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**Process and Constraint Analysis of paraprofessionals' regulation and legalization:  
The Case of Uganda.**

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## **Abstract**

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Paraprofessionals have been seen as the only means of increasing veterinary services in marginal and rural areas of Africa, thereby improving livestock productivity and households' income. This paper identifies the most influential actors in the process of integrating paraprofessionals into the formal veterinary delivery system, constraints and the best possible approach of integration. The research design adopted in this paper is qualitative. Process Influence Net-Map and Participatory Rural Appraisal (PRA) tools like pair –wise ranking and matrix scoring were used. Results reveal the key actors in the integration process as the Ministry of Agriculture and the Ministry of Finance. The major problems in integration are; lack of political will, inadequate financial allocations and mobilisation, limited number of veterinarians, absence of organized and strong veterinarian and paraprofessional associations, and low level of training among paraprofessionals. The most feasible integration approach is the moderate system; in which the government supervises and controls the activities of paraprofessionals and pays for their services whenever they are hired. To implement the integration process, the veterinary surgeon act and paraprofessional bill needs to be passed in parliament, the Uganda Veterinary Board should be strengthened, more veterinarians and paraprofessionals need to be trained.

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**Keywords:** Integration, PRA, Perceptions, Actors, Paraprofessionals.

## **Introduction**

The delivery of veterinary services in many developing countries is continuously undergoing restructuring (Irungu, Omiti, & Mugunieri, 2006). Currently, most researchers that have engaged in the delivery of veterinary services in most developing countries have proposed the integration of paraprofessionals into the formal veterinary systems. The recommendation on integrating paraprofessionals into the formal veterinary system is as a result of three main reasons: first, the need to regulate and supervise the work of paraprofessionals to reduce the level of drug abuse and improve the quality of veterinary services (Rutabanzibwa, 2003). Secondly, the recognition of the role Para-veterinarians and community-based animal health workers (CBAHWs) play by increasing the availability and affordability of private veterinary services. Thirdly, the realization that paraprofessionals will continue to dominate the veterinary service market (Haan, Holden, & Peeling, 2001). Thus, integration of paraprofessionals is relevant in overcoming fears of compromising standard of veterinary services by paraprofessionals and provides opportunities for employment to degree veterinarians (Woodford, 2004). As a result of these reasons, many countries have developed

the veterinary and paraprofessional bills in order to incorporate paraprofessionals into the veterinary service delivery system (Woodford, 2004).

Many countries in sub-Saharan Africa have been considering their views of recognising paraprofessionals as part of the veterinary service system (De Haan et al., 2001). In 2003, the parliament of Tanzania passed the veterinary act defining sanctions and procedures of supervising Para-veterinarians and community-based animal health workers. According to article 29(1) of the veterinary act a paraprofessional should have at least a diploma in animal health management and a paraprofessional assistant a certificate in animal health practice and should be enrolled with the veterinary council (Parliament of Tanzania, 2003). Article 28(2) allows the minister to specify other certificates and qualifications which shall permit the selected candidates to be enrolled under this act. In 2010, the Kenya parliament passed the veterinary and paraprofessional bill to incorporate the paraprofessionals (Parliament of Kenya, 2010). In the bill, only paraprofessionals with diploma in animal health practice were recognized as professionals. In Uganda, the veterinary and paraprofessional bill was developed and submitted to parliament for approval in 2003; with the hope of guiding the integration of paraprofessionals into the formal veterinary system, till date, the bill has never been passed in parliament. It is against this background that this study was designed to assess the reasons why this veterinary bill has been stalled. The study uses the qualitative research techniques to analyse the integration process with the aim of identifying key actors and their level of influence, the limitations involve with integrating paraprofessionals and the best approaches for integrating paraprofessionals into the formal veterinary system. This paper provides information that would guide policy makers to facilitate the integration of paraprofessionals within the formal veterinary system in Uganda and similar cases in developing countries.

## **Materials and Methods**

The research was conducted in Amudat and Mukono districts of Northern and Central regions of Uganda respectively. Amudat district is a semi-arid area, prone to drought and its inhabited by the Pokot pastoral communities. Mukono district is a highly intensive livestock production area with well distributed rainfall throughout the year. The study districts have been selected because of variations in economic and institutional infrastructures, farms and farmers' characteristics and distance from the main administrative centres. These factors determine the livestock production systems which in turn determines the demand and supply of animal health services and sustainability of animal health delivery systems (Woodford, 2004). This paper presents a qualitative research approach in order to achieve its objective. Focus group discussions and semi-structured interviews were used for data collection. Semi-structured interviews were conducted with staff at directorate of veterinary services, local governments and veterinarians. The focus group discussions were also held with veterinarians, animal health officers or paravets, farmers and community animal health workers. The process influence Net-mapping tool was applied to map out actors in the integration process; the Pair wise ranking tool was used to rank the limitation and Matrix scoring was used to identifying the best approach for integration as seen below.

### ***Process Influence Net-Map***

The Process Influence Net-Map<sup>1</sup> was used. The steps involved in the integration process were outlined and the actors identified. During the first step, participants were asked to describe the main processes involved with integrating paraprofessionals step by step and to identify the actors involved. A cardboard paper was used to place the names of the various actors written on the colored actors' cards for easy visualization and classification. The arrows were drawn between the actors' cards with numbers indicating the actors' level in the process of integration. During the second step, the respondents were asked to rate the degree of influence of actors on the integration process. The rating was done on a scale of one to six. The checker pieces were used to build the influence tower of the different actors in the integration network. The height of the tower represented the influence level of the actors on the integration process. During step three, the participants were asked to identify the actor's role in the integration process and possible problems of political influence within the integration network.

### ***Pair-wise ranking***

Pair-wise ranking was used to identify and compare the limitations to integrating paraprofessionals. The focus group discussion outlined the main limitations in the integration process. The five main constraints to integration were mentioned by the participants. The step-by-step procedures used were as follows; firstly, participants were asked to list the main problems that would be faced if paraprofessionals are to be integrated into the veterinary system. This facilitated the participants to compare the first limitation in the row with subsequent limitations listed in the column one after the other. The preferences were asked to be entered in the grids. The second limitation in the row was compared to the third in the column and same for the other limitations. The third limitation in the row was compared with the fourth in the column and other limitations until the fifth limitation and the preferences were registered. The steps cited were repeated with all the limitations compared pair-wisely. The participants were asked to count the number of times each limitation was selected and place it in column "score" (as seen in Table 4 and 5). The higher the scores, the more severe is the problem. The participants were asked to rank the limitations based on the number of times the limitation was selected (see table 4 and 5). And several reasons for the choices were given by the participants (Narayanasamy & Ramesh, 2001)

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<sup>1</sup>Net-map was developed to provide an easy and open access tool to raise the awareness of actors on their roles through dialoguing and for transparent decision-making processes among the interlinked actors.

## ***Matrix scoring***

Matrix scoring was used to determine the best approach of integrating paraprofessionals. It is a tool that enables a decision-maker to choose the appropriate way of rendering services (Shanmugam et al., 2001). The matrix scoring was used to determine the most appropriate integration system for the study area. The matrix was constructed on the cardboard paper and integration approaches were scored against eight parameters selected based on the key characteristics of animal health care attributes for analysing policy interventions. The closed scoring was adopted from one to ten, with the highest score being ten and lowest being zero. These parameters used were selected based on the key characteristics of primary animal health care. This included; improve quality of service, acceptability, affordability (McLeod & Wilshire, 2002), Feasibility (Birner, 2007), supervision and monitoring (Kilminster & Jolly, 2000).

*Accessibility:* This refers to ease with which a livestock farmer is able to access the service provider or a service and it depends on proximity, cost of transport and other means of communication.

*Acceptability:* This refers to the extent in which a service offered by a given system or mode of service delivery is agreeable in terms of quality and cost.

*Affordability:* Is the comparative advantage of the system based on reduction in cost of a service rendered to a livestock farmer.

*Feasibility:* This refers to acceptability of integration approach to policy makers. Birner, (2007) identified three feasibility dilemmas which are; political, administrative and fiscal feasibility. In this study we focus mainly on administrative and fiscal feasibility.

*Supervision and monitoring:* This refers to effectiveness in supervision and one main reason for integrating paraprofessional to formal veterinary system. Supervision can be defined as a means of providing information on monitoring, guidance and feedback on matters of paraprofessionals and veterinarians interactions with livestock farmers (Kilminster & Jolly, 2000).

The integration spectrum identified the high, moderate, low to no integration systems for evaluation. This integration spectrum was obtained from the paper written by Derek (1999) on integration of government service in New Zealand.

*High Integration System:* Is a case where the government veterinarian completely supervises and controls paraprofessionals and they are paid a monthly salary. This is similar to veterinary practices before the initiation of the structural adjustment program.

*Moderate Integration System:* Is a situation where the state veterinarian supervises the paraprofessional and they are paid an allowance after offering government services like vaccination.

*Low Integration System:* Is a case where the government veterinarian does not supervise paraprofessionals, but can hire their services when needed. This currently exists in Uganda.

*No Integration System:* Is a situation where the government veterinarian does not supervise or control paraprofessionals and does not hire their services.

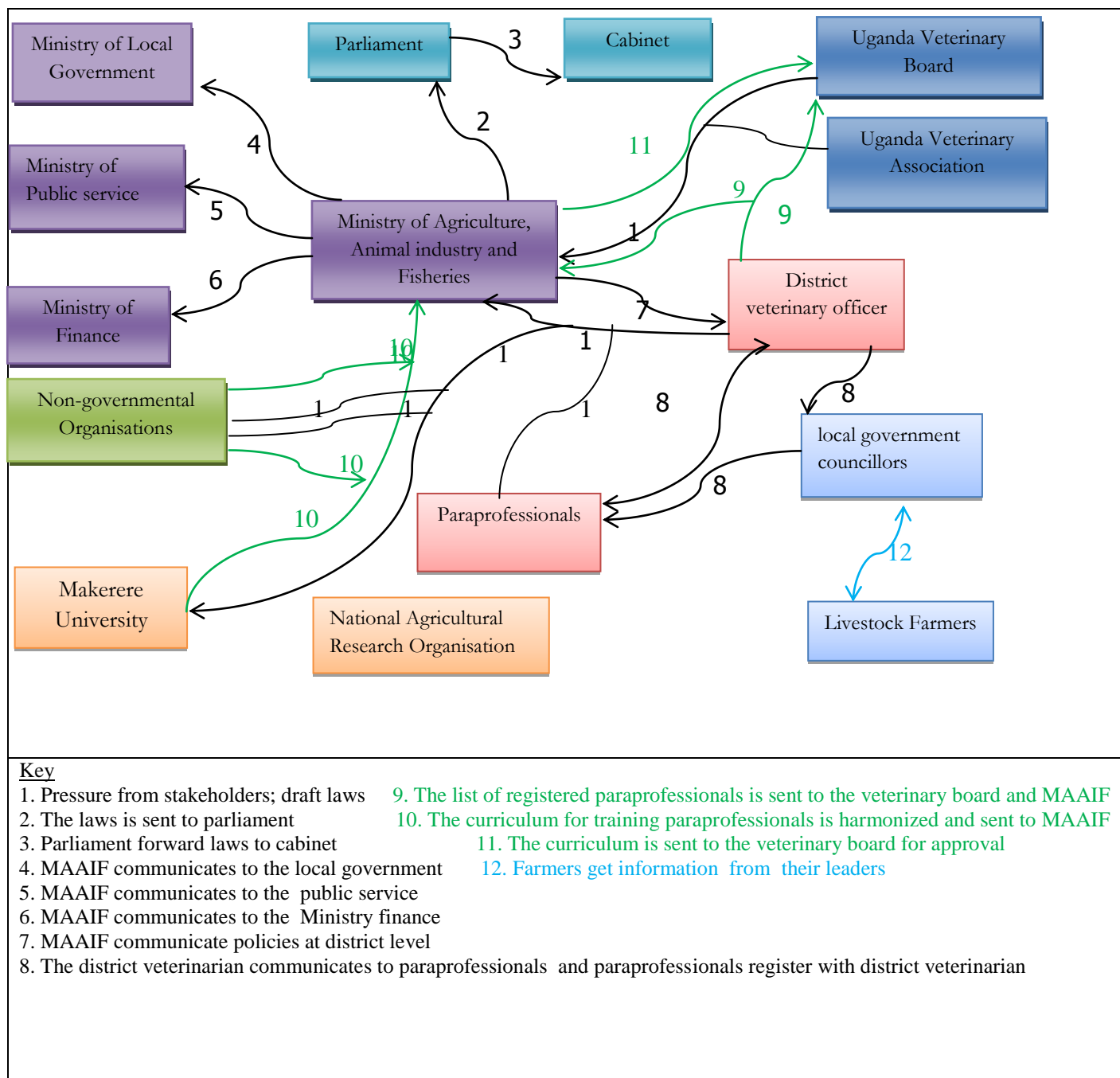
## **Results**

### **Process Influence Net-map of stakeholders in the integration process**

As observed in the field during the process net-map exercise developed by Eva Schiffer of the International Food Policy Research Institute (IFPRI), the participants were asked to identify the actors influencing the integration process, their degree of influence and their roles in the integration of paraprofessionals. During the exercise, 15 key actors were generated and their roles elucidated. Figure 1 displays the key actors and their role in integration process. The integration process starts with:

- Veterinarians, paraprofessionals, Non-governmental organization and Universities exerting pressure on the Ministry of Agriculture, Animal industry and Fisheries to recognize paraprofessionals and set some laws governing their activities. The Ministry of Agriculture, Animal Industry and Fisheries (MAAIF) together with the Ugandan veterinary board and association drafted the laws governing paraprofessionals. MAAIF then forwards the drafted laws to the Parliament of Uganda.
- After the law is passed in parliament, it is sent to the cabinet for approval. After the approval, MAAIF communicates the law to other stakeholders such as the Ministry of Public Service that is in charge recruitment of government staff; Ministry of Local Government, that is in charge of administrative supervision of the veterinarians who are supposed to supervise paravets; Ministry of finance to inform about the implication of the laws on MAAIF's budgetary allocation.
- The local government councilors, the District veterinary officers have to register paraprofessionals. The list containing selected paraprofessionals is sent to the veterinary board, MAAIF and to Non-governmental organizations. At the community level, the District veterinary officers would be in charge of implementing the law through supervision and monitoring of paraprofessionals.
- Another key activity is developing a harmonized curriculum for the training of paraprofessionals. This would be developed by Makerere University together with the Food and agricultural organization (FAO), MAAIF and some inputs from the National Agricultural Research Organisation (NARO) and forwarded to the Uganda veterinary board for approval.

**Figure1: Process influence Net-map of actors in the Integration Process**



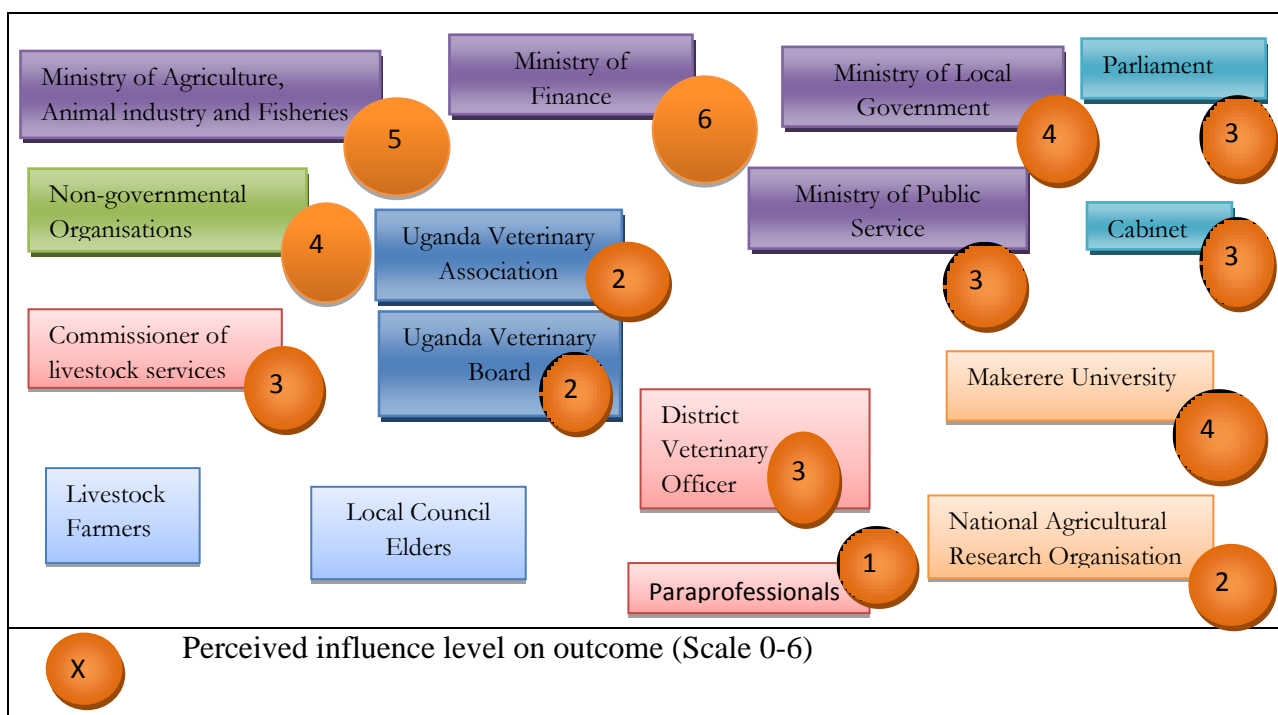
Source: Author, 2012



### Level of influence of actors in the integration process

The perceived level of influence of key actors in the integration process is illustrated in figure 2 ranking from 0-6. The Ministry of Finance is the most influential with the influence level of 6. As noted by one of the respondent's, pushing for reforms that have financial ramification without political gains is a challenge in Uganda. The second most influential actor is the Ministry of Agriculture, Animal industry and fisheries with the influence level of 5. It has influence in co-ordinating the integration process, mobilizing financial resources and ensuring that the paraprofessional law or bill is passed. Non-Governmental Organisations like Food and Agricultural organization and Makerere University were scored 4 because of their role in training paraprofessionals and having the potential of putting more pressure towards integration of paraprofessionals. The Ministry of Local Government was ascribed 4 because of the administrative power it has on local government veterinarians, who are key supervisors of paraprofessionals. The cabinet, parliament, Ministry of Public service and District veterinary officers were given the influence level of 3. The Uganda veterinary board and association were given the level of influence 2, because they are not vibrant in decisions concerning veterinary services. There are very few members who have registered with the veterinary board and association and financial resources are limited. Paraprofessionals were given a rating of 1, because they are not organized and most of them do not have the required training to practice veterinary medicine.

**Figure 2: Influence level of actors in the Integration Process**

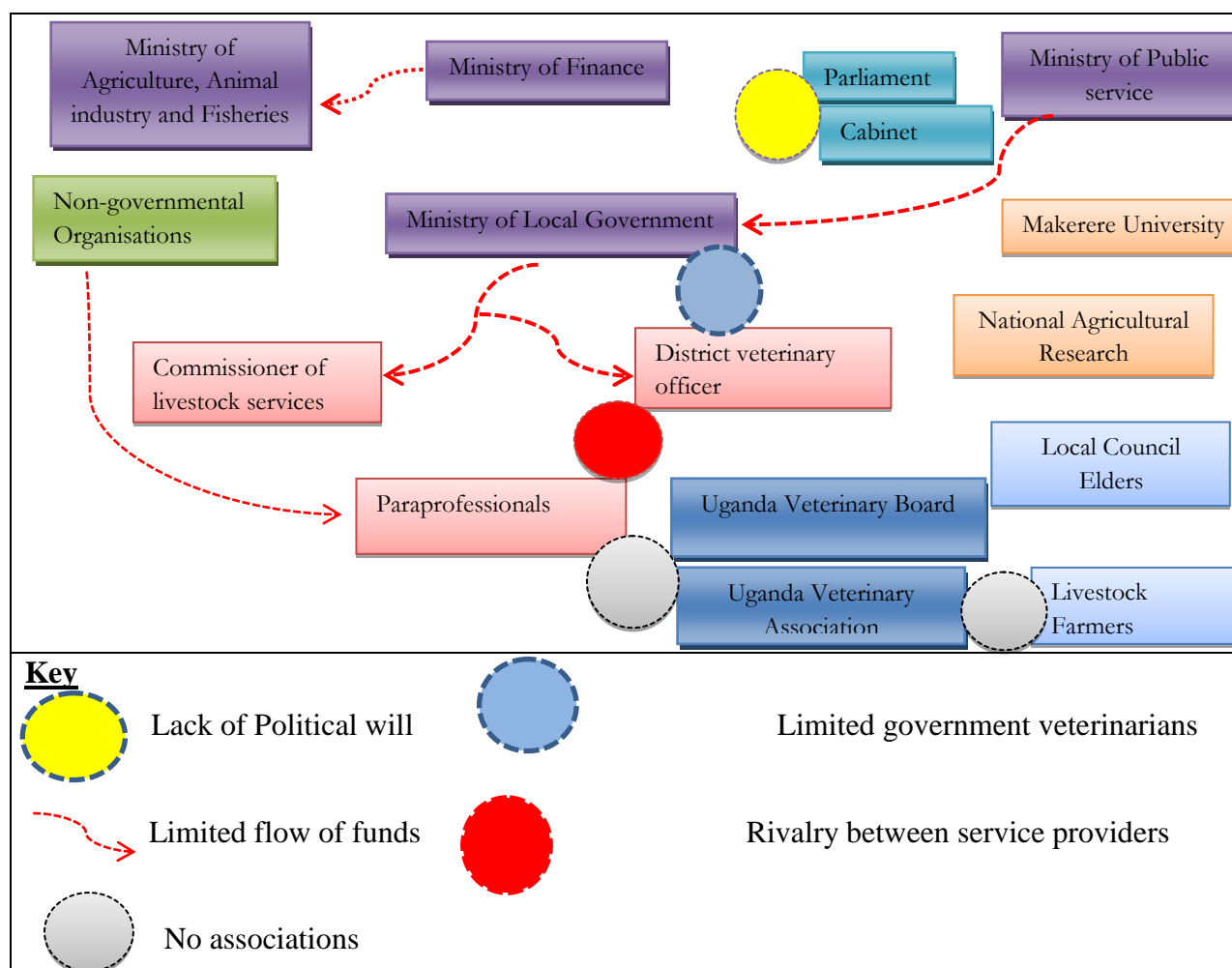


Source: Author, 2012

### **Problem areas in the integration process**

The main problem identified was limited financial resource flow from the government to the agricultural sector. Many respondents acknowledged that funds which are allocated to the agricultural sector are relatively small compared to other sectors like the business infrastructure, security and health. Also, non-governmental organisations supporting paraprofessional activities have cut their funding as many international donors have been experiencing financial hard times (see broken red arrows in figure 3). Another problem identified was lack of political will whereby farmers, veterinarians, paraprofessionals and other stakeholders have no effective political representation and depend on elected politicians who invest in short-term animal health policy interventions because they can be forced to account for their actions. Respondents noted that the reason why the paraprofessional's bill have not been passed in parliament is because when parliamentarians are voted by their counties, they forget to represent their constituencies but rather think of their own personal gains and when they come back to seek for re-election, their communities still support them. Challenges stem from poor working relationship between government veterinarians and paraprofessionals especially in Mukono. Many respondents in study area acknowledged that government veterinarians always see paraprofessionals as subordinates while Paraveterinarians see government veterinarians as colleagues. Limited number of veterinarians especially in pastoral areas limits supervision and regulation of paraprofessional's activities. In addition, non-existence of paraprofessionals and farmer groups to lobby for paraprofessionals integration is yet another main problem in the integration process. This is worsened by the existence weak veterinary associations and board. This limits the prospects of lobbying politicians to integrate paraprofessional within the formal veterinary association.

**Figure 3: Problems in the Integration Process**



Source: Authors, 2012

### Constraint's to paraprofessional's integration in pastoral communities

As shown in table 1, respondents identified five constraints to the integration of paraprofessionals into the formal veterinary systems and they include; lack of political will and poor political representation, low level of education of paraprofessionals and their poor organization, insufficient funding and the cultural practices. Results from pair-wise ranking show that, lack of political will and poor political representation was ranked as, the main challenge of integrating the paraprofessionals in to formal veterinary systems. One of the respondents stated that: "Pastoral communities have few intellectuals and few representatives whose voices are hardly heard in parliament. They do not have an influential person in the ruling party to convince members of the parliament to prioritize the pastoral policies. One respondent said "Our representatives that we send to parliament due to inferiority complex, fails to push for policies that are of relevance to their population and thus seek for their interests". Low levels of education were ranked as the second most important constraint to integration of the paraprofessionals to formal veterinary system. Cultural practices and beliefs

of the farmers were considered as the third important constraint. Farmers in the pastoral communities prefer traditional medicine. Their willingness to pay for veterinary services is very low because of the general perception that veterinary service should be provided by government. When compared with the insufficient funding, cultural practices were ranked as less of a constraint to integration process relative to funding. Absence of the paraprofessional organizations was ranked as the fourth constraint because, with low levels of education it is difficult to organize paraprofessionals and most often even when they try to organize themselves, they are weakened by politicians. Inadequate finance was recorded as least problem because respondents believe that with political will and right policies, financing will not be a problem.

**Table 1: Pair-wise ranking in Amudat district.**

Limitations	Limitation Number					Score	Rank
	1	2	3	4	5		
<b>1.Political will</b>		1	1	1	1	4	1
<b>2.Insufficient funds</b>			3	2	5	1	4
<b>3.High rate of illiteracy</b>				3	3	3	2
<b>4.Cultural malpractices</b>					5	0	5
<b>5. Absence of Service provider associations</b>						1	3

Source: Authors, 2012

### **Constraints to paraprofessional integration in semi-intensive systems**

In semi intensive production systems, respondents ranked inadequate finance as the main challenge to the integrations process see table 2 below. Financing of the veterinary sector is poor. According to the respondents, in post liberalization era, veterinarians are supposed to focus on supervisory role. Unfortunately, in most cases they are not facilitated and lack the transport and fuel to perform official duties. This has demoralized most veterinarians and most of them have lost interest in pushing for veterinary policy reforms and have decided to undertake private business. Lack of political will and poor legislation was ranked as the second most important constraints. The legislation policy in Uganda does not include recent developments in veterinary professions. The existing veterinary legislation is that of 1958

Veterinary Surgeons act that recognizes only holders of degree or diploma in veterinary science awarded by any recognized university. It does not for example consider the certificate holders retrenched during structural programs in 1980s and the emergency of community animal health workers especially in marginal areas. This is because of lack political will. As one respondent remarked that; “In 2003, the paraprofessional and veterinary bill was drafted and sent to parliament but it has not been considered for debate in parliament up to date. The policies regarding veterinary legislations are not of interest to Ugandan politicians, because they do not affect or influence voting outcomes” (Para-veterinarian, Mukono, October 2011).

The absence of strong the veterinary board and veterinary association was ranked as the third constraints to integration of the paraprofessionals to formal veterinary system. Very few veterinarians and veterinary assistants are registered with board and are members of veterinary association. Infact most of Para veterinarians are not aware of the existence of the veterinary board and veterinary association some of the respondents remarked that “We do not know the role of the Uganda Veterinary Board or the Uganda Veterinary Association because the laws governing the veterinary system are non-existent. Their regulations have not been respected according to the veterinary law because they have been quiet for long” (Para-vet in Mukono, October 2011). Limited institutions for training paraprofessionals and inadequate skilled paravets when compared together were ranked as equally important but overall, limited training institution was ranked as more of a constraint than inadequate skilled paravets. The only institution training veterinarians has been Makerere University School of veterinary medicine. The training of veterinary paraprofessionals in Uganda was by Veterinary Training Institute (VTI) but this was merged with Bukalasa Agriculture Training College to enable the implementation of the unified agricultural extension system mooted in 1994. This affected the training of paraprofessional in favour of agriculture. Most students decided to do general agriculture because the veterinary policy was weak and the students stood a better chance working as crop extensionists and could offer private veterinary services.

**Table 2: Pair-wise ranking in Mukono district**

Limitations	Limitation Number					Score	Rank
	1	2	3	4	5		
<b>1. Lack of Political will and poor legislation</b>		1	1	4	1	3	2
<b>2. Inadequate skilled Para-vets</b>			0	4	4	0	5
<b>3. Limited training institutions</b>				4	3	1	3
<b>4. Inadequate finance</b>					4	5	1
<b>5. Weak veterinary Institutions (Veterinary Board &amp; Assoc.)</b>						0	3

Source: Authors, 2012.

### ***Perceptions on best integration approaches***

As seen in table 3 and 4, four approaches of integration were compared and scored with the selected parameters (affordability of services, accessibility, acceptability, improve quality of services, supervision and monitoring and cost of co-ordination). These integration systems were: High Integration System, where the state veterinarian completely supervises and controls paraprofessionals and they are paid a monthly salary; Moderate Integration System, where the state veterinarian supervises the paraprofessional and they are paid an allowance after offering government services like vaccination. Low Integration System is a case where the state veterinarian does not supervise paraprofessionals, but can hire their services. No Integration System is a situation where the state veterinarian does not supervise or control paraprofessionals and does not hire their services.

Results from the pastoral district of Amudat revealed that in terms of ensuring effective coordination, quality, access to both information and drugs, the high integration was considered as the best approach. Both the high and moderate systems according to some of the respondents had the potential of increasing affordability of livestock services. The challenge for high integration system is the rise in coordination costs and administrative costs. Because of the fiscal challenges faced by both central and local governments, the high integration systems will not be feasible or acceptable by policy makers. The moderate integration system was ranked as the most feasible and acceptable system because it reduces

budget constraints and has a good legislation that gives veterinarians the incentive and motivation to undertake supervision and regulatory services. Overall, the moderate integration system was recommended by most of the respondents in the pastoral areas of Uganda as indicated in the remarks below.

- Let us not “daydream”; given the current existing conditions, the government cannot integrate paraprofessionals in to the veterinary system. The best we can hope for is the moderate integration system for the pastoral and rural areas. We will need diploma holders in veterinary medicine in sub counties other than degree holders (Focus group discussion Amudat, Uganda, September 2011).
- From my own point of view, the best integration system for Amudat and Nakapiripirit districts is the moderate integration system. As a veterinary officer, I have worked with community-based animal health workers, selected them for vaccination campaigns and have paid them after services. However, our challenge is that we do not have power over the community-based animal health workers and we always have to depend on NGOs for financial support to pay them (Government Veterinarian, Uganda, and September 2011).

The low integration system was ranked as third but had the highest score on acceptability and feasibility than the high integration system. The moderate integration system was scored highly but the low integration system was viewed as the ultimate in terms of feasibility regarding the financial circumstances. It was not acceptable by the farmers because of poor quality of services involved with the system as observed below:

- The situation that prevails now is what we call the low integration system that has allowed many quacks to operate. Animals suffering from CBPP are being treated with human tetracycline capsules, cooking oil and animals are dying because of either under dosing or mis diagnosis and prescription (Focus group discussion Amudat, Uganda ,September 2011)

The no integration system was scored least in all aspects and was not generally acceptable. We would expect low and high integration system to be ranked highest under coordination costs, but failure costs in coordination, supervision and regulation of veterinary services are too high for the local government and national economy. Thus, the moderate system was considered as most appropriate system of integration of all the four with score of 56 as seen in table 3.

**Table 3: Matrix-scoring for Amudat District**

Parameter/Integration system	Types of Integration Systems			
	High Integration	Moderate Integration	Low Integration	No Integration
Affordability of services	7	7	3	2
Improve quality of services	8	7	2	0
Access to drugs	7	7	2	0
Access to service providers	8	7	3	1
Access to information	8	7	2	1
Supervision and Monitoring	8	7	3	2
Acceptability/ Feasibility	3	9	7	1
Cost of co-ordination	5	7	1	0
Total	54	56	23	7
Overall rating	2	1	3	4

Source: Author, 2012

Results from Mukono district in Uganda revealed that in terms of improving the quality of veterinary services, making them affordable and ensuring sustainable supervision and regulation, the high integration was scored as the best system. Moderate and high integration systems were scored as equally important in increasing access to information and service providers. However, in terms of access to drugs, costs of coordination and administrative and fiscal feasibility or acceptability, the moderate system was scored as the best and the most appropriate system as show in table 4. Overall, the moderate integration system was recommended as the best approach of integration because it is generally acceptable by policy makers and improves the quality of service delivery as observed below:

- One of the reasons why the government has not been able to implement promotions under public service and other reforms in public sector has been because of budgetary constraints. Adapting the high integration system will be an additional burden. The moderate system will be the best because it helps to reduce the problem of budgetary constraint and saves funds for the government veterinarians to do supervision and regulations but this requires strong legislation. (Veterinarian, Mukono October 2011)
- The moderate integration system, because we can offer services to farmers and they pay us, the communities will continue to demand for livestock services and trust can be established and we can offer our services to government when they need us (Para-veterinarian, October 2011).



The low and no integration systems scored third and fourth respectively and in all parameters they were scored differently from the overall score. Unlike in Karamoja region where the low integration was feasible and acceptable than the high integration, in Mukono district, the low integration system is generally not acceptable; but exists, because people have no choice. In both Mukono and Amudat districts, the results revealed that both the low and no integration system are not preferred and high integration will be the best approach but not feasible (see table 4). The moderate system is preferred because of the need for quality services, increase access and administrative or political and fiscal feasibility.

**Table 4: Matrix scoring for Mukono district**

<b>Parameter\ Integration systems</b>	<b>Types of integration systems</b>			
	<b>High Integration</b>	<b>Moderate Integration</b>	<b>Low Integration</b>	<b>No Integration</b>
Improve quality of services	8	6	1	0
Access to drugs	6	8	3	1
Access to service providers	6	6	3	1
Access to information	8	8	4	0
Affordability of services	10	5	1	0
Acceptability/ Feasibility	4	10	4	2
Supervision and Monitoring	8	6	2	0
Cost of coordination	5	9	2	0
Total	49	58	21	4
Overall rating	2	1	3	4

Source: Author, 2012

## Conclusion

Integrating paraprofessionals into the formal veterinary service delivery system would not only increase livestock productivity, but also improve animal health care system and increased income for households. This paper answers the following questions; who are the influential actors in the integration of paraprofessionals into the veterinary system? What are the problems to the integration of paraprofessionals? Which is the ideal integration approach for the study areas? To answer these questions, it was necessary to look at the different livestock production systems and the newly created and long established districts, in which Amudat and Mukono districts were chosen. Based on the results of the process influence map, the two most influential actors in the integration process were the Ministry of Finance and the Ministry of Agriculture, Animal industry and Fisheries. The main objective of this paper was based on assessing the constraints involved with integrating paraprofessionals into the formal veterinary service delivery system. The following outcomes were observed:

*Lack of Legal support for paraprofessional's activities:* The legal environment to support integration of paraprofessionals does not exist. This is because of the weak nature of the Ugandan veterinary board and association and no support from politicians.

*Financial constraints:* The amount of money allocated for veterinary activities is small and funds from international donors supporting livestock policies are dictated for international interest.

Limited government veterinarians in counties and sub-counties due to low pay, lack of incentives, inadequate social and communication facilities coupled with insecurity.

*Competition amongst veterinarians and paraprofessionals.* While Para-veterinarians see their counterparts as colleagues, veterinarians consider Para-veterinarians as rivals.

## Policy Recommendations

In order to overcome these challenges and find a lasting solution to paraprofessionals' legal recognition, the following recommendations were proposed:

*The veterinary surgeon act and paraprofessional's bill must be passed in parliament.* The Ministry of Agriculture should mobilize the media, NGOs and facilitate the veterinary board to pressurize veterinarians and paraprofessionals to demand for paraprofessional's legalisation.

*The veterinary board and association have to be strengthened:* The government needs to financially support the activities of the veterinary board and the veterinary mandate has to be upgraded for review by the Ministry of Agriculture.

*Taking veterinary education closer to the people:* The government needs to establish veterinary training institutes in partnership with higher institutes of learning and NGOs.

Politicians, NGOs, Ugandan Universities and ministry of Agriculture should promote and provide opportunities for paraprofessionals and veterinarians training.

*Financial management and budgetary allocation:* More prudent financial management approaches need to be adopted and policy makers need to increase budgetary allocations to the livestock department and particularly, the veterinary sector.

*Implementation of the moderate integration system:* In view of all the above challenges, we propose that the government of Uganda should try to implement the moderate integration system in the delivery of veterinary services.

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