rural

livelihood and food security. The farm settlement schemes of the early independence period ushered in these series of programmes:

- The National Accelerated Food Production Programme (NAFPP) in 1972.
- The Operation Feed the Nation (OFN) in 1975.
- The River Basin Development Authority Schemes (RBDAS) and Agro-Services Centers in 1977.
- The Agricultural Development Projects (ADPs) inaugurated (at pilot level) in 1975.

Many other schemes aimed at agricultural production and improvement of rural livelihood and food security such as the Directorate of Food and Rural Infrastructure (DFRRI), etc. were also initiated. Virtually, all these programmes used agricultural extension as the main vehicle for realizing their main goals usually centered on improved agricultural production and rural development.

Consequently, the Training and Visit (T and V) system of agricultural extension (Benor and Baxter, 1984) was introduced into Africa in the early 1980's shortly after the United States Agency for International Development (USAID) Farming System Research (FSR) had arrived. This was after having achieved substantial successes under World Bank sponsorship in Asia (particularly India) during the late 1970's. Ever since, the T and V system has been adopted either explicitly or implicitly by over 45 developing countries in Africa, Asia, Central America, Europe and South America.

In Nigeria, the Agricultural Development Project (ADP) via the Training and Visit (T and V) system started with the growth from the first three enclave projects at Funtua, Gusau and Gombe which were started in 1975/76 as enclave, ADPs. Other generation of the ADPs were the ADAPs phased ADPs and state wide ADPs, respectively. As a result of the success of the first three projects, other enclave projects were prepared, appraised and started in the middle belt and later, the southern rain forest areas. In 1986, two special enclaves were launched in Mambilla and Southern Borno. In 1982 the ADP strategy was supplemented by the Accelerated Development Area Programme (ADAP). This initiative was taken by the federal government to achieve the fourth national development plan-targeted incremental production, without waiting for the long process of project identification; appraisal and loan effectiveness of ADPs. They were to be funded by federal and state governments only. The phased ADPs were simpler in design, focused on major crops and rely on local man power resources. They comprised three phases of development of four

years at the beginning and then two phases of three years each. The longer duration of the projects (ten years instead of 5 years for the older generation) and the division of the total life span into three phases was to allow for the evaluation of the development strategies based on the actual performance in the previous phases.

In 1982 it was decided to spread up the appraised process of the ADPs by using federal government resources to produce a number of ADPs contained within overall Agricultural Development project to be jointly financed again by the federal government, the state government concerned and the World Bank. Thus the first Multi-State ADP (MSADP1) comprising the following seven states was launched in the second half of 1985: Anambra, Bendel, Imo, Benue, Ogun, Plateau and Cross River.

It is the success of the first three enclave ADPs that spurred the state government to request the federal governments to replicate same in all states which was started in 1986 as a world bank assisted programme with the aim of:

- Re-organizing and revitalizing the agricultural extension system;
- Developing a well articulated and reliable network of input distribution system coupled with farm service centres;
- Enhancing accessibility of farm areas through the provision of feeder roads, provision of water for drinking and other irrigation work.
- Providing farmers with such auxiliary service as tractor hire, land clearing and farm management advice.

Consequent upon the need to increase the number of ADPs it became imperative that the Federal Department of Rural Development be expanded and strengthened. The Agricultural Projects Monitoring, Evaluation and Planning Unit (APMEPU) which liaised between the departments and the ADPs was already over-stretched. It was therefore not surprising that the joint Nigeria/World Bank food strategies mission recommended in 1980 the setting up of regionally based specialized units in the department to provide technical support to these projects. This saw the birth of the Federal Agricultural Coordinating Unit (FACU) in Ibadan, with its regional offices in Kaduna, Jos, Enugu and Benin. In addition, a programme known as Rural Agro-industrial Development Scheme was set up to identify small scale processing devices which could be utilized by the Nigerian farmers to process and market the expected increased harvests as a result of project activity.

IMPLEMENTATION STRATEGIES OF THE ADP SYSTEM

According to Akpabio (2000) the main components through which the benefits of ADPs are derived include:

- A reorganized and revitalized agricultural extension system that integrates extension workers, training and farm visits and ensure two way communication between farmers and researchers;
- An effective farm input distribution system which, operating through a network of farm service centres, ensures that supplies and needed farm input are reliable and are available to farmers in the right time and in close proximity to their farms;
- An autonomous ADP management unit that provide for timeliness in agricultural operations;
- A vigorous monitoring system that provides needed information to ensure that errors in one project are not perpetuated or replicated in other projects;
- Joint state/federal responsibility both in project formulation and implementation.

A special feature of the ADP system is that it passes through each phase of project cycle according to properly worked out guidelines. The phases include identification, preparation, appraisal, negotiation, project startup with Project Facilitation Team (PFT), implementation, supervision and evaluation. (Chamala and Shingi, 1996).

The ADP projects are prepared to fit into and support a coherent development strategy that meets sectorial objectives and also meets a *Prima facie* test of feasibility. This implies that the projects technical and institutional solutions are found at costs commensurate with expected benefits (Mutsaers *et al.*, 1986). With the above structure in place, the ADP executes her projects through various strategies, namely, crop production, on-farm adaptive research, farm input distribution, farmer training and media support. Other strategies include infrastructural development, rural agro-industrial schemes, staff development and programme funding. These strategies are hereunder highlighted.

Crop production: Contributing to rural livelihood and food security, the ADPs play a vital facilitating role in crop production. They do not engage in direct crop production. They simply provide necessary inputs: improved seeds, fertilizers, herbicides and other agro-chemical etc. All these are supported by a vigorous extension service with a strong on-farm adaptive research back-up. The adaptive research ensures a two-way flow of information between farmers and researchers.

On-farm adaptive research: In furtherance of the concept of integration in rural development, improved livelihood and food, security, a system that integrates the researcher, extension agent and the farmer has been evolved. This system known as On-Farm Adaptive Research (OFAR) makes for quick transfer of technology to farmers.

According to Ezulike (2000) it has eliminated institutional bottle-necks and organizational problems and brought farmers in direct contact with research in diverse disciplines; encouraged farmer's participation and has ensured that field trials are relevant to farmers' cropping systems and socio-economic circumstances.

This new approach quickens the up take of new technologies. As a result, the ADPs in the country have incorporated it into the Training and Visit extension system. The OFAR process involves drawing a multi-disciplinary team of scientists from a research institute or university to work with extension and research staff in an ADP. Together with the farmer they carry out a quick diagnostic survey of farmer's problems as he sees them (Mata, 1992).

Simple farm trials designed to tackle the identified problems are set up if answers are not immediately available. The farmer's reaction to the trials is monitored and if at the end of the cropping season the method identified is acceptable to farmers in the locality a number of demonstration plots are set up to extend the idea or practice to a wider area thereby increasing productivity.

Farm input distribution: It has been long realized that access to physical input is one of the factors essential for improved agriculture. This according to Dresrusse (1996) explains the inclusion of an input delivery and credit system through a network of farm service centres among the core elements of the ADP. It is the policy of most ADPs that no farmer travels more than five to ten kilometers to purchase needed farm inputs. As at the end of 1985, over 470 farm service centers have been built while over 2.2 million tonnes of fertilizer have been distributed to ADP farmers (Akpabio, 2000). The trend in recent years is to progressively privatize input distribution. Three state wide projects set up limited liability input distribution companies run purely on commercial lines. These were BASAC in Bauchi ADP, KASCO in Kano and FASCO in Sokoto (Oyaide, 1977).

Farmer training: A major thrust of the ADP strategy is to encourage the rapid uptake of improved farming techniques and this can only be done through planned and monitored extension staff and farmer education programme (CGIAR, 1988).

Each project maintains its own crop of trained and well dedicated field workers. In new projects, extension staff were drawn from the ministry of agriculture and retrained not only on the subject matter but also on attitude to work. Where funds permit, efforts are made by the projects management to ensure that the field workers own motorcycles or cars to enable them visit farmers in their areas of operation. The extension service of the ADP is based on the Training and Visit (T and V) system. Farmers within the project area are contacted through the extension agents. It operates through an in-built system of regular and continuous fortnightly or monthly training of extension agents (Burkey, 1995). Each agent serves about 800 farm families in the old ADPs and about 2000 farm families in the new generation of phased ADPs.

Target farm families or farm groups are visited on fixed schedules. The schedules are planned in such a way that a farmer group or contact farmer is visited at least once in a fortnight. During such visits the farmer's progress is noted (Mutsaers *et al.*, 1989) and any problems to which the field agent has no answer are referred to the subject matter specialists. The farmers therefore, have no problem during their operations without solution because the extension staff are readily available to solve the problems. Owing to this ADPs approach there is increased food production in the rural areas with improved livelihood and food security.

Media support: As the number of farmers to be reached per field worker increases, attention is being turned to the use of mass media to reach many more with the same message at approximately the same time. ADPs have set up media units for production and distribution of media materials to points of greatest utility.

Meaningful progress have been made in the dissemination of farm information through a multi-media approach. The forerunners in this area were Bauchi state ADP, Akwa Ibom ADP and Kano Agricultural and Rural Development Authority (KNARDA). Each of these projects has Mobile Video Units (MVU) which penetrate the rural areas to assist the field workers reach the farmers with the message of the fortnight (Udoh, 2000). To complement this, viewing centres are now being established at the farm service centres so that the farmers who come to purchase inputs are directly exposed to the messages. The MVU programme has accounted for much of the farmer exposure to improved farm messages in these states.

Other media that are being harnessed to reach many more farmers are radio and drama. The use of drama in extension has been experimented in several projects and the Oyo North ADP experience has shown that these

emerging medium can be as effective as the conventional ones in dissemination of agricultural information.

Infrastructural development: A distinctive feature of the ADPs is the development of rural infrastructures closely related to agricultural and rural development vis a vis contribution to rural livelihood and food security in Nigeria. These include the construction of all-weather rural roads, dams, farm service centres and rural water supply.

According to FAO (1996) the effective and timely distribution of farm inputs and the evacuation and marketing of farm produce requires a network of functional feeder roads.

The provision of drinking water for minor irrigation is one of the most popular components of the ADPs. Through a system known as wash bores or tube well which can be installed at very moderate cost, farmers are being assisted to tap shallow underground water for fadama irrigation (Harrison, 1990).

Rural agro-industrial scheme: A scheme for the promotion of agro-industry has since its inception been promoting small scale industrial plant for processing a number of major crops among farmers in the ADP areas. It has designed and encouraged the fabrication of cassava processing machines, tomato juicing plants and oil palm digesters, among others. With the massive production of cassava through the President Obasanjo's cassava production initiative, the ADPs are into the cassava competitiveness scheme which is monitored and supervised by IITA and subsequent intensification on the provision of the cassava mills for processing cassava into starch (Adams, 2003). This has kept many rural dwellers busy and school leavers self employed in the rural areas with improved livelihood.

Staff development: It is a policy of the ADPs to attract the highest quality of staff to execute their programmes. Their staff are mostly recruited from their respective state civil service to reduce the burden of incremental cost on project funds since the emolument of staff so recruited will be taken care of by their parent ministries. In addition to these, a small number of highly skilled expatriates or internationally recruited staff on technical services are employed, as is more evident in the older projects, to assist the Nigerian staff (Oyaide, 1977).

Every organization provides training for its personnel so that work can be completed more efficiently and to increase job satisfaction as well as to assist those with leadership ability to assume key positions. Each ADP has a training unit entrusted with the design and delivery of well planned and relevant staff development programme.

Programme personnel are diverse in their specialties. Each group makes its contribution to the overall success of the project. Carefully planned programmes of training and staff development keeps staff abreast of developments in their areas of specialization and contributes to high job satisfaction and efficiency.

Each programme has a small training and staff development section headed by a professional and highly qualified training officer. In consultation with the head of other sections and the staff members in the field, this team identifies training needs, designs and organizes courses to increase knowledge and improve skills. It also conducts an evaluation of each staff development session (Akpabio, 2000).

Staff development needs are common to all levels of programme personnel. There are seminars and courses for senior managerial and technical staff, middle level supervisors, junior field staff, engineering and support personnel. In general, all junior staff training are done at project level. Intermediate staff training may be carried out at the programme, polytechnics or research institutes. Senior staff normally undergo training at the universities or similar institutions both locally and overseas. Highly specialized short courses are also provided.

Programme funding: The ADP funds are derived from three main sources:

- Direct grants by the Federal Government disbursed through the Department of Rural Development;
- Grants by the state government to the programme;
- Loan funds from the World Bank, essentially used for off-shore payment for goods and services and for reimbursement of some pre-determined local expenditure categories.

For the earlier projects, the funding arrangement is as follows:

Federal Government	25%
State Government	43%
World Bank	32%

For the phased ADPs, the funding of the incremental cost is as follow:

Federal Government	20%
State Government	14%
World Bank	66%

In the ADPs, strict financial management is adhered to and this ensures that fund made available to the

programmes by state government, federal government and World Bank are utilized only for the intended purposes in achieving targeted tasks. It is the responsibility of programme management to also ensure that funds are equitably allocated among various activities towards the achievement of corporate agricultural goals (Mata, 1992).

ACHIEVEMENTS AND IMPACT OF THE ADPS IN NIGERIA

The ADP system has made some remarkable success in the agricultural and rural landscape of Nigeria. It is widely reported that in recent years, annual growth rate in the agricultural sector averaged 5% well above economy-wide average; also that is GDP contribution rose from 36% in 1985 to about 40% in 1989 (Mijindadi, 1994; FACU, n.d.). The question is to what extent can the sector performance be attributed to the ADPs? While it is difficult to isolate the contribution of the ADPs to the sectoral growth, the achievements of the ADP system on the agricultural and rural landscape can however be reasonably approximated as discussed.

Programme continuity: The ability of the ADP system to survive various governments with differing political inclinations is by itself a huge success. Having existed for nearly two decades, it is easily noticed that the ADP concept is one government programme that has defied the “discontinuity syndrome” that characterize various government programmes in Nigeria.

Revitalised extension service: The ADP system has made tremendous progress in improving extension service in Nigeria. Extension Agent-farmer ratio has improved from pre-ADP level of 1:3000 to a national average of about 1:800 (Patel, 1989; Oyaide, 1977). The extension agents are now better trained, motivated and remunerated. In most ADPs, the agents are provided with motorcycles and the supervisory staff with vehicles. The number of farm families reached have increased from 2.8 million in 1986 to about 9.1 million in 1990 (Owona, 1992). There is also a significant improvement in the linkage between research and extension. This linkage is facilitated by the farming system research approach offered by the OFR, OFAR, MTRM procedures, among others. The ADPs have also made some progress in incorporating gender perspective in research and extension and by adopting the “Unified Agricultural extension system” since 1990. This has resulted in the formation of women-in-agriculture, fishery, livestock, agro-forestry, fadama and farm mechanization sub departments in the structure of the programmes. In other words, that the adps are now the sole agencies

responsible for agricultural extension in Nigeria. By this unification, the extension agent is now expected to carry crop and non-crop messages to the farmer. Thus, the unification is a significant attempt at removing duplication of functions by other agencies and ministries of agriculture.

Local capacity building: The ADP system has also made impressive achievements in capacity building of local manpower base. By 1988 as stated by Oyaide (1977) over 4,750 Nigerians had been trained locally and overseas by the ADPs. Indeed local capacity for management and implementation support of the ADPs has been on the increase over the years (Owona, 1992) hence it is easily noticed that expatriate staff are virtually non-existent in management of the ADPs presently. Farmers and local artisans have also benefited extensively in the training programmes of the ADPs.

Rural infrastructure development: The achievement of the ADPs in the area of rural infrastructure have been very outstanding especially with respect to feeder roads. According to Kwa (1992) most ADPs exceeded their targets on road construction and maintenance. Owona (1992) reported that feeder roads rehabilitation and maintenance growing at an annual rate of 9.4% moved from annual average of 2394 km in 1986 to 2,956 km in 1989. Also, between 1975 and 1989 significant achievements were also recorded in the area of construction of dams, wells, boreholes, farm service centres and fadama development.

Input distribution: The supply of fertilizers to the farmers through the ADPs steadily increased from about 301,000 tonnes in 1985 to 1,472,000 tonnes in 1990. Herbicides distributed also increased from 25,000 litres in 1986 to about 1990 to 48,500 and 22,000 litres, respectively (Owona, 1992). The distribution of improved seeds also increased remarkably. This is evidenced by the increase in the total hectareage put to seed multiplication from 4,300 ha in 1986 to 29,900 ha.

Technology development, transfer and adoption: The ADPs have made some noticeable advances in technology development through On-Farm adaptive trials and transfer of the results to rural dwellers. These technologies which vary across the country due to ecological and socio-economic differences include the following:

- Mixed and multiple cropping arrangements
- Optimal plant population

- Improved crop varieties like cassava, rice and maize
- Yam-miniset technology
- Alley cropping/farming
- Agro forestry practices
- Optimal fertilizer application
- Optimal agro-chemical use
- Popularization of homestead fish pond
- Post-harvest storage and processing practices
- Optimal livestock housing and feeding
- Dry season vegetable production techniques
- Small-scale irrigation (fadama)
- Introduction or popularization of labour-saving devices.

These technologies which are transferred to the farmers using the Small Plot Adoption Technique (SPAT) have reached varying degrees of adoption. For instance, according to Kwa (1992) fertilizer adoption increased from 28% in 1980 to over 70% in 1990; seed dressing chemical uptake increased from 20-50% while improved seeds rose from 15-40% in the same period. The use of improved cassava varieties is particularly noteworthy. It is estimated to have reached 70% adoption (Owona, 1992). Mixed cropping patterns are also being rapidly adopted as it provides food insurance or security to the resource-poor farmers.

On the other hand, the number of farm families adopting herbicides, insecticides and tractor services cannot be described as encouraging (at about 5% adoption rate). The relatively slow rate of adoption has been related to high prices, relative scarcity and indivisibility of the technologies among others.

Improved rural livelihood and food security: The ultimate objective of the ADP system is to raise productivity, increase farm output, income and standard of living of the rural farmers. Therefore, the impact of the achievements of the ADPs on the farmers can only be measured in such terms.

Oyaide (1977) reported that in 1985 about 9 million tonnes grain equivalent, representing 44% total food production that year was produced by farmers involved in the programme. He further noted that the contribution of ADP farmers to the national food basket is believed to have reached 60% now that the entire country is covered in the programme. Of the 9 million tonnes produced in 1985, 3.4 tonnes was incremental output which when valued at 1985 prices (N350/tonne).

The bottom-line of the impact of increased productivity and output is however, that farmers income and welfare is improved. According to Kwa (1992) the average income per hectare from various crops and

returns to family labour per man day for most crops were over 200% above pre-project situations in most completed ADPs. This was a significant achievement notwithstanding the impact of inflation. This rise in income, he noted, was translated into improved standard of living of the rural dwellers. The improved living standard manifested in rising proportion of rural households owning items like motorcycles, bicycles and radios. There was also increased proportion of households that obtained adult education, engaged in trading as secondary occupation and enjoyed better health conditions.

PROBLEMS/CONSTRAINTS OF THE ADP SYSTEM

The achievements of the ADP system on the rural economy in the last two decades of its existence, may have been limited by the following, among others.

- Undue political interference by some state governments which sometimes resulted in too frequent changes in ADP management and recruitment of unqualified personnel.
- Cash flow instability largely due to the inability of some of state governments to provide counter part funding as required by the loan agreement.
- Rapid staff turn-over in most ADPs resulting from job insecurity due to contract nature of most appointments which in turn is due to the fact that the ADPs are non-pensionable establishments
- Adverse effect of some macro-economic policies which have raised the prices of imported components of agricultural technologies developed and transferred to the farmers and have sometimes resulted in non-adoption of these technologies.

CONCLUSION

In spite of the constraints, it has been noted that the ADP system has made quite some noticeable impacts on the rural dwellers. It is hoped that the strategy will continue to enjoy all necessary support to be able to register greater impact and continually contribute to rural livelihood and food security in Nigeria. What is required is to build on the gains and ensure sustainability of the system. This can be achieved through, among others: increased political support by the governments, increased community/beneficiary participation especially in infrastructure development and maintenance;

commercialization of more ADP activities and transfer of some to the private sector and finally, intensification of extension research linkage especially via the opportunity offered by the National Agricultural Research Project (NARP) which will ensure that only appropriate technologies are generated and transferred by the system.

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