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Feasibility Study of Veterinary Services Privatization in Rural Sector, Case of Lorestan Province, Iran

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Abstract: Veterinary services are among the most essential needs of rural and even urban society. These services play a vital role in nutrition, hygiene and food security of society. Due to the geographical dispersion of villages, services variation, the execution of privatization policy and delegation of veterinary activities in the rural section this activity appears necessary. In Iran conditions Veterinary Council (IVC) as a non-governmental organization is a potential for implemented it. The purpose of this research is to possibility and the assessing fields using the IVC in the rural sector. This applied research was done by surveying. The statistical population consists of all members Lorestan province VC (BS and higher degree); the samples were selected by stratified sampling method. Data was collected through questionnaire that its validity confirms by expert panel and its reliability was measured by Cronbach's alpha that for any parts was obtained >0.9. The results showed the most functions for using the VC in rural sector are administrative, supervision, research and educational functions, respectively. Factor analysis of educational function can explained 79.65% total variances with names: consultative, training, extension and demonstration education.

Key words: Privatization, veterinary, rural areas, Iran Veterinary Council (IVC), consultative

INTRODUCTION

Undoubtedly, development and economic growth of any country depend largely on the development and growth of the agriculture section, especially livestock sub-section and the demand for livestock products is growing worldwide (IFAD, 2004). Animal husbandry is a critical issue for many developing countries (Braun, 2010). Livestock productions are very important from different aspects. Due to provide daily protein requirements; they have an important role inthe human physical health (Braun, 2010).

In this regard the livestock is a food source and in particular the protein for the human diet (Braun, 2010). Also this subsector of agriculture can be effective in the employment and in this way it affects income creation, sustainable, livelihood and eradicating poverty of society (IFAD, 2004; FAO, 2001). In addition to the mentioned effects andanimal sector has a role in ensuring the environmental sustainability in terms of the production of the organic fertilizers (Swanepoel *et al*., 2010).

For developing the animal husbandry sector delivery of livestock services quality and its availability are necessary (Imanazar *et al*., 2010). There are causes for the need for veterinarians and the suitable and enough veterinary services. Since the livestock farmers do not benefit from the ability of experienced experts and skilled livestock farmers, new techniques for exploitation of natural resources and lack of application the hygiene tips and management related to livestock, unfortunatelya huge amount of exchange is spent for importing food from other countries (Rezvanfar and Darabi, 2006).

Almost all of these cases are removable with on time intervention and guidance of veterinarians. With proper supervision and guidelines and training that they provide to the livestock farmers, veterinarians are able to take needed actions for observing hygiene principles in order to nurture healthy animals, improve the quality of the livestock breeds, providing the balanced and proper diet, prevent the prevalence of infectious diseases among livestock for reducing livestock losses, surgery, conduct the experimental researches for treating diseases of livestock (QAA, 2002), observe hygiene for producing healthy food (Bousfield and Brown, 2011) and as a result providing the food security of world (Braun, 2010). According to FAO (2001, 2012) also the veterinary services are provided in the following four groups:

- Clinical services (treatment of sick animals and controlling and limiting disease)
- Preventive services (preventing the prevalence of disease)
- Preparation of medicine, vaccines and other products (artificial insemination)
- Protecting human hygiene through inspection of the market animal products

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In this regard, for establishing an efficient system of veterinary services that can implement all of these cases, weneed a comprehensive planning for the suitable serving for livestock units. In Iran these services are implemented in the form of Veterinary Council whose act of establishment was approved in 1998.

Meanwhile, the mentioned organization as a non-governmental organizing institution of the relevant graduates is faced with the problem of the lack of providing the job opportunity appropriate with education and expertise of members; this has led to inefficiency and being unidentified of the potential of this organization. According to the above matters, we should find a way that removes the existing problems of members of the Veterinary Council and provides the appropriate and sufficient services to livestock farmers and the animal husbandry units on. It seems that one of the most appropriate solutions procedures for solving this problem are the privatization and delegating policies.

In Iran the privatization policy was raised in 2008 and following up in 2009 (Ahmadvand, 2010). The privatization is the process of transferring the power thatprovides the opportunities of ownership and the economic and political participation for people on a larger scale (Selvi and Yilmaz, 2010). This phenomenon does not mean the abandonment of state and its role in society but the goal of it is decrease of the government intervention and determining the amount and purposes of this intervention (Sajadi *et al*., 2013). The private section has some benefits in relation tothe public section in this area we canrefer improvement of the technical and economic performance (Saadi and Haghighi, 1996) and increasing the individuals'motive in work through the maximization of profit (Yazdi and Maffi, 1998).

Meanwhile, Lorestan Province in west of Iran is one of the active and importance provinces in the field of animal husbandry is done in rural and nomadic sectors, traditionally and semi-industrial and industrial areas, partly.

Now, considering the importance of livestock productions in this province from the aspects of food security, increasing the income and sustainable livelihood, the existence of graduates and experts of the fields relevant to animal sciences and the necessity of implementing a policy of privatization at the global and national level, this research was done with two purposes: a) feasibility study of privatization the veterinary services in rural sectors andb) the fields of privatization in this area.

Literature review: In a study entitle "Privatization of Veterinary Services in Developing Countries", Thome *et al*. (1995) showed that privatization has caused the centralization of veterinarians of private section in the city and has let go of the suburban and marginal areas that are of high agricultural potential without providing any veterinary services.

A study has been done by the University of Edinburgh in Zimbabwe with the purpose of developing a methodology in the field of distribution and equal access to veterinary services; the results have shown that following privatization of veterinary services, the poor farmers have less access to services.

On the public and private veterinary serving in two countries of New Zealand and Kenya, The FAO studies (2001) also have shown that the private sector has accumulated in the market-oriented areas and areas near the large-scale livestock producers while due to high costs of transport and the length of the route, the poor ranchers have deprived from these services.

Lopez *et al*. (2004) investigated the results of privatization of veterinary services in Jamaica and showed thatdue to the free trade policies and substitution of cheaper imports; this has been problematic for poor farmersand implementation of the privatization plan has caused a sharp fall in the livestock industry.

In a study into a part of Ethiopia, Kebede *et al*. (2014) showed that the majority of farmers preferred the governmental veterinary services despite the limitations of medicine and equipment. This is due to the lack of commitment of the private section veterinarians to ethics, lack of awareness of animal diseases and the distance from the service centers.

In a research with the purpose of the possibility of privatization of livestock promotion activities of country in the view of experts, Rezvanfar and Darabi (2006) came to the conclusion that complete replacement of the private promotion with public one in the livestock sub-section is not possible in the conditions of that time and it is better the private promotion operates on the side of the public promotion and in order to support it.

A study of the spatial distribution of livestock production units in the Karajt ownship and comparison of the benefit of these units from the veterinary services, Imanazar *et al*. (2010) recognized the major benefit of industrial and semi-industrial unitsfrom the these services compared with traditional units.

Gholamrezai *et al*. (2003) conducted a research purposed at the identification of the employment challenges of forestry graduates and mechanisms of their employment through Agriculture and Natural Resources Engineering Association.The results of this research emphasis to mechanisms of educational, extension, planning and management, monitoring, research and intersectorial collaboration (Fig. 1).

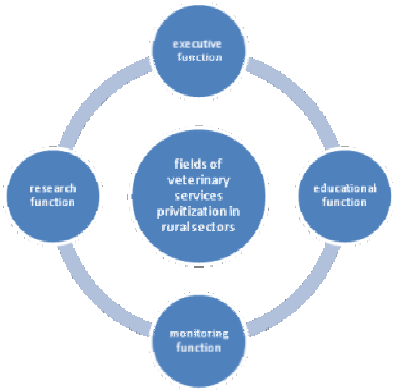

Fig. 1: Fields of veterinary services privatization in rural sector

MATERIALS AND METHODS

This applied research is a descriptive research. In terms of controlling the variables, it is a field research that has been conducted by the survey method. The method of collecting data is partly documentary and in large part a field-work. The statistical population of this research includes all members of Veterinary Councilhaving BSc. and higher in Lorestan Province. The sample size has been calculated by Cochran formula. The samples were selected by stratified sampling method. Research tool is a researcher made questionnaire whose validity was confirmed by expert panel and its reliability was estimate by the Cronbach's alpha coefficient. The amount of alpha for the educational, executive, research and monitoring functions was respectively equal to 0.96, 0.94, 0.94 and 0.95. For data analysis were used the descriptive statistics and inferential statistics such as mean, SD, maximum and minimum and in the inferential section the exploratory factor analysis have been used by SPSS 19 Software.

RESULTS AND DISCUSSION

Based on results, 37.3% of the respondents are men and others are women. Mean of age of them was 61.36 with age range of 24-56 years. The findings show that the majority of respondents, namely 71.7% has the MSc and higher. While 77.6% are employing in two public and private sections 56.7% in the public section and 22.4 in the private one). Nearly all (95.5%) of individualslive in urban areas and a small number of them (4.5%) in rural areas. The results show that the average of membership record of respondents is 7.24 in the range of 1-20 years and the majority of themhave the membership record of one to 5 years. Also, the average of work experience is 9.60 in range of 1-28 years.

Descriptive of the possibility and fields of veterinary service privatization in rural section. The

Table 1: Frequncy of possibility of VC in rural sector

Possibility	Frequency	(%)	Valid (%)
Low	16	23.9	23.9
Intermediate	39	58.9	58.9
High	12	17.9	17.9
Total	67	100	100

Table 2: Descreptive of using possibility of VC members

Function	Mean rank*
Executing	4.03
Monitoring	3.81
Educational	3.73
Research	3.72

*1: very low, 2: low, 3: intermediate, 4: high and 5: very high

Table 3: Priority of use possibility of VC members in executing field

Possibility	CV
Cooperation in disease prevention	0.3200
Animal health examination	0.3300
Vaccination	0.3400
Supply and distribution of farmer	0.3600
Diagnostic laboratory	0.3700
Artificial insemination	0.3933
Obstetric	0.3935
Cooperation in critical management	0.3950
Cooperation in insurance fund in compensation	0.4000
Cooperation in insurance fund in loss	0.4100
Quarantine	0.4309
Official experts	0.4313
Animal insurance	0.4393
Small surgery	0.4400
Diets	0.4600

results show that the possibility of veterinary service privatization from the VC view point of members is not above the average (3.8 of 6) and about 24% of the respondents considered low this possibility, near 60% means and the rest too much (Table 1).

The detailed results indicate that among four proposed functions, the maximum of them in respect to priority the executive function (4.03), monitoring (3.81), educational (3.73) and research function (3.72) (Table 2). The results of each of the functions show that in the executive function the highest possibility includes the cooperation in the prevention of diseases (0.32), taking care of general health of livestock (0.33), vaccination (0.3414), supply and distribution of medicine for farmers (0.37) and the diagnostic laboratory service (0.38) and lowest possibility includes rationing (0.47), little surgeries (0.44), insurance of livestock (0.44), carrying out the official judicial expertise (0.43) and cooperation in quarantine (0.43) (Table 3 and 4).

The highest possibility in the monitoring function includes monitoring the milk tankers (0.31), milk conservation at villages (0.32), monitoring the milk factories (0.36), supervision of slaughter houses (0.38) and monitoring of the place of livestock and poultry (0.38). The lowest possibility in the monitoring function includes the quality of livestock products for export (0.45), the

Table 4: Priority of use possibility of VC members in monitoring field

Possibility	CV
Monitoring of milk tankers	0.3100
Monitoring the milk maintenance at villages	0.3200
Monitoring the milk factories	0.3600
Monitoring of slaughterhouses	0.3773
Monitoring of the place of livestock and poultry	037740
Auditing the animal products delivered in market	0.3800
Monitoring the health of animal purchasing market	0.3900
Monitoring the transporting of red and white meat	0.3930
Quality assurance control of animal products	0.4200
Monitoring the quarantine places	0.4230
monitoring of fishery farms	0.4300
Monitoring the imported animal products	0.4500
Monitoring the exported animal products	0.4550

Table 5: Priority of use possibility of VC members in education fields

Possibility	CV
Delivery extensional education about preventing epidemic disease	0.3100
Delivery extensional education about vaccination	0.3300
Delivery extensional education about drugs	0.3500
Delivery extensional education animal health	0.3600
Delivery extensional education about animal nutrition	0.3700
Delivery extensional education about animal pregnancy	0.3800
Delivery extensional education about food preservation	0.3940
Consulting about standard animal unit set up	0.3950
Delivery extensional education about animal insurance	0.4000
Delivery case in-services education to animal experts in rural area	0.4100
Consulting about veterinary innovation and technologies	0.4300
E- education and web based education to clienteles	0.4400
Preparing and distribution of educational media	0.4555
Consulting about price and dosage of drugs	0.4560
Consulting about healthy animal marketing	0.4600
Legal consultancy about problems of professional legal issues	0.4700
Set up and introducing the model animal sites for farmers	0.4800
Cooperation in television and radio programs production	0.4850
Identify and introducing the model animal farmers	0.4900

quality of imported animal products (0.45), monitoring of quarantine place (0.42), guaranteeing quality control and standards of livestock products (0.42) and supervision of the transporting the red and white meat (0.39).

The highest possibility in the educational,extension and consulting function includes training programs to livestock farmers in the field of prevention of contagious diseases (0.31), in vaccination (0.33), in the field of medicine and treatment (0.35), in the field of animal health (0.36) and in the field of animal nutrition (0.38).

The lowest possibility includes the introducing of model and progressive in rural society and communities (0.49), production of radio and television programs (0.49), introducing of animal sites (0.48), consulting as an official judicial expert (0.47) and consulting in the field of healthy animal marketing (0.46) (Table 5).

The possibilities proposed in the research function consists in order of highest to lowest: identifying the status of prevalence of the diseases (0.32), identifying training needs of livestock farmers in the field of veterinary medicine (0.34), collecting the statistics and

Table 6: Priority of use possibility of VC members in research fields

Possibility	CV
Research on animal diseases outbreak and epidemic	0.32
Assessing the training needs of clienteles	0.34
Data gathering and information	0.35
Cooperation with relative organization in socioeconomic analysis	0.37
Case reporting	0.38
Cooperation with research centers in diagnosis infected cases	0.40
Gathering the indigenous knowledge in animal fields	0.44
Passive defense and bioterrorism management	0.45
Cooperative in gen bank enrichment	0.59

Table 7: KMO index and bartlett's sphericity test of educational function

KMO	Bartlett's test of sphericity	Sig.
0.897	1250.286	0.000

Table 8: Excluded factors, eigenvalue and cumulative variances of eigenvalue

Factors	Eigenvalue	Variances of eigenvalue (%)	Cumulative variances of eigenvalue (%)
1	11.79	62.050	62.050
2	1.74	9.160	71.210
3	0.84	4.436	75.646
4	0.76	4.005	79.651

information about the veterinary affairs (0.35), cooperation for analyzing the social and economic issues of livestock farmers (0.37), identifying the case report of the disease (0.38), cooperation with research centers in the field of identification of infected cases (0.40), collecting indigenous knowledge related to livestock affairs (0.40), deal with the bioterrorism (0.45) and collecting the animal gene bank (0.58) (Table 6).

According to the findings resulting from the factor analysis, educational function, the amount of its KMO = 0.897 and its Bartlett amount is 1250.286 which were significant with confidence of 99% that is mentioned in Table 7; it indicates the appropriateness of internal correlation of items entered for factor analysis. For sorting out the factors, the special amount criterion was used and the factors have been considered whose special amount is >0.5.

Therefore, 19 items were analyzed and according to special amount they were divided into four factors that can be seen in Table 8. These factors have explained 79.65% of the variance of total items. The factor 1 as the most important one with special amount of 11.79, explained alone about 62.05% of the total variance which shows the high importance of this factor. Other factors include in order of importance the factor 2, 3 and 4 that explained, respectively 9.16, 4.44 and 4.0% of the total variance.

According to the information registered in Table 9, it was observed that the educational function was divided into four factors: the first factor was named the consulting; the second one was teaching, the third extension and the fourth model factor.

Table 9: Factor analysis of education function based on principle components (rotated)

Factors	Variables	Loadings
consulting	Preparing and distribution of educational media	0.682
	Cooperation in television and radio programs production	0.626
	Consulting about standard animal unit set up	0.764
	Legal consultancy about problems of professional legal issues	0.862
	E- education and web based education to clienteles	0.571
	Consulting about veterinary innovation and technologies	0.560
Educational	Delivery case in-services education to animal experts in rural area	0.852
	Delivery extensional education animal health	0.818
	Delivery extensional education about animal nutrition	0.697
	Consulting about price and dosage of drugs	0.563
	Delivery extensional education about preventing epidemic disease	0.601
Extension education	Delivery extensional education about vaccination	0.648
	Delivery extensional education about animal pregnancy	0.578
	Delivery extensional education about animal insurance	0.702
	Delivery extensional education about food preservation	0.760
Modeling	Identify and introducing the model animal farmers	0.621
	Set up and introducing the model animal sites for farmers	0.628
	Consulting about healthy animal marketing	0.627
	Consulting about price and dosage of drugs	0.860

CONCLUSION

Privatization is one of the expanding world policies.The veterinary services section is not an exception and due to the nature and situation of work, it is considered as a priority. In this research the veterinary activities weredivided in four overalleducational, research, monitoring and executive functions. Results of this research showed that the highest priority of the activities is related tocategory of executive activities in which the areas such as cooperation in the disease prevention, dealing with hygiene of livestock, vaccination, supply and distribution of medicine to livestock farmers and the laboratory servicesalso have the highest priority. Based on result, it can be percept that the members of VC have more readiness in execution section. It seems that the priority of this function is resulting from this that income of their areas is more than the other functions. The stereo type of members and society about the veterinary job is on the mentioned fields; the fields related to this function are more applicable as well as the activities related to this function are necessary and important.

After executive function, the monitoring activities have had the second priority; the cases such as monitoring of milk collection vehicles, conserving of milk in rural areas and theprocessing workshops and packing of milky products, slaughterhouses and also monitoring of animaland poultry place had the highest priority. Although, the abovecases are important and necessary but because of the dependence on the state and the sensitive nature of this category of activities, even despite the ability and experience of the members, the tendency to privatizing of this category of activities seems to be less.

Another function of veterinary services is related to the educational affaires; it has gained the third priority. Meanwhile the activities such as presenting educational programs to livestock farmers in the fields of prevention, vaccination, medicine and treatment, animal hygiene and nutrition have been proposed as the most important activities that can be carried out by members of the VC The reason for this may be the lack of needs and sufficient awareness of the audience community to the education issues as well as the absence of institutionalized mechanisms for outsourcing the educational services and subsequently generating less income by this function.

The last priority is the research function that includes the priority fields such as recognizing the situation of epidemic diseases in area, identifying the training needs of livestock farmers in the veterinary field, data collection related to section, cooperation for the analysis of social and economic issues of livestock farmers and case report. Perhaps some reasons as time-consuming and costly of research activities, non-institutionalization of delegating the research services to the private section by the state, inexperience and the lack of skills and the notability to perform researches by majority of members, monopoly of research facilities to universities and research institutes and thesociety's perception and expectation toward this function lead to consider them as the mission of research and higher education institutions.

RECOMMENDATIONS

With regard to the mentioned cases and the research findings and for achieving the comprehensive expansion of veterinary activities in the target society and the privatization of these essential services, we can recommend the following items.

Justifying of state authorities to importance and necessity of privatization and outsourcing the veterinary services in order to delegating the most of veterinary activities to the VC as the private organization. Bargaining and lobbying of the VC with state authorities in order to increase the confidence of the private section (NGO,) and entrusting the more activities to the this council; inter-sectorial collaboration among institutions and organizations involving in executing, research and educational affairs of veterinary with the aim of preventing parallel activities and the duplication as well as involving the private section in all areas, especially the educational and research functions; formation of cooperative consist of unemployed graduates in the fields of executing, monitoring, education and even research for taking a part or parts of the veterinary; educational programs in the fields of concepts and methods of privatization, entrepreneurship, business management, marketing management, principles of corporation start-up for members in order to encourage them to planning and implementing the income-generating businesses; educational and professional programs in the fields of little surgeries, quarantine, standard principles of livestock products, livestock products marketing, principles of facilitation and consultation, passive defense and cooperating on the genetic resources.

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