

ECONOMIC AND INSTITUTIONAL CONSIDERATIONS FOR REFORMING AGRICULTURAL EXTENSION SERVICES IN NIGERIA

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ABSTRACT

Government's inability or unwillingness to adequately fund agricultural extension services in Nigeria makes it mandatory to search for alternative extension funding and delivery strategies. This paper reviewed some agricultural extension reform strategies. These range from situations in which extension funding and delivery is retained by the public sector but the services are decentralised to make them more effective, to total transfer of extension funding and delivery to the private sector. However, introducing reform comes with a number of complexities, particularly where services are to be provided by the private sector in partnership with government. These complexities pertain to the public and private good nature of extension services and moral hazard problem. To solve some of these problems, the use of two-stage competitive franchise bidding in selecting providers was suggested. Furthermore, it was suggested that an agricultural council should be established in Nigeria. This, along with a professional association, such as the Agricultural Extension Society of Nigeria, should play active roles in the selection and regulation of providers to check sub-standard behaviour. The paper also suggested that farmers' associations should play a prominent role in the reform process. Where the reform involves direct payment by farmers, it was emphasised that their willingness and ability to pay should be evaluated and such a project should focus initially on commercial farmers. Furthermore, there is need for confidence building and services should be demand-driven.

INTRODUCTION

Since independence, agricultural extension services in Nigeria have been largely funded and delivered by government. After experimenting with different extension delivery systems, the Training and Visit (T&V) system was introduced by the government in 1986 through the World Bank-assisted Agricultural Development Projects (ADPs). Since then, provision of government extension services has been the exclusive responsibility of the ADPs, which use the T&V system, in all states of the country.

The introduction of the T&V system is not unique to Nigeria. The World Bank and the International Development Agency (IDA) funded up to 602 projects, with T&V extension components, in many developing countries (Farrington, 2002). Farrington further noted that by the late 1990s, the World Bank lost interest in the T&V system, leaving numerous countries with T&V-based systems which are both costly and dysfunctional. The possible reasons for the waning interest in the T&V system include:

- Its unsustainably high cost;
- Its reinforcement of structural inequalities through the contact farmer approach;
- Its insistence that extension should be uniquely a publicly-funded, publicly-delivered service with no room for public/private partnerships of any kind;
- The insistence that extensionists should not take on any related activities and
- The global economic liberalisation with the implied “rolling back” of the state
(Farrington, 2002).

While the T&V system has been phased out in most countries, however, it has remained in place in Nigeria. In fact,

extension specialists in the country perceive it as an indispensable tool to support rural development and argue that it has improved adoption of agricultural technologies (Ilevbaoje, 2004). Although there may be merit in this argument, the unresolved issue is how to fund the highly costly system, particularly considering the liberalisation policy of the government and the fiscal pressure in the economy, which have resulted in declining funding of agricultural research and extension services in recent times (Zaria *et al.*, 1995; Baba *et al.*, 1999; Okoro, 2000; Meludu and Idio, 2004). Given the realities of the economic policy thrust of government, especially as regards liberalisation and withdrawal of government from the economy, it appears unrealistic to expect adequate budgetary funding of extension services to make them effective.

THE BASIS FOR EXTENSION SERVICES REFORM IN NIGERIA

As noted earlier, agricultural extension in Nigeria is funded and delivered by the public sector. The government agency responsible for providing agricultural extension services in each state is the state ADP. Due largely to poor funding, the T&V agricultural extension services of the ADPs have almost stagnated in most states (Zaria *et al.*, 1995; Okoro, 2000). The poor funding of agricultural extension might have arisen because of two related factors. First, because of the economic crisis in the country, there is fiscal pressure in the economy and the funds available to most sectors appear to be shrinking even in the face of rising costs. Second, in line with the deregulation policy of the government, it is deliberately relieving itself of certain responsibilities, while encouraging private sector participation in discharging them. Agricultural extension has not been spared from the "rolling-back" of the state (Farrington, 2002).

Poor funding of agricultural extension is affecting their effectiveness and this will further lower agricultural productivity, which in any case has never been generous. This has necessitated a debate on how to achieve better funding of agricultural extension services in the country. This debate is particularly important at this moment, considering the increasing level of integration of

Nigeria's agriculture into the international economy as evidenced by her membership of the World Trade Organization (WTO) and the signing of the Agreement on Agriculture (AoA) among others. These developments, since they strive to reduce the protection of domestic production and increase free trade, make it mandatory to ensure international competitiveness of the agricultural sector. Without such competitiveness, which could be attained only through increased production efficiency, the millions of Nigerians who depend on farming would find it difficult to survive. Competitiveness in the agricultural sector could be enhanced through effective extension services geared towards disseminating the most recent technologies to farmers.

In addition to improved funding, the arguments for extension reform, through partnerships with the private sector, are based upon the prospects of

- more efficient delivery of services
- lowered government expenditure and
- higher quality of services (Rivera and Cary, undated)

AGRICULTURAL EXTENSION REFORM OPTIONS

Experiences from other countries show that there is a global trend in which alternatives are being devised to total reliance on government for funding and delivering extension services. This, as pointed out by Farrington (2002), involves efforts to:

- Build multi-agency partnerships in ways that (for the state) reduce costs, but also spread the reach of extension to areas where a purely public sector service is unlikely to be viable, and make it more responsive to local needs and opportunities. Such partnerships include service providing non-governmental organizations;
- Build community-based organisations, such as farmers' associations, and to expand their capacity to make demands on technology systems and share new ideas, skills and approaches among their members and
- Place funds in the hands of farmers so that they can "contract in" extension from whatever source they prefer.

Table 1 summarises some of the reform strategies adopted in a number of countries across the world.

As shown in Table 1, the reforms range from situations in which extension funding and delivery are retained by the public sector but the services are decentralised to make them more effective, to total transfer of extension funding and delivery to the private sector. In between, are various forms of collaboration between the public and private sectors in funding and delivering extension services.

Experience from other countries shows that none of the strategies have universal applicability. Therefore, a country may have to adopt a mixture of strategies to serve different categories of participants in the agricultural sector.

ECONOMIC AND INSTITUTIONAL ISSUES IN EXTENSION SERVICES REFORM

Although the participation of the private sector in extension services funding and delivery, as mentioned above, may have the prospects of improving delivery efficiency, lowering government expenditure and improving service quality, it also introduces certain complexities. To deal with these complexities, appropriate institutional environment is required. The following sub-sections discuss some of these complexities and the institutional framework for extension services reform.

Economic Nature of Agricultural Extension Services

As indicated earlier, some of the reform strategies being suggested include privatisation of extension services or cost-recovery, both of which will likely involve payment for extension services by farmers. The important issue here is whether or not the provision of extension services involves market failure. This in turn, depends on the private good or public good nature of such services. For a classical private good or service, an individual who consumes it captures the full benefits and two or more individuals cannot consume the service at the same time. In other words, the *exclusion* and *rival* principles are at work. For a pure public good or

service, on the other hand, neither the exclusion nor the rival principles apply. An individual consuming the service does not capture all the benefits and more than one person could benefit from it at the same time. In between the pure private and public goods are private goods with externalities whose benefits spill-over to others (Baba, 1997).

Since those who pay for a public good or good with externalities cannot prevent others who have not paid from benefiting, there arises a free-rider and the concomitant market failure problem, because nobody would be willing to pay for such a good (Baba, 1997). In principle, goods whose provision involves market failure would be provided by the public sector, while only private goods would be provided by the private sector. Looking at agricultural extension generally, it would seem that many services would involve market failure in the sense that they are non-excludable (Baba, 1997). For instance, basic information which is relevant to many farmers (such as improved husbandry methods for traditional crop varieties) is easy to diffuse and is thus non-excludable. Once the information has been disseminated by an extension agent (or over the radio or through a pamphlet), it can continue to spread from farmer to farmer (Schwartz, 1994). Does this then imply that most agricultural extension services must be provided only by the public sector? The answer is no, since the goals of the private providers of agricultural extension services differ.

For agro-allied industries such as tomato or fruit processing firms and tobacco companies, provision of extension services is not an end in itself, but a means to an end. Their goal is to increase the quality and quantity of the agricultural products they process to enable them earn profit. Therefore, such companies would provide extension services to their farmers even if such services are non-excludable and/or non-rival. The companies, which normally purchase the farmers' produce, could deduct extension services fees from source.

Table 1: Strategies for financing and managing agricultural extension

Delivery/ Funding	Public funding		Private funding	
	Strategy	Examples	Strategy	Examples
Public delivery	Decentralisation, delegation or devolution to other public sector agencies	Decentralisation of extension responsibilities to field (branch) offices, devolution to sub-national (such as local) governments	Public sector cost recovery strategies	Fee-based or contract-based services paid for directly by farmers (e.g. in Mexico and U.K.) or commodity tax-based services (e.g. in El Salvador)
Private delivery	Delegation of management to parastatal or private sector organisations	Government funding (through vouchers or credit coupons to farmers) with parastatal or private sector management of services delivery (e.g. in Chile, Costa Rica, Columbia)	Transfer to private sector	Funding and delivery by private agricultural development enterprises (e.g. The Netherlands), farmers' associations/cooperatives, or NGOs (e.g. Bolivia, Uganda)

Source: Modified from Rivera and Cary, undated.

Similarly, inputs marketers may also provide extension services to farmers particularly with respect to appropriate use of the inputs they supply. With profitable sales as motive, they are likely to be willing to provide such services even if they are non-excludable and/or non-rival. If necessary, the costs of the extension services could be integrated into the costs of the inputs.

In contrast, private agricultural extension firms, which are direct sellers of agricultural information, would normally be unwilling to provide services that are non-excludable or non-rival. Private firms, which sell information directly, only have an incentive to enter the market if information they sell is not obtainable free elsewhere (Schwartz, 1994). It is tempting, therefore, to infer that only private goods would be provided by private for-profit extension firms. But this is not necessarily the case, as measures could be taken to minimise the free-rider problem. For instance, a private firm could provide services in a bundle. In other words, extension services may be provided along with other goods such as inputs. Even if the extension information "diffuses" to other farmers who have not paid, only those with access to the inputs in question could benefit from the extension advice. This minimises the "free-rider" problem. In addition, the private firm could integrate extension services fees into the inputs costs.

Furthermore, even if some services are non-excludable and/or non-rival, some farmers (early adopters) may be willing to pay for the information, to enjoy some profits before the benefits spill-over to others. Therefore, an extension firm may provide the services, targeting the innovative farmers.

Farmers may also be encouraged to form associations based on the commodity produced. A private extension firm may provide specialised extension information to such a group. If the association captures most of the farmers producing that commodity in a community, the problem of information spilling over to outside farmers is minimised. The information or service may be non-excludable to members within a group. But the free-rider problem within the group could be minimised if charges for extension services are integrated into the membership fees of the association.

In spite of all these, there are some public services which the profit-driven private sector agencies may still be reluctant or even unwilling to provide. For instance, services that are concerned with environmental conservation are unlikely to be provided by private sector agencies since farmers are unlikely to pay for them. Similarly, services that require the use of mass media to reach farmers, such as in emergency situations like pests or diseases outbreak, are unlikely to be provided by private agencies. Such services would have to be provided by the public sector. Alternatively, the government may contract and pay the private sector agencies to provide such services.

Selection of Private Providers

Whether the services are to be transferred entirely to the private sector or the private agencies are to be contracted by government to provide them, it is necessary to adopt an appropriate procedure for selecting providers in order to ensure that only the best qualified persons or firms are allowed to provide services and that farmers are not exploited. A starting point would be for Agriculture to be registered as a profession in Nigeria. This will pave the way for the establishment of a council to regulate the practice of agricultural profession. Such a council would be able to specify the appropriate qualifications required of those who might wish to practice in the different areas of agriculture, including extension.

Once the prospective providers are registered by the council, they could then be subjected to a two-stage competitive franchise bidding (Figure 1). In the first stage, the technical competence of the prospective providers, including not only the required knowledge, but also possession of facilities necessary for effective extension services, would be examined. At this stage, farmers or their association leaders may be present but emphasis is more on the presence of members of professional association (such as the Agricultural Extension Society of Nigeria) who have the expertise to evaluate the technical competence of prospective providers. Providers short-listed at this stage would then go through a second bidding exercise. The objective of the second bidding is to select

technically competent providers who have quoted the lowest prices for extension services. Farmers or their leaders are especially to be present at this second bidding to ensure that only potential providers who have quoted the lowest prices are selected. To avoid possible manipulation of farmers or their leaders by the more literate providers, members of the professional association should be present. The bidding exercises could be organised and conducted by a government agency. But given the high transaction costs (including corruption) associated with government business in Nigeria, it may be better if this responsibility is delegated to a professional association and/or the Agricultural Council.

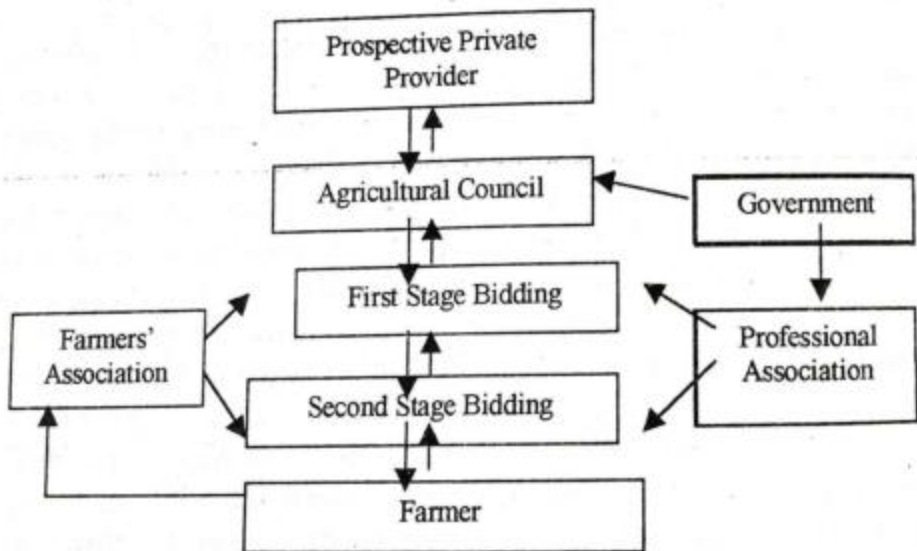


Figure 1: A two-stage competitive bidding model for the selection of private providers of extension services

Provider Regulation

After selecting private sector providers, it is necessary to regulate their activities against sub-standard behaviour in order to minimise the moral hazard problem. For instance, there has to be a way of ensuring that the providers keep to the terms of the contract and do not deliver inferior services or inputs. The competitive bidding suggested above is itself a mechanism for regulating providers. If the competitive bidding is done both *ex ante* and *ex post*, the moral hazard problem could be attenuated. In other words, the contract for service provision could be awarded at periodic intervals, say after a few years. At the expiration of the contract, incumbent provider has to go through the competitive bidding exercise along with new prospective entrants. A bad behaving provider would risk being voted out at the *ex post* bidding. This is an incentive for good behaviour of providers.

Another mechanism that could be used to elicit good behaviour of private providers, particularly where farmers are charged directly for services, is instalment payment system. Under this system, farmers pay only part of the cost of services initially, and pay the remaining after harvest, when the results of the services have been observed. If a provider knows that his income depends on the results clients obtain from adopting his services, he would have an incentive to provide high quality services and inputs. Of course, such an arrangement could introduce another moral hazard problem from the side of the farmers. In other words, there is the likely tendency that farmers may under-report their yields or incomes so that they would pay less. In fact, such a scenario has been reported in Nicaragua (Katz, 2002). To counter this, providers need accurate recording of farmers' harvests before and after services have been provided to them. It may be argued that even with evidence of yield improvement, farmers could still refuse to pay. But this is unlikely, since farmers know that those who refuse to pay are unlikely to receive the services in the future.

Apart from the above-stated self-regulating mechanisms, further regulation of private providers could be undertaken by government. But because of the high transaction costs of regulation by government, it would be better if such responsibility is

contracted to the Agricultural Council and/or the professional association. Such bodies could undertake periodic monitoring of providers and assess farmers' level of satisfaction with services they receive.

Willingness and Ability to Pay

In a reform situation where government is funding the private provision of extension services, the question of willingness and ability to pay does not arise. However, where farmers are expected to pay directly for services delivered either by the public or private sector, willingness and ability of farmers to pay for services needs to be ascertained. For Nigeria, there is dearth of empirical information on the ability and willingness of farmers to pay for extension services. This information is particularly essential considering the fact that majority of Nigerian farmers are small-scale food crop producers. Their production system is not commercialised. They produce mainly for consumption and generate some surplus for the market. Therefore, any funding strategy that requires direct payment of user-fees must be approached with caution. Their willingness and ability to pay has to be ascertained. Results of studies in Honduras, Nicaragua and Ecuador led Katz (2002) to conclude that farmers are generally willing to pay for extension services if they are sure to get added value that exceeds the cost in a reasonable period of time, and if the expenses do not compete with other immediate needs. For most resource poor farmers, there usually are *other immediate needs*. This fact has been underscored by de Kool (2002) who attributed the poor cost recovery under the privatisation scheme of the Ugandan National Farmers Federation (UNFFE) to, among others, the weak economic situation of the farmers. According to the author, farmers use the small income that they earn from marketing their produce, for basic household needs and school fees for their children, rather than for agricultural training and advisory services. She further noted that the level of education amongst the farmer community is low. As a result, it is likely that many farmers do not value knowledge as something that can improve their livelihood.

Therefore, they might be less willing to pay for knowledge than they would for something tangible.

Available evidence suggests that direct payment for extension services is most successful among relatively commercial, privileged farmers (Katz, 2002). Therefore, this category of farmers should be the initial target for the introduction of either cost-recovery or privatisation of extension services. When these measures are adequately entrenched, and farmers' willingness and ability to pay established, they may then be introduced gradually to small-scale farmers.

Farmer Associations

An important institution in extension services reform is strong farmer organisations. Farmer organisations have played pivotal roles in extension services reforms where such reforms have been introduced. For instance, the privatisation of extension services in Uganda is spear-headed by the Ugandan National Farmers' Federation (UNFFE, 2002). The same applies to countries such as Honduras, Nicaragua and Ecuador. In contrast, a reform project in Mali was less successful because of some factors, prominent amongst which is, weak farmer organisations (Katz, 2002).

Farmer organisations may be needed in extension services reform to perform several functions. For instance, they could play a major role in the procedure for contracting providers (Figure 1). In fact, in some cases (such as in Uganda), farmer organisations have been almost entirely responsible for contracting providers to provide extension services to members. Furthermore, farmer organisations could be used to mitigate free-rider and market failure problems that could surface in the delivery of extension services. As mentioned earlier, where services are non-excludable and/or non-rival, fees for extension services could be incorporated into the membership fees of farmer organisations, thereby averting market failure.

Farmer organisations could also play important roles in information dissemination within a group. In other words, the extensionist may have some information to pass on to his clients

within a well-defined group, which may not require individual contact. In such circumstance, the information could be passed on to the leaders of the association who would then pass same to its members in a farmer-to-farmer diffusion process. The organisations could play other roles, such as in input acquisition, product marketing and advocacy for favourable government policy towards the agricultural sector.

Presently, it is doubtful if Nigeria has well-defined farmer organisations that could play active roles in extension services reform. Nevertheless, it is important to organise farmers into functional associations and to empower the associations to play active roles in extension services reform.

CONCLUSION AND RECOMMENDATIONS

The paper has shown that with the present economic thrust of the government and judging by what is happening around the world, the country may have to reform its extension system to make them more effective. But it has to be recognised that such a reform process must be carefully planned in order to address some of the economic and institutional issues raised in this paper.

Some specific recommendations that could aid the reform process are further highlighted as follows:

- (1) Government should aim at forming partnerships and inter-linkages with other providers. There are a few NGOs and private companies that deliver extension services to farmers in Nigeria. Presently, there is no strong collaboration between them and government extension services. The scope of the activities of these organisations could be increased through government collaboration with them. Government could support the efforts of these organisations by contributing funds and/or extension personnel to them. In that case, government may not need to maintain a parallel extension service in areas covered by such organisations. In addition, inputs marketers should be encouraged to provide extension advice to farmers who purchase the inputs. This may in fact increase their sales since farmers are likely to obtain better results from the appropriate use of the inputs.

(2) There is the need to introduce contracting procedure, such as the suggested competitive franchise bidding, to select and regulate private providers of extension services. To facilitate this, an Agricultural Council should be established to regulate the practice of agriculture as a profession. This Council along with farmer organisations and a professional body such as the Agricultural Extension Society of Nigeria, should play active roles in the selection process.

(3) There is the need to organise farmers into associations particularly based on geographical location and commodities produced.

(4) Services should be demand-driven. In a reform situation, providers must ensure that services provided are of utmost priority to the farmers. If reform is to succeed, services must be responsive to farmers' needs.

(5) Where farmers are expected to pay part or all the costs of extension services, it is important to establish their willingness and ability to pay before introducing the reform. Even then, it is better to start on a pilot scale and with commercial producers.

(6) Confidence building is essential. The confidence of the farmers in the usefulness of the services for which they pay, and confidence in the extensionists and extension organisation, needs to be developed. One way to achieve this is to ask for payment only after the benefits of the services are apparent (Katz, 2002).

(7) It is important to look out for excluded potential users. Some farmers may be unable to pay for extension. Such farmers would have to be served by public extension services. Alternatively, government may contract the services to private providers. One way to fund such services may be by distribution of vouchers to farmers for "paying" the provider who then uses the voucher to get reimbursed by the relevant government agency. Another way could be for the government to specify the types of services to be provided and negotiate directly with the provider. But the first

method may be better, since it gives the farmer the room to dictate the types of services he wants.

(8) Local governments should play a more prominent role in extension services. Presently, agricultural extension services in Nigeria are delivered mainly by the state governments through their respective ADPs. The local governments (LGs), which are closest to the farmers at the grassroots, play little or no extension role (Siyanbola and Alao, 1997; Ilevbaoje and Ogunbameru, 1997). But the LGs being in close contact with the farmers are more likely to understand the physical and socio-economic environments of the farmers as well as their extension needs. Therefore, they are in the best position to design extension strategies that are tailored to the specific needs of the farmers.

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