

EVALUATING FACTORS THAT AFFECT THE VIABILITY OF PRIVATE ANIMAL HEALTH PRACTICES IN KENYA

Dr. Christopher Humphrey Wanga (BVM, MPH) OGW

Masters of Business Administration Student, Jomo Kenyatta University of Agriculture and Technology, Kenya

Dr. Cecilia Ritho PhD

Senior Lecturer, College of Agriculture and Veterinary Sciences of the University of Nairobi, Kenya

Dr. Agnes Njeru PhD

Lecturer, Jomo Kenyatta University of Agriculture and Technology, Kenya

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ABSTRACT

This study was a descriptive cross sectional survey that was conducted in Kenya among the randomly selected sample of veterinarians between April and July 2013. The study involved a two stage sampling where 63 individual respondents were recruited. Questionnaires were the main tools used for data collection coupled with key informant interviews. Out of a total of 2512 registered veterinary surgeons in Kenya, only 254 were licensed to carry out private animal health practice. Most respondents identified challenges to establishing a practice to include high capital outlay, uncertainty on viable practice areas, dependence on employment, lack of role models and inadequate information during training and on graduation which discourages young graduates from engaging in private practices. 98.1 % of the respondents preferred setting up practices in rain fed areas with only 1.9 % preferring the arid and semi arid areas. Savings were the most preferred source of capital for starting a private practice at 42.6% followed by family at 40.7% with loans accounting for just 12.9%. Debts were identified as the largest hindrance to sustainability of private practices by 74.1% respondents, while inadequate clients account for 16.7% of encountered challenges. The study recommended creating an enabling environment for the private sector through the use of credit, sanitary mandates, and legislative reform that reduces barriers to private supply of veterinary services and mapping the whole country into viable veterinary private practice units. Further, special financial incentives and credit schemes that can encourage new veterinary graduates to the private sector should be set up. The information that has been generated shall help policy makers in improving delivery of animal health services in Kenya while promoting sustainable livestock based livelihoods and a vibrant economy supported by a well developed animal resources industry.

Key Words: Viable Private Animal Health Practice

Introduction

Globally formal veterinary practice has been in place since over 250 years back when the first veterinary school was established in Lyon, France. To date global veterinary services are governed under the World Animal Health Organization regulations and standards (Vallat, B., 2013). In the earlier years up to independence, provision of clinical and advisory services almost entirely involved servicing commercial ranches and dairy farms (Chema and Gathuma, 2004). The public sector veterinary responsibilities were predominantly associated with the prevention of notifiable diseases outside the commercial ranches (Chema and Gathuma, 2004). Private veterinary practice has existed in Kenya for more than half a century and was legitimized in the Veterinary Surgeons Ordinance enacted in 1951 and later renamed Veterinary Surgeons Act Chapter 366 of the Laws of Kenya now reviewed to Veterinary Surgeons and Veterinary Paraprofessionals Act No. 29 of 2011. The Act creates the Kenya Veterinary Board (KVB) mandated to regulate the veterinary profession involving veterinary surgeons and veterinary paraprofessionals. The expansion of private veterinary practice in Kenya is closely linked to the development of the commercial livestock industry. From the early 1930s to the mid 1960s, two distinct livestock systems could be distinguished. The first was a minority dominated, but politically powerful, commercial beef and dairy system that developed strong marketing structures with ambitions of ultimately establishing export outlets, while the second was a 'traditional', subsistence orientated system with a large component of pastoralism. Private veterinary practice, involving the provision of clinical and extension services, was mainly concerned with servicing commercial ranches and dairy farms located in an area of the country designated as the 'White Highlands' while a small clientele was located in urban centers. Kenya then possessed twenty laws with a veterinary focus, some have since been repealed reducing them to seventeen see Annex 4, (Chema and Gathuma, 2004; Wamukoya et; al., 1995).

After the end of the colonial administration in 1963, most private practitioners left the country and a decision was taken to transfer the responsibility of providing private good services such as clinical services to the public sector through the DVS that now had responsibilities beyond its statutory obligations. This was accompanied by a significant expansion of training and the deployment of both professional veterinarians and veterinary para-professionals. The provision of clinical services by the Department of Veterinary Services was not intended to be a permanent feature and was to last until the output of veterinary graduates destined for private practice was adequate. The DVS thus became a provider of veterinary clinical services as the government invested heavily in the training of both professional veterinarians and veterinary paraprofessionals countrywide (Chema and Gathuma, 2004). Thus a tenfold expansion in the output of veterinarians—and a corresponding increase in para- veterinarians (diploma and certificate holders) were observed. The latter worked under the supervision and delegated responsibility of veterinarians (VSVP Act, 2011). Due to a deficit in the numbers of veterinarians in public service, the government undertook to employ all veterinarians from Kenya who graduated locally or from foreign universities accredited by the KVB. By 1988, personnel remuneration had escalated to over 80% of the recurrent budget, leaving little financial resources for

operational expenditures. This necessitated a policy change, which led to decreased government involvement in the delivery of animal health services (Wamukoya et; al., 1995).

Importance of animal health (veterinary) services

Veterinarians offer animal health services that can be classified into four categories thus: curative services, particularly the diagnosis and treatments of sick animals; preventive services through vaccination to stop the emergence and spread of diseases, vector control and other control measures such as quarantine and forced slaughter of affected animals; production and distribution of veterinary pharmaceuticals and human health protection such as sanitary inspection of animal products (Rushton, 2009). Public and private animal health services technically serve the Livestock Sector that contributes over 12 per cent to the Gross Domestic Product (GDP) in Kenya and provides over 50 per cent of the agricultural labour force. Animal health services guarantee livestock, fish and wildlife health. It is essential to note that wildlife resources contribute directly and indirectly to the national economy through tourism earnings. In addition, animal health services safeguards fish health where the Fisheries Sector has the potential to contribute significantly to the National economy through employment creation, foreign exchange earnings, poverty reduction and food security support (National Livestock Policy, 2008; ASDS, 2010). Animal health services safeguards public health by tracking animal diseases transmissible to man. Close to 60% of human disease causing organisms (pathogens) are of animal origin, 75% of emerging diseases that can be transmitted to humans and 80% of disease causing organisms that could potentially be used for bioterrorism are of animal origin. It is important to consider this direct link between public health and the work of animal health services in protecting human and animal health by controlling the pathogens that cause diseases in animals. At the same time, these services ensure an adequate supply of good quality food of animal origin for all (Holden and Chema, 1996; OIE, 2004)

Statement of the problem

Business based studies that relate to animal health practices have been very limited in the past. In spite the huge population of Livestock in Kenya (Table 1 below) and other domestic animals that require veterinary care, the numbers of animal health private practices have not grown to address this need. Instead substantive numbers of new and existing veterinary medicine graduates remain jobless or underemployed as the government and other non state actors fail to address this challenge. Holden and Chema (1996) in a study reported appreciable shortages of animal health service providers' countrywide save for the cities and major urban centers and yet annually several veterinary surgeons graduate.

Objectives of the Study

1. To determine the effect of barriers to establishment on the viability of private animal health practices.
2. To examine the challenges that affects the viability of established private animal health practices.
3. To assess the impacts of climate and location on the viability of a private animal health practices.

Literature Review

Diseases of animals as an economic process

Economic analysis takes account of the monetary benefits and benefits of controlling disease. Cost benefit analysis techniques are widely used for determining optimal economic choices at the farm level, clinic or nationally. Veterinarians practicing in the livestock sector continue to control and treat disease in individual and herds of animals. Diseases of animals are also being considered directly in relation to their effect on production. Animal disease therefore has economic as well as biological impacts since it affects the well being of people by causing the quantity of resources to be of lower quality or quantity. Disease in animals reduces the quantity and or quality of animal products available for human consumption such as meat, milk and reduced companionship of pets (McInerney, 1996).

Disease increases costs in two ways. First because resources are being used inefficiently, the products actually obtained are for an unnecessarily high resource cost while in the absence of disease the same or more output could be obtained for a smaller or same amount of expenditure of resources. Secondly, there is a cost to people who are deprived because they have fewer, or lower quality, products to consume, that's they obtain lower benefits. In this theory, livestock production is considered as a physical transformation process that is impaired by disease in a variety of ways such as: Destruction of basic resources through death of breeding and productive animals; Reduction of physical output of a production process or its units of value such as milk; Lowering efficiency of production process and the productivity of resources used such as reduced growth rates; Lowering the suitability of livestock products for processing or generating additional costs in the distribution chain such as drug residues; Affecting human well-being directly through zoonotic infections such as brucellosis and anthrax; Generating more diffuse economic effects that reduce the value of livestock to society such as constraints on trade and tourism, concern for poor food quality and animal welfare (Thrusfield, 2005).

Public and private goods

Animal health services can be broadly classified into two categories as public goods provided for by the government or private goods provided by the private practitioners with attendant economic characteristics. In practice, few veterinary services are purely public or private goods most contain elements of each. Thus, some services may have a high private good element but at the same time confer significant public benefits. (Thrusfield, 2005; Rushton, J. 2009). Although vaccination against some endemic diseases can confer positive benefits to other livestock by lowering the risk of disease infection, the private benefits of vaccination against endemic disease usually outweigh the benefits to others. The service can therefore be classified as being a 'largely' private good. These services have relatively high excludability where non fee payers can be denied access to most of the benefits of the service and high rivalry where the consumption of the service by one user will diminish availability of the service to other users. These services can therefore be paid for by the end user (Holden 1999). Toll goods may also be financed by the end user. Services with toll good characteristics include vaccine production units, diagnostic laboratories, veterinary clinics and dipping facilities, all of which may treat several animals or

process several samples at one time (i.e. low rivalry) but can exclude non paying users from the service (high excludability). The consumer can therefore pay for these services. In certain situations, however, the capital costs associated with the establishment of laboratories, clinics or dips may deter private sector financing particularly in areas where demand is low or uncertain. In these situations some justification exists for the public sector to co finance the establishment of diagnostic, dipping and clinical facilities. Veterinary services that are most likely to be financed by the private sector are those with either a strong private good or toll good element (Holden, 1999).

The principal criterion used to define public versus private sector financing in disease control is the degree of 'externality' associated with the disease, and where that externality occurs. Externalities will include the spillover effects from disease control that can arise when the control of a disease or lack of it results in a significant benefit or loss to the wider population (in other words, the benefits of the control of epidemic disease are nonexcludable (Holden, 1999). The degree of externality associated with a disease will depend on the nature of the disease (mainly in terms of rapidity of infection) and the relative levels of occurrence of the disease on different sides of various local, regional and national boundaries. Private entrepreneurs are reluctant to provide services classified as public goods since it is difficult to make sure that all beneficiaries pay for them. Therefore public goods services may be underprovided by the private businesses or they may not be provided at all irrespective of whether the benefit to society outweighs the costs of provision (Ahuja, 2004). Pure public goods services exhibit two qualities: that of being non rival or non excludable in consumption since their use or enjoyment by one person does not detract that of another; that of non excludability since it is difficult or impossible to exclude other people from using the good or service once it has been provided by anyone whether they have paid for it or not. Private goods are rivalrous and excludable (Leonard, 2004). However, the relative efficiency of the private sector can be greatly reduced if competition between service providers is lacking, or if consumers are unable to assess the quality of the services received. The presence of either or both of these conditions can lead to 'market failure', a condition which has often been used to justify state delivery of private good services. The state can, however, intervene in other ways to remove the causes of market failure. Regulation may be used to set conditions of competition, pricing and quality standards and to provide information to consumers on the quality of services provided by different private sector suppliers (FAO, 1997)

Barriers and incentives to starting private animal health practices

For the private sector to perform effectively, conditions of free entry and free exit from the market place must exist. The private sector operates optimally when restrictions to entering into private practice are minimal, and once operating in the private sector, no protection is afforded to inefficient suppliers to protect these suppliers from bankruptcy allowing a free exit (Anon, 1998). Legislation that governs rights to use drugs and vaccines need to be revised to ensure that private veterinarians are able to provide a wide range of services. For example, some countries prohibit the sale of vaccines through private channels, thus reducing the potential source of income to private animal health practices (AHP's), (Umali et al., 1994).

A key requirement of entry into the private sector is the issue of professionalism, where rights to treat animals are limited to veterinarians due to competence based on training. This has raised the price of clinical services beyond the purchasing power of small-scale farmers, reduced competition and restricted the development of private practice to high-value markets in peri-urban areas (Holden & Chema, 1996; Wamukoya, 1995). One of the most important stimuli to private sector development in many countries has been the withdrawal of the state from the delivery of private good services as evidenced in the two sectors that have traditionally been ignored by the state services: the poultry and pig industries that have generally well developed private sector delivery systems (Umali et al., 1994).

Alternatively, the state can ensure a 'level playing field' by charging full cost recovery to ensure fair competition. Cost recovery is popular with many State Veterinary Services as it provides a ready solution to budgetary problems. In practice, full cost recovery is difficult to implement because, firstly, few state services know the true costs of providing a particular service and secondly, farmers are usually unwilling to pay for government provided services, arguing that they have already paid for the service through taxes (Umali et al., 1994).

Credit and special financial incentives can be used to encourage new veterinary graduates to set up private practices. Many countries have introduced special credit schemes to encourage new entrants to the private sector. Soft credit concessions have been a useful tool to encourage private sector growth such as was done in Kenya in the 1990's (Wamukoya et al., 1995). Newly graduated veterinarians have established practices with the support of a European Union (EU) funded credit scheme that was known as Kenya Veterinary Association Privatization Scheme (KVAPS) since 1994 now transformed into Kenya Livestock Finance Trust (KLIFT) (Wanga and Kungu', 2007).

In some cases, services with toll good characteristics such as clinics or dips may need to be financed by the state, but managed by the private sector. These facilities can be awarded on a competitive basis to the private sector, with management contracts reviewed periodically to ensure competition between service providers. Most types of veterinary services are amenable to private sector financing, through either 'user pays' fees or levies applied to the livestock industry. The private sector can thus play a valuable role in overcoming the financial constraints that currently limit the quality and availability of services in countries where state delivery predominates. (Anteneh, 1985; Fassi and Bakoury, 1995).

Private animal health practice opportunity in Kenya

Animal health services (AHSs) are price inelastic since the quantity of services demanded changes very little, if any, in response to changes in price as these are essential services in a market characterized by imperfections with no substitutes but a limited variety of competitors (Dijkhuizen & Morris, 1997). Imperfections of the market arise due to impediments which prevent a free market arising from information costs, specialized skills, monopoly power,

externalities and public goods. The type of market structure in which a firm operates, in particular the existence of entry barriers to the market, the strength of demand and the marketing techniques employed to promote sales are all potential influences on the level of profit that may be achieved by the firm (Rushton,2009).

However, despite several years of attempts at privatization, the role of the private sector in many developing countries has remained largely unchanged, and relatively little evidence has been reported to suggest that the delivery of veterinary services has improved (Holden and Chema, 1996). It is now recognized that the delivery of animal health services cannot be improved solely through privatization but through efficient service delivery requires a degree of 'organizational pluralism', where both the public and private sectors have roles to play in service delivery (FAO, 1997). The opportunities in the livestock sector for animal health practice are enormous considering the Kenyan livestock population (see table 1).

Table 1: Livestock Population as at 2009 in Kenya

	Exotic Cattle	Indigenous Cattle	Sheep	Goats	Camels
KENYA	3,355,407	14,112,367	17,129,606	27,740,153	2,971,111
NAIROBI	25,536	29,010	34,717	46,837	20
CENTRAL	800,227	325,678	664,237	531,209	231
COAST	74,119	885,846	467,439	1,570,728	51,045
EASTERN	373,307	1,886,854	1,890,898	4,729,057	248,634
NORTH	80,422	2,694,786	4,264,155	7,886,586	1,700,893
EASTERN					
NYANZA	221,670	1,527,000	495,055	961,269	59
RIFT	1,560,222	5,919,585	9,079,380	11,750,521	968,192
VALLEY					
WESTERN	219,904	843,608	233,725	263,946	2,037
	6,710,814	28,224,734	34,259,212	55,480,306	5,942,222
TOTAL					

Source: Kenya National Bureau of Statistics (KNBS).

The state can play a pivotal role in creating an 'enabling environment' for the private sector, although to date this is an area that has commonly received relatively little attention in economic reform programmes. The failure to create an enabling environment for the private sector has been an important factor that has limited the successful privatization of veterinary services (Schillhorn, 1994). As previously noted, in most developing countries the government remains the predominant provider of veterinary services. However, a growing body of empirical evidence exists in other sectors to suggest that the private sector is able to supply services more efficiently and effectively than the public sector, irrespective of the economic nature of a particular service (De Haan and Bekure, 1990).

Viability of animal health practices

The viability of a business is measured by its long-term survival, and its ability to have sustainable profits over a period of time. If a business is viable, it is able to survive for many years, because it continues to make a profit year after year. The longer a company can stay profitable, the better its viability. Core concepts of economic viability include profit, ethical viability, sociological viability, manageability, system viability, relationship between system and environment. Sustainability focuses on resource consumption, social mandate, environmental impact and political support. For many enterprises, since viability is ultimately linked to profit, even if the business is not currently profitable perhaps it is in the early stages of development, undergoing a growth spurt, or just going through a bad patch there is an expectation that it will be profitable at some future date. The expectation of future profit justifies continued investment. Increasing revenues can be accompanied by increasing the number of appointments seen or procedures performed, increasing the average client transactions or a combination of the two (Anon, 1998).

The most efficient way of increasing revenues is to see more patients and to charge appropriately for those services. Increasing the number of services offered at each visit can increase profits such as in addition to clinical examination of a patient, one conducts blood profiles, radiographs and electrocardiogram as well. However the extra services must provide true value for the clients and patients. While most practices may be content with whether there were more vaccinations and number of clients this year than last, the successful practices of the future will need to be more proactive to develop strategic plans covering 2, 3, 5 or even 10 years into the future. Strategic planning is the lifeblood of all businesses although it has largely been neglected in the veterinary practice. Accordingly veterinarians are forced to react to industry pressures rather than proactively manage them through an efficient management system that increases the return on investment. The majority of the staff involved in strategic planning will focus on keeping their score, continuous improvement and upgrading their capacities, (Anon, 1998; Ackerman, 2003).

The private animal health practice operates via a market economy type of system where resources are allocated through the price mechanism. Both money and markets play important roles in modern market economies. Businesses operate with scarce resources and have to make good use of these resources in order to make profits. Firms have to pay for the resources they use and make profits only if they can sell services or products for more than they cost to produce (Dijkhuizen & Morris, 1997).

Research Methodology

Research design and population

The study is a descriptive cross sectional survey. The research population consisted of all graduates of Veterinary Medicine since 2002 to 2011 and registered with totaling 472 with those targeted being part of the 254 licensed to practice.

Sampling

A two stage sampling involving an initial stratified random sampling followed by simple random sampling was undertaken. Key informant discussions were held. For a descriptive research at least 10% of the accessible population which is 472 thus 47.2 is sufficient (Mugenda and Mugenda 2003). In this study a sample of sixty three (63) registered private veterinary surgeons selected.

Data collection

Questionnaires were the main tools used for data collection coupled with key informant interviews. Structured questionnaires comprised of the sections on the socio-demographic profile, barriers to entry into the animal health practice businesses, type of animal health practice, visitation and retention of clients by private animal health practices, measurement of performance of private animal health practices and the human factors essential for operating successful private animal health practices. Confidentiality of any personal information obtained during the entire study was maintained. Key informant discussions were held with the Registrar of the Kenya Veterinary Board, the Dean Faculty of Veterinary Medicine University of Nairobi and opinion leaders to obtain essential background information on the study population. The questionnaires were pretested to establish their consistency among a purposively selected sample of ten Veterinary Surgeons during a Kenya Veterinary Association Central Conference in Nyeri in February 2013; a group was later excluded from the study.

Data processing and analysis

Data obtained from the field was cleaned, coded, stored and analyzed. Both qualitative and quantitative data information was deciphered for analysis. Statistical Package for the Social Sciences (SPSS) package was used for analysis. Qualitative results from the questionnaire were analyzed by identifying the key responses and recording them. Descriptive statistical techniques including frequency distributions such as tables, bar charts, polygons and histograms and percentages were used to report the findings. Non Parametric tests such as the chi-square tests were used to analyze the categorical data. Key informant data was analyzed quantitatively and qualitatively.

Research Results

The dean of the Faculty of Veterinary Medicine, University of Nairobi reported from the enrolment records that a total of 472 veterinary surgeons comprising of 117 females and 355 males had graduated between 2002 and 2011. A total of 63 respondents were interviewed in this study consisting of 79% males and 21% females as shown in Figure vi and Table 5 as a sample of those engaged in private practice from the 472 graduates from 2002 to 2011. Kenya has had only one Veterinary School in Kenya up to 2012, Egerton University started offering a degree in Veterinary Medicine. The Kenya Veterinary Board (KVB) enforces the regulation of the veterinary practice by all stakeholders to ensure that standards are maintained and no quacks cheat unsuspecting animal owners. This information was obtained from key informants. There existed statistically significant differences between males and females and whether they had set up veterinary or private animal health practices ($\chi^2= 4.267$, d.f=1, p=0.039) as well as whether the practices were operational at the time of data collection ($\chi^2= 5.814$, d.f=1, p=0.016) at 95%

confidence interval. While fewer females enroll for veterinary medicine even fewer are inclined to establishing private practices. A statistically significant proportion of females compared with male respondents reported training to have been inadequate in preparing them for AHP on a chi-square test at 95% confidence interval ($\chi^2 = 6.21$, d.f=1, p=0.013).

Discussion

Distribution of respondents

By 1995, over 150 private veterinary practices had been established in Kenya, almost exclusively in rural farming areas where dairy cattle, pigs and poultry were kept and where the demand was highest (Chema & Gathuma 2004) and since then to date only about 100 new private veterinary practices have been established or registered since totaling 254 out of a potential registered total of 2512 as at July 2013. Only 9 % of registered veterinary surgeons are engaged in legal private practice, which definitely requires an explanation. There was a clear gender distinction on the basis of whether one operated a private animal health practice, as significantly lower proportions of ladies engage in private practice.

Factors influencing the establishment of a private animal health practice

Respondents identified in order of priority high capital outlay, uncertainty on viable practice areas, dependence on employment, lack of role models and mentors and inadequate information during training and on graduation which discourages young graduates from engaging in private practices. Most incomes from private animal health practices are not very attractive, a scenario that directly discourages uptake of practice by new veterinary graduates.

University training's capacity to enable one establish a private practice

As depicted in figure 3, 17% of the respondents said that their training had poorly prepared them for establishing private practice while 27% and 19% rated the training they received as adequate and very adequate respectively in preparing them for private practice while 37% rated the training as moderate. Ninety percent 90% of those who rated the training as moderate or poor in preparing them for private practice cited lack of entrepreneurial skills while, 24% listed business development including registration with government and taxation laws etc while 31% cited poor training in resource mobilization skills like capital sourcing and proposal writing. University training mainly focusses on technical skills at the expense of business which leaves graduates with the competitive market to learn from. Curriculum review is therefore critical for learners to learn business management in addition to core study areas. University training ought to prepare the graduates for the job market needs with most respondents finding their training inadequate to address challenges, there is an urgent need in curriculum review and retraining of the trainers since current syllabi is still based on preparing veterinary surgeons for employment as designed in the sixties. Female and male respondents had significant differences on their perception on how training prepares one for practice.

Preferred ecological zone to establish a private practice in Kenya

On preferred ecological zone to practice in as reported in figure 4, 98.1 % of the respondents preferred rain fed areas and a paltry 1.9 % preferred the arid and semi arid areas (Figure xi). An

earlier study revealed only a few new practices were established located in urban or peri-urban areas where mixed farm animals and pets can be found since virtually all were in areas with high agricultural potential. None were established in the arid and semi-arid (ASAL) districts, which constitute nearly 80% of the country and majority of the livestock units are found (Chema & Gathuma, 2004).

The cost of providing livestock services in pastoralist areas is disproportionately high because of high transportation costs and higher income levels expected by veterinarians. An overwhelming majority of the respondents in this study reported their unwillingness to practice in the ASAL areas creating a need for an affirmative action in terms of establishing incentives to encourage setting up private clinics while the government has an additional role to support animal owners through public services.

Sources of Income in establishing private animal health practices

Savings were the most preferred source of capital for starting a private practice at 42.6% followed by family at over forty percent (40.7%) with loans accounting for just 12.9%, see figure 5 above. In a similar study in 1995 covering 45 private veterinary practices, about half were found to have been established with personal savings, while contributions from family or friends and bank loans accounted for 22% each. Bank loans included personal commercial loans and special loans organized by the government to help university graduates from all disciplines and professions to set themselves up following the SAPs (Chema & Gathuma, 2004). This earlier findings were replicated in this study where the source of revenue for starting practice was mainly savings followed by family with financial institutions as sources of capital playing a minimal role which may explain why most new graduates opt for initial employment to raise capital funds when their families are unable to provide. Advertisement by making deliberate efforts to market animal health services had resulted in increased client base which brings in the need for appropriate regulations to support retention and acquisition of new clients without compromising the ethical code on advertisement of professional services.

Challenges affecting sustainability of animal health practices

As reported in figure 6 respondents identified quality and reliability as the most desired area of improvement for their practices 77.8%. About 13% recognized affordability as the critical area that requires improvement; 7.4% identified good customer relations and only less than 2% reported price of their services as an important area. Debts arising from credit owed by clients are the largest hindrance to sustainability of private practices reported by 74.1% respondents, while inadequate clients account for 16.7% of encountered challenges with poor equipment accounting for 5.6% respondents and poor returns at 3.7%. Time, operating costs, licensing, government levies, low uptake of services, expensive capital (credit services) are important challenges but not rated as high as the four listed above. On subjective choices by respondents on further challenges, government levies and licensing, operational costs and low uptake of services were identified as obstacles to successful operations of private animal health businesses. The respondents also identified other practices that negatively impacted on animal health practices and these included unfair playing field due to growing presence of unqualified veterinary

personnel/quacks, non standardized pricing for services and lack of or low client awareness of veterinary services and products. The respondents also said that other practices that negatively impacted on animal health practices included unfair playing field due to growing presence of unqualified veterinary personnel/quacks which has the effect, non standardized pricing for services and lack of or low client awareness of veterinary services and products which have the effect of creating inequality in the practice market. Factors that support the thriving of private animal health practice include extension and farmer education that lead to enhanced awareness, passion and good attitude in starting and upcoming practitioners, improved financial returns, improving infrastructure in most parts of the country, insecurity leading to many people owning dogs while food insecurity leading most people to own domestic animals for food production and income. Important factors that impact positively on the private animal health practice include extension and farmer education that leads to enhanced awareness. Others include passion and positive attitude by starting and upcoming practitioners, improved financial returns, improving infrastructure in most parts of the country, insecurity leading to many people owning dogs, food security needs leading most people to own domestic animals for food production and income. Requirements for purchase of equipment, rent and other infrastructure needs make capital outlay the biggest impediment to establishing a practice which can only be addressed through broad macroeconomic policies on affordability of credit. In order to address uncertainty on delineating viable practice areas, inadequate information during training and on graduation and proliferation of quacks offering unfair experience is the role of KVB to enforce the law (VSVP, 2011). Challenges arising from national laws such as taxation, licensing, veterinary regulations and low uptake of veterinary services due to low public knowledge and appreciation of importance of veterinary services can be addressed through relevant policy interventions. The principle of VLUs is essential and relevant currently as it was over a decade ago in determining where to site or license a new practice to ensure viability of the private AHP.

Conclusions

Sustainability of private practices is based on accessing the benefit of retaining clients making the clinic busy and improving one's reputation for a regular clientele ensuring continuous flow of income to enable the practice to meet its financial obligations. Improving the quality and reliability of service, good customer relations, affordability and pricing are critical factors to consider for a successful practice leading to the need for other skills for effective management.

The single most important hindrance to sustainability of animal health practices are debts owed by clients that occasionally translate to over half of monthly turnover and these poses a danger to their survival. High cost of credit, low uptake of services, taxation regimes and quality of practices also affect sustainability since they affect growth of businesses by discouraging investment. National programs and policies such as the SAPs that led to the government abandoning the animal health service delivery to an ill prepared private sector should be well thought out to avoid shocks on the livestock industry in future. Negative effects of liberalization need to be mitigated include inadequate regulatory control and enforcement over the quality of animal health inputs distributed and inadequate technical supervision to support private practice.

Recommendations

In order to remove barriers to entry and exit into private practice: The study recommends that the state services should assume a new responsibility of creating an enabling environment for the private sector through the use of credit, sanitary mandates, and legislative reform that reduces barriers to private supply, and facilitates the formation of collective action groups. Of foremost importance is the need for the state to withdraw from the delivery of private good services. Further training should comprise both business and technical skills to prepare the graduates well for the job market.

Considering the most predominant type of animal health practices set up over the last ten years identified, the study recommends mapping the whole country into viable veterinary private practice units that are capable of supporting and sustaining specific types of private practices.

On the factors associated with increasing visitation by clients to private animal health practices training packages for skills development shall be developed for veterinarians during training and after graduation while in private practice to enable them manage their practices well, improve customer care and provide the required quality of services. The practices should be encouraged to employ market segmentation to a degree focusing on the species of animals to be attended to.

On the economic factors affecting sustainability of the private animal practices the study recommends special financial incentives that can encourage new veterinary graduates to set up private practices and provision of special credit schemes also encourages new entrants to the private sector. Further contracting out of the supply of some public good services to the private sector is recommended. Animal insurance through the public-private partnership model is critical in guaranteeing returns to animal owners and subsequent viability of private veterinary practices. Further research is required to document business aspects that affect animal health practices which are inadequate. Livestock farmers in Africa struggle to access good quality services, inputs, effective knowledge and fair markets. Extensive misuse of drugs through poor diagnosis and mal administration of medicinal products exposes to risk animal welfare and human health. In arid and semi-arid areas donor-subsidized livestock products distort the market and inhibit the development of viable livestock service delivery businesses. Information on these and many other areas is necessary.

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