

## Information sources and constraints under national agricultural advisory services programme, of service providers in Uganda

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### Abstract

**National Agricultural Advisory Services (NAADS), one of the seven pillars of the Plan for the Modernization of Agriculture (PMA) started operating in Uganda in 2001. Under NAADS, public sector funded private service providers (PSPs) deliver advisory services to farmers for profitable agriculture. However, where and how PSPs access information, their constraints and possible remedies are still unclear. A descriptive cross sectional study using both qualitative and quantitative approaches was therefore conducted in two sub-counties in each of Arua and Tororo districts to find out where and how PSPs access agricultural information, the problems faced in accessing and processing the information the existing and potential quality assurance mechanisms for such information. Data was collected through individual discussions with NAADS coordinators; focus group discussions and self-administered questionnaires to PSPs. Almost all the 43 PSPs who participated in the study were males, educated up to diploma level but with minimal working experience. The study revealed that PSPs obtain information from school/college notes, books, radios, manuals, newspapers, district departments, research institutes (NARO), with manuals perceived to be the most important in both districts. There seems to be no deliberate efforts by information sources to target to PSPs while information quality assurance is lacking and/or haphazard. Problems in information access and use included lack of resources, inadequate information, expensive/availability internet resources, and limited information sharing amongst PSPs and with public extension staff, and translating the information.**

**Key words:** Information sources, NAADS, private agricultural extension

### Introduction

It is generally accepted that agricultural extension services are essential for agricultural development (Anderson and Feder, 2003) and until recently, provision of these services has largely tended to be in the public sector domain. However, a shift towards more private sector participation in the provision of extension services is being experienced (Rivera, 1991; van den Ban, 2000). This shift is attributed to the perceived ineffectiveness, irrelevancy and irresponsiveness of public extension services in addition to budgetary constraints especially in developing countries (Rivera, 1991; Rivera, *et al.*, 2000). In Uganda, weak research-extension-farmer linkages, use of non-participatory approaches, high levels of bureaucracy and irresponsiveness to farmers' needs are some of the shortcomings noted with the public sector monopolized extension system (NAADS, 2001).

In a bid to respond to the above shortcomings and also increase smallholder farmers' incomes, the government of Uganda in 1997 under the Poverty Eradication Action Plan (PEAP) put in place the Plan for Modernization of Agriculture (PMA). Key among the seven pillars of the PMA is the National Agricultural Advisory Services (NAADS) that aims at developing a demand-driven, client-oriented and farmer led agricultural extension service delivery system particularly targeting the poor and women (MAAIF, 2000; NAADS, 2001).

Under NAADS, farmers receive private sector delivered but largely public sector funded extension/advisory services, the private service providers being on contract by farmer institutions. With this kind of arrangement, a number of issues that are essential for the smooth operation of extension services can be raised. For instance it is believed that contract extension can lead to weakened and/or broken research-extension linkage (Rivera *et al.*, 2000) and deterioration in service quality (Schwartz, 1994). The deterioration in service quality as a result of contracted services is attributed to the profit orientation of the service

providers (Schwartz, 1994) and limited investment in staff development (CARE, 1997). On the other hand the extent to which Private Service Providers (PSPs) have the capacity and motivation to look for up to date valid technical agricultural information and institute quality assurance mechanisms is another issue of concern under the privately serviced extension system. These issues then raise questions about where the information delivered by such private extension is obtained from and how valid, appropriate and current it is. Another question is how the quality of such information is ascertained before farmer consumption and how PSPs are coping with the challenges experienced.

A study was therefore carried out to address some of the above issues. Its objectives included identifying private service providers' sources of technical agricultural information and the existing and potential quality assurance mechanisms of such information before farmer consumption. The study also aimed at identifying private service providers' constraints in accessing and using information.

### Methodology

The study used a cross-sectional descriptive research design employing both qualitative and quantitative methods. Data describing the private service providers in the study area with regard to their sources of technical agricultural information, and existing and potential information quality assurance mechanisms was collected within the same time period. Qualitative methods included focus group discussions with purposively selected private service providers and individual discussions with sub-county NAADS Coordinators, while the quantitative methods involved use of the information obtained from the qualitative phase to develop and administer a semi-structured questionnaire to all private service providers in the two study districts, namely, Tororo and Arua.

The districts studied were purposively selected because they were among the first six NAADS pilot districts hence the assumption that private service providers there had ample experience with NAADS activities. The target population consisted of all private service providers in the two study districts who had completed at least one advisory service provision contract under NAADS. The targeted private service providers were 10 firms and 08 individuals in Tororo and five (05) firms and 18 individuals in Arua. In Tororo, seven (05 firms and 02 individual service providers) participated in the focus group discussions while 19 (13 from six firms and 06 individual service providers) participated in the questionnaire survey. In the case of Arua nine (04 firms and 05 individual service providers) participated in the focus group discussions and 24 (14 from three firms and 10 individual service providers) participated in the questionnaire survey.

Data were collected using two types of research instruments developed by the researchers namely; checklists and a semi-structured questionnaire. The questionnaire was tested for content validity by a panel of experts from Makerere University and the NAADS Secretariat. Data collection methods used included: individual discussions with sub-county NAADS coordinators, focus group discussions with PSPs followed by a self-administered questionnaire to the PSPs. Qualitative data obtained through the first two techniques was manually analyzed for themes and patterns, while quantitative data from the self administered questionnaires was analyzed using SPSS version 11.0 to obtain frequencies, percentages and averages of counts.

### Results and discussion

#### *Respondents' characteristics*

Table 1 presents the basic characteristics (namely, gender, education and working experience) of 43 private service providers in the two districts of study. The results indicate that private service provision is clearly a male dominated venture in both districts with the majority of them having acquired formal education level of up to diploma level and with limited working experience. Non-participation of females in private service provision conforms to the usual trend of few women in extension service provision (FAO, 1996). It will be important to investigate the implications of male dominance on effective targeting of women farmers.

The majority of the private service providers (53% and 83% for Tororo and Arua respectively) had had formal education of up to diploma level. About half of the private service providers (47% and 42% for Tororo and Arua respectively) had never worked elsewhere other than under NAADS and a majority (42% for Tororo and 50% for Arua) of those who had worked outside NAADS had worked there for a maximum of 4 years. The limited working experience of most of the private service providers may have negative implications on the quality of services offered in the absence of clear mechanisms for technical backstopping and quality assurance.

#### *Private Service Providers' information sources*

Service providers were asked to indicate their sources of technical information used for farmer training and to rate each source in terms of importance, frequency of use, clarity of information and usefulness. Perceived importance was measured on a scale of 1 to 5 with 1 corresponding to least important and 5 most important. Similarly, frequency of use of the information sources was measured on a scale of 1 to 4 with 1 corresponding to less than once a month, 2 once a month, 3 once a week and 4 more than once a week. Perceived clarity and usefulness were measured on a scale of 1 to 5 with 1 referring to the least level and 5 to the highest level. The findings in both study districts are presented in Tables 2 and 3.

**Table 1: Respondents' characteristics**

Characteristic	Level(s) /categories	Frequencies	
		Tororo (n=19)	Arua (n=24)
Sex	Male	19	22
	Female	00	02
Formal education Qualification	Certificate	03	01
	Diploma	10	20
	Bachelors degree	06	03
Working experience	00 years	09	10
	1-4 years	08	12
	4-10 years	00	01
	Over 10 years	02	01
<i>Outside NAADS</i>	3 –6 months	09	11
	7-12 months	04	06
<i>Under NAADS</i>	Over 12 months	06	07

**Table 2. Description of the information sources by private service providers in Tororo (n= 19)**

Information source	No of users	%	Mean score of importance (Max 4)	Mean score of frequency of use (max 4)	Mean score of clarity of informn (max 5)	Mean score of usefulness of informn (Max 5)
School notes	16	84.2	3.8	2.8	4.7	4.6
NARO	14	73.7	4.9	1.3	4.6	4.8
Text books	14	73.7	3.7	3.0	4.4	4.4
Manuals	14	73.7	4.9	3.8	4.7	4.5
District departments	12	63.2	4.0	3.0	4.3	4.1
NAADS coordinators	12	63.2	3.2	2.4	3.6	4.1
Newspapers	12	63.2	3.4	4.0	4.3	3.7
Input suppliers	12	63.2	3.3	2.2	4.3	3.9
Training and workshops	12	63.2	3.9	3.6	4.3	4.3
Radio	10	52.3	2.8	3.2	4.1	3.9
Fellow service providers	10	52.3	3.9	3.4	4.1	4.0
Public extension staff	08	42.1	3.8	2.6	3.8	3.5
NGOs	08	42.1	4.0	3.3	4.3	4.3
Farmers	08	42.1	3.2	2.2	3.4	3.3
Internet	02	10.5	3.3	1.5	3.8	4.3
DATIC	02	10.5	3.0	1.5	4.0	3.0
Technical audit team	01	05.3	5.0	1.0	5.0	5.0

Private service providers from both districts reportedly obtain technical agricultural information from a variety of sources. The information sources reported were school/college notes, NARO, textbooks, manuals, district departments, NAADS coordinators and newspapers. Others included input suppliers, trainings and workshops, radio, fellow private service providers, public extension staff, NGOs, farmers, internet, district agricultural technology and information centers (DATICs) and the technical audit team members.

The most commonly used of the above information sources in both districts were; school/college notes, textbooks, NARO and Newspapers. Besides these, manuals, district departments and NAADS coordinators were commonly used in Tororo and the radio, public extension staff and fellow service providers for Arua. It was however, reported that there were no deliberate efforts by the information sources to target the service providers. Access to information from any given source depended on the private service providers' initiative and pre-existing personal friendships with some people from the source. Internet, a modern information source was the least commonly used information source in both districts. This is mainly attributed to its general unavailability in most rural sub-counties and the costs and skills involved in accessing it.

Most of the information sources were perceived to be important (average score of above 3 out of 5 for most sources in both districts). It is worth noting however, that the sources which received the highest rating included manuals in both districts (perceived importance score of 4.9 and 4.8 for Tororo and Arua, respectively), school notes (score of 5.0 in Arua), NARO (score of 4.9 in Tororo) and text books (score of 4.6 in Arua). On the other hand the least regarded information sources in both districts included farmers, input dealers, public extension staff, NGOs, radio and NAADS coordinators. The generally very high perceived importance of manuals could be attributed to the simplified and ready to use form in which their information is presented. The high ranking for NARO's as a source of information is probably due to high rating on the hand could be because of its credibility as the source of current and researched information. The prominence of school notes may be linked to the limited experience of most of the PSPs.

In Tororo, the most frequently used (more than once a week) information sources were newspapers, manuals and trainings and workshops while in Arua it was school/college notes, textbooks, radio and manuals. Despite NARO being rated among the most useful information sources, it was among the least frequently used (less than once in a month) information sources in both districts (1.3 and 1.1 for Tororo and Arua, respectively). This can be attributed to a number of factors major ones being the distance and the procedural arrangements for accessing information from NARO. One PSP in Tororo during a focus group discussion had the following to say to explain the less frequent or no use at all of NARO as an information source;

*“We are aware that first class information can be obtained from research institutes because they are not profit oriented... but the research institutes have got a procedure you have to go through—you have to write and book in advance, and wait but the NAADS procedure does not allow us to wait, it does not cater for the waiting”.*

Information from all the sources was reported to be clear and useful (average scores of over 3 out of 5 for all the information sources in both districts). For almost all the information sources it followed as expected that the higher the perceived clarity of the information, the higher the perceived usefulness. However, information from NARO, manuals and school/college notes was reported to be the most clear and useful (scores of over 4.5 out of 5.0) in both districts.

#### **Problems in accessing information**

Private service providers in both districts reported to be facing a variety of closely related constraints in accessing, processing and delivering information. However, most of the problems seem to indicate that service providers' most limiting factor is resources (financial).

#### **Lack of resources**

This was reported in both districts by both staff of Service provider firms and individual service providers. The individual service providers noted that costs incurred in information access were not catered for in the service provision contracts. Some field staff from firms on the other hand also noted that firm managers/owners were neither giving them any money to search for information nor were they buying information materials on the assumption that they are adequately qualified did not need to look for any more information.

Lack of and/or limited financial resources in addition limited private service providers' access to most information sources notably internet as most of them reported that it was unaffordable. It was noted in both districts that internet services were expensive and/or unaffordable to PSPs where available and/or completely unavailable in most sub-counties. Unavailability of the internet services in most sub-counties would require that PSPs' travel to town yet they lack money and /or good transport means. Besides, PSPs reported that the transport facilitation given to them under the contract arrangement caters for within-sub-county movements and any other movements outside the sub-county yet most of the information sources including an on-line resources internet are outside and far from their sub-counties of work.

**Table 3: Description of the information sources by private service providers in Arua (n= 24)**

Information source	No of users	%	Mean score of importance (Max 4)	Mean score of frequency of use (max 4)	Mean score of clarity of informn (max 5)	Mean score of usefulness of infomn (Max 5)
School notes	16	84.2	3.8	2.8	4.7	4.6
NARO	14	73.7	4.9	1.3	4.6	4.8
Text books	14	73.7	3.7	3.0	4.4	4.4
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Internet	02	10.5	3.3	1.5	3.8	4.3
DATIC	02	10.5	3.0	1.5	4.0	3.0
Technical audit team	01	05.3	5.0	1.0	5.0	5.0

#### ***No and/or limited information sharing among private service providers and with public extension staff***

It was reported that some private service providers were reportedly not willing to share agricultural information with others. One service provider in Arua during a focus group discussion (FGD) noted as follows; *“Another service provider cannot give you information which he knows he is the only one who has it, he will always want to be the only one”*

Another in the same FGD attributed service providers’ selfishness with their information to competition and noted as below; *“Competition also scares us from being free with the information that we have, you may assist some one today and the next season he will beat you using the information that you gave him”*

Service providers noted that they could not access public extension staffs’ information because uncooperative and/or unapproachable. Most of the public extension staff in sub-counties were simply not cooperating with the private service providers in terms of information sharing while some were in some instances interfering with the service providers operations. One service provider in Tororo during an FGD noted that: *“Public extension workers are interfering with our work because they think that we are getting a lot of money and yet they as extension workers could do the work”*

Some service providers noted that some public extension workers were simply not traceable while some of those that were traceable would be unnecessarily rude.

#### ***Inadequate amount of information***

Service providers in both districts noted that the information available was inadequate both in quantity and quality. Some noted that information about some practices was simply not available anywhere. One service provider in Tororo during an FGD noted as follows:

*“I was once requested to bring a goat that was s 80% pure. I tried to look around but I couldn’t get one. So I called a friend of mine in Makerere University who gave me some numbers to call. When I called these numbers they were always off, so I gave up”.*

Because of the inadequate amount of information available there appears to be cases where the service providers were using information whose quality they are not sure of. Like one service provider in Tororo narrated in an FGD;

*“I was one time requested to formulate a poultry feed from local materials. I did not know the nutritive values of the different local materials and I could not even get this information anywhere around. So I went to a friend of mine who is a veterinary doctor who told me to use percentages”. When asked whether the kind of information from the his friend was true he replied, “of course a doctor can’t lie”*

### **Problems in processing the information**

#### ***Translation of the information is very difficult***

The service providers in both districts noted that the majority of the farmers do not know English implying that the information has to be presented to them in the local language yet information from most of the sources is very technical. One service provider in an FGD in Arua expressed the dilemma the service providers are faced with when it comes to translation of the information as follows:

*“Most of the farmers are illiterate and this requires one to know the local language very well, but then there are some technical words, which are not in the local language. If you say these in English the farmers will not understand and they will complain, so you translate them in the local language but you are not sure whether they are the right ones”*

#### ***Information processing is time consuming***

The service providers in both districts reported that information processing required a lot of time yet they were already time constrained. They noted that information processing was not catered for in the 22 working days in the each calendar month as per the contract thus forcing them to do it in their free time, which they do not have. They noted that they are expected to conduct too many farmer trainings in a short time due to short and poorly timed contracts and large numbers of farmers' groups per service provider. Besides this, planned activities frequently flop due to poor time keeping by farmers and numerous and frequent community events like parties and funerals. A combination of such events severely cuts back what would be free time for the service providers and consequently reduces the time available for information processing among other activities.

#### ***Lack of both financial and material resources for information processing***

The field staff working for firms complained that they were not facilitated by their managers in information processing while the individuals and those firm managers involved in field activities noted that the budget for operational costs was simply not adequate to cater for information processing. One service provider who was doubling as a manager for a firm and as a field staff noted as below; *“The money for overheads is so small for us to buy information processing equipment. The services in town are also very expensive, if I'm to take my training notes for typing I have to think of around 30,000 for typing and printing the 20 pages but then this is already more than the total overhead costs”*.

The above problems seem to infer that PSPs' most limiting factor is lack of resources (mainly financial). The problems in information access and processing on the other hand reflect a missing link between service providers and the information producers mainly research and the consumers-farmers. The problems also highlight the fact that most firm managers/owners leave the responsibility of information access and processing to their field staff.

#### ***Information quality assurance mechanisms before farmer Consumption***

Service providers were asked to describe the existing information quality assurance procedures adopted prior to delivery of technical agricultural information to farmers. They indicated whether the information is checked by any body other than the service provider him/herself, what happens during the checking if done and what they would suggest as the most appropriate means through which the quality of the information can be assured before reaching the farmers.

A variety of persons were reported to be involved in checking PSPs' information namely supervisors/managers in firms, fellow service providers, sub-county NAADS coordinators, district technical auditors and community facilitators. However, a rather high proportion of service providers (about 53% in Tororo and 38% in Arua) had not had their information checked by any other person before delivery to the farmers.

Out of the nine (09) private service providers in Tororo whose information had ever been checked, five (05) of them were by supervisors/firm managers, three (03) by fellow service providers, while the sub-county NAADS coordinators and district technical audit were each reported by two (2) service providers. Out of the 15 private service providers in Arua who had had their information checked, six (06) of them were by the sub-county NAADS coordinators, five (05) by fellow service providers, four (04) by supervisors/firm managers, four (04) by the district technical auditors and one by the community facilitator.

Out of the 9 PSPs in both districts who had had their information checked by their supervisors/managers four (04) reported that the supervisors identified and corrected mistakes. Two (02) PSPs confessed that they did not know what the supervisors did with and/or to the information. The other attempts by supervisors to assure information quality were each reported by one PSP. These were; comparison of the information to the contract, pretesting the information on few selected farmers to see it is understood, and visiting demonstrations in which the information was being tried out to verify its validity.

Of the eight (08) PSPs in both districts whose information had been checked by NAADS coordinators, three (03) did not know what exactly was done with their information in the process while two (02) were advised/assisted by the NAADS coordinators on how to improve the information.

Comparison of the information with the terms of reference, looking at the teaching methods and aids, provision of guidance/assistance in improving the information and correction of mistakes by NAADS coordinators were each reported by one service provider. On the other hand those PSPs (08) who had had their information checked by fellow service providers noted that the fellow PSPs compared their information with their own (02), removed complicated words (02), transformed the information into a practical training manual (01), corrected errors and added missing words (01).

Two (02) of the six (06) PSPs in both districts who had had their information checked by the district technical auditors did not know what the auditors did with the information. Other two (02) out of the six reported that the technical auditors looked at the technical content, the method, procedures and grammar while one reported that they compared the information to the intended audience. One PSP whose information was checked by the community workers reported that in the community workers related the content and methods to the targeted farmers and then recommended some changes.

The above 'existing' information quality assurance procedures seem to indicate that there are no standard procedures for ensuring the quality of the information before farmer consumption. The technical competence and suitability of some of the persons involved in the process is not clear either. What was/is done in the process of checking the information is equally worrying as to whether it can truly assure the quality of the information to be consumed by farmers. The existing information quality assurance mechanisms before farmer consumption if any appear to be 'amorphous' with no specific procedure, benchmarks and format followed. The 'official' quality assurance mechanisms of technical audits and reports during and after the contracts though important seems inadequate given the fact that it is done when the 'damage' to farmers has already occurred in case the quality of the information delivered by the service provider was poor.

A number of potential information quality assurance mechanisms were suggested by PSP in both districts. In Tororo, these included recruitment of qualified service providers (04), submission of a training manual by every PSPs for approval by technical persons before farmer training and workshops for district departmental heads and PSPs to harmonize information (03) were suggested. Other suggestions included provision of uniform training manuals to PSPs by NAADS (02), provision of local recommendations by the district (02), constant M&E by NAADS coordinators and farmers' forum (02) and sharing of the information by selected farmers, PSPs, public extension staff and NAADS coordinators staff before delivery to farmers (01).

Suggestions in Arua, included submission of a training manual for approval by technical persons (05), presence of PSPs during technical auditing of their activities (04), PSP capacity development (03), institution of 2-3 technical audits

per contract (03), and timely provision of advisory service money (02). Other suggestions included production of a standard format for a training manual by PSPs, district and NAADS secretariat (02), use of a variety of information sources by PSPs (01), more technical M&E (01) provision of uniform training manuals on all enterprises to PSPs by NAADS (01). The suggested approaches for quality assurance seem to point at the need for some combined effort among all the stakeholders; PSPs, NAADS administrators, researchers and farmers in such a venture.

## Conclusions

Agricultural advisory service providers access information from a variety of sources, though access to a given source seems to depend on availability and existing personal informal networks or relationships. Information from most of the sources was described as being clear and hence useful. However such sources as manuals and school notes which appear to be the most important and preferred if available stand high chances of becoming out of date. There are no mechanisms to support service providers to access up to date quality information. Throughout the whole process of information searching, compiling, processing and delivery, the usually important research-extension (service provider) linkage seems to be conspicuously lacking. How to form it and/or strengthen it and whose responsibility it is to do so are also critical questions that need to be answered. As a prerequisite for the formation of such linkages between service providers and other institutions, principally research, service providers need to be organized into a formally recognized institution that can coordinate with other institutions besides advocating for and/or defending members' interests.

There appears to be no 'official' way of ensuring the quality of the information before farmer consumption under the NAADS framework. The existing procedure of information checking by some NAADS coordinators at sub-county, fellow PSPs, firm officials appear to be amorphous and unguided. One option that appears promising is planned involvement of key stakeholders in agriculture - researchers, extension (service providers) NAADS administration and farmers among others in the process of quality assurance. The researchers would contribute to the process by providing appropriate information and technical backstopping. The NAADS administration could besides their supervisory role contribute by recruiting competent service providers, timely facilitating them. The farmers would on the other hand provide feedback about the appropriateness of the information received from service providers.

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