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# CONSTRAINTS FACED BY TRIBAL LIVESTOCK OWNERS IN ADOPTING VACCINATION IN RUMINANTS

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**Abstract-** Present study was conducted during 2014-2015 to access the constraints faced by the tribal livestock owners in adopting vaccination in ruminants in two selected Talukas of Dahod district of Gujarat State. Randomly five villages from two selected Talukas of Dahod district were selected, where fairly good number of livestock owners having good herd size and had higher milk production capacity. After selecting villages, randomly 12 livestock owners were selected from each village. Thus, total sample size for this research study was 60 livestock owners. The study makes a light that the major constraints faced by the tribal livestock owners in adopting vaccination in ruminants were lack of knowledge about improved animal vaccination practices, inadequate knowledge of vaccination schedule and inadequate knowledge of disease for which vaccination is adopted . Whereas the major suggestions as endorsed by the livestock owner were: timely availability of vaccines at village/cluster level, provisions should be made for regular training to livestock owners and proper village wise/cluster wise paraveterians should be made available.

**Keywords**- Tribal livestock owners, vaccination in ruminants, Constraints, Suggestions.

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## Introduction

Most of the people, who are living in the tribal belt of Gujarat state, are mainly dependent on agriculture and up to certain extent on animal husbandry for their lively hood. Animal husbandry plays important role in socioeconomic development of the tribal people and is the best insurance against the vagaries of nature like drought, famine and other natural calamities. India has total 137 breeds of domesticated animals. Gujarat is one of the most important state harboring diversity of 18 domestic animal breeds, some of which are on the world map of very important breeds had well differentiated characters that enriched global biodiversity. Gujarat has valuable genetic recourses of Cattle. Livestock is the best insurance against the vagaries of nature like drought, famine and other natural calamities. India has the world's largest livestock population accounting for over 55 and 16 per cent of the world's buffalo and cattle populations. The control of animal disease is important for many reasons. Resistance to disease improves animal welfare, makes livestock farming more efficient (and food more plentiful) and helps protect people from those animal borne diseases capable of infecting humans too. In each of these cases even the most effective treatments would not achieve these ends as well as an effective vaccination programme can.

Now a days with the help of Dairy Federation and Animal Husbandry Department in every villages the process of disseminating the knowledge of scientific techniques of animal husbandry has been started, but till today in the areas of tribal belt sufficient care is not being taken to maintain animal health resulting in poor or minimum output. People of tribal belt are not aware regarding the good animal health practices. The extension workers have to provide technical knowledge about feeding, breeding, health and hygiene practices by grassroots level. Vaccination is one of the important practices to keep animal disease free, by doing this the yield potential of an animal can be boosted up ultimately resulting in increasing living standard of the tribal people.

## Objectives

1. To Study the profile of the livestock owners adopting vaccination practices in ruminants.
2. To identify constraints faced by the livestock owners in adoption of vaccination practices in ruminants.
3. To explore suggestions from the livestock owners to overcome the constraints faced in adoption of vaccination practice in ruminants.

## MaterialsandMethods

The present study was carried out in randomly selected villages of selected talukas of Dahod district of Gujarat state. Two talukas namely Dahod and Zalod were purposively selected for study having higher milk production capacity. Randomly five villages from two selected Talukas of Dahod district were selected, where having fairly good number of livestock owners having good herd size and had higher milk production capacity. After selecting villages, randomly 12 livestock owners were selected from each village. Thus, total sample size for this research study was 60 livestock owners.

### Statistical analysis

Data were collected by personnel interview and frequency distribution and percentage was used for analyses.

## Result

### Background information of the livestock owners

The respondents were categorized into different groups on the basis of their some of the important personal, social, economical, communicational and psychological characteristics of the livestock owner were selected and studied the findings of which have been presented in [Table-1].

**Age:** The data presented in [Table-1] show that more than half (56.67 per cent) of the livestock owners were found in the middle age group followed by 28.33 per cent in young age group. The rest 15.00 per cent of the livestock owners belonged to old age group.

**Table-1** *Component of Livestock owners* **n=60**

| Sr .No. | Components | Categories | Frequency (No.) | Percentage (%) |
|---|---|---|---|---|
| 1. | Age | Young age ( up to 35 years) | 17 | 28.33 |
| | | Middle age (36 to 50 years) | 34 | 56.57 |
| | | Old age (above 50 years) | 09 | 15.00 |
| | | Total | 60 | 100 |
| 2. | Education | a. illiterate | 15 | 25.00 |
| | | b. read n write | 09 | 15.00 |
| | | c. Primary (up to 7th) | 22 | 36.67 |
| | | d. Secondary (8th-12th) | 08 | 13.33 |
| | | e. College level | 06 | 10.00 |
| | | Total | 60 | 100 |
| 3. | Experience in livestock management | Very low (Up to 5 years) | 11 | 18.33 |
| | | Low (6 to 10 years) | 10 | 16.67 |
| | | Medium (11 to 15 years) | 15 | 25.00 |
| | | High (16 to 20 years) | 05 | 08.34 |
| | | Very high (21 and more) | 19 | 31.66 |
| | | Total | 60 | 100 |
| 4. | Social participation | No membership. | 0 | 00.00 |
| | | Membership in 1 organization. | 33 | 55.00 |
| | | Membership in 2 organization. | 07 | 11.67 |
| | | Membership in more than 2 organization. | 11 | 18.33 |
| | | Position holder. | 9 | 15.00 |
| | | Total | 60 | 100 |
| 5. | Land Holding | Marginal farmer (Up to 1 hectare) | 19 | 31.67 |
| | | Small farmer (1.01 to 2 hectare) | 24 | 40.00 |
| | | Medium farmer( 01 to 4 hectare) | 08 | 13.33 |
| | | Large farmer (>4 hectare) | 09 | 15.00 |
| | | Total | 60 | 100 |
| 6. | Herd Size | Very low (Up to 3 animals) | 33 | 55.00 |
| | | Low (4 to 6 animals) | 14 | 23.33 |
| | | Medium (7 to 10 animals) | 08 | 13.34 |
| | | High (11 to 13 animals) | 02 | 03.33 |
| | | Very high (14 and more animals) | 03 | 05.00 |
| | | Total | 60 | 100 |
| 7 | Annual Inome | Very low (Up to ₹50,000) | 14 | 23.34 |
| | | Low ( ₹50,001 to ₹1,00,000) | 10 | 16.66 |
| | | Medium ( ₹1,00,001 to ₹1,50,000) | 22 | 36.67 |
| | | High ( ₹1,50,001 to ₹2,00,000) | 08 | 13.33 |
| | | Very high (Above ₹2,00,001) | 06 | 10.00 |
| | | Total | 60 | 100 |
| 8. | Extension Contact | Very low (up to 2.40) | 13 | 21.66 |
| | | Low (2.41 to 4.80 ) | 05 | 08.34 |
| | | Medium (4.81 to 7.20) | 19 | 31.67 |
| | | High (7.21 to 9.60) | 16 | 26.66 |
| | | Very high (more than 9.60) | 07 | 17.67 |
| | | Total | 60 | 100 |
| 9. | Mass Media Exposure | Very low (up to 3.60) | 08 | 13.33 |
| | | Low (3.61 to 7.20) | 11 | 18.34 |
| | | Medium (7.21 to 10.80) | 20 | 33.33 |
| | | High (10.81 to 14.40) | 07 | 11.67 |
| | | Very high (more than 14.41) | 14 | 23.33 |
| | | Total | 60 | 100 |
| 10. | Knowledge | Very low (up to 20 %) | 07 | 11.67 |
| | | Low (21 % to 40 %) | 09 | 15.00 |
| | | Medium (41 % to 60 %) | 34 | 56.67 |
| | | High (61 % to 80 %) | 06 | 10.00 |
| | | Very high (more than 80 %) | 04 | 06.66 |
| | | Total | 60 | 100 |
| 11. | Economic motivation | Very low (up to 10.80) | 06 | 10.00 |
| | | Low (10.81 to 15.60) | 16 | 26.66 |
| | | Medium (15.61 to 20.40) | 23 | 38.33 |
| | | High (20.41 to 25.20) | 07 | 11.67 |
| | | Very high (25.21 to 30.00) | 08 | 13.34 |
| | | Total | 60 | 100 |
| 12. | Scientific Orientation | Very low (up to 25.20) | 07 | 11.67 |
| | | Low (25.21 to 36.40) | 17 | 28.33 |
| | | Medium (36.41 to 47.60) | 21 | 35.00 |
| | | High (47.61 to 58.80) | 09 | 15.00 |
| | | Very high (58.81 to 70.00) | 06 | 10.00 |
| | | Total | 60 | 100 |
| 13. | Risk Orientation | Very low (up to 18) | 12 | 20.00 |
| | | Low(19 to 26) | 04 | 06.67 |
| | | Medium (27 to 34) | 33 | 55.00 |
| | | High (35 to 42) | 08 | 13.33 |
| | | Very high (43 to 50) | 03 | 05.00 |
| | | Total | 60 | 100 |

**Education:** The data presented in the [Table-1] reveal that more than one third (36.678 per cent) of the livestock owners had secondary level of education followed by 25.00 per cent, 15.00 per cent and 13.33 per cent of them who had illiterate, primary and higher secondary level of education, respectively. Only 10.00 per cent of the livestock owners were found in the category of graduate and above level of education.

**Experience in livestock management:** The data presented in [Table-1] reveal that slightly more than one third of the livestock owners (31.66 per cent) had more than 21 years of experience in animal keeping, while 25.00 per cent, 18.33 per cent, 16.67 per cent of them had 11 to 15 years, up to 5 years and 6 to 10 years of experience in animal keeping, respectively. Whereas, only 8.34 per cent of the owners had experience of 16 to 20 years.

**Social Participation:** The data presented in [Table-1] show that more than half (55.00 per cent) of the livestock owners had membership in one organization, while 18.33 per cent of livestock owners had membership in more than two organizations. Further, 15.00 per cent of them had membership along with position holding, while 11.67 per cent of them had membership in more than one organization and none of the member was found in the category of no membership in any organization.

**Land Holding:** It is obvious from the data presented in [Table-1] that exactly two fifth (40.00 per cent) of the livestock owners possessed small size of land holding, whereas, 31.67 per cent and 15.00 per cent of them possessed marginal and large size of land holding, respectively. Only 13.33 per cent of them possessed medium size of land holding.

**Herd Size:** The data presented in [Table-1] show that more than half (55.00 per cent) of the livestock owners had very low herd size of 3 animals, followed by 23.33 per cent, 13.34 per cent and 5.00 per cent of the livestock owners had low, medium and very high herd size, respectively. Whereas, only 3.33 per cent of the livestock owners had high herd size.

**Annual Income:** From the [Table-1] we can reveal that nearly less than two fifth (36.67 per cent) of the livestock owners had medium annual income ranging from ₹1,00,001 to ₹1,50,000, followed by 23.34 per cent, 16.66 per cent, 13.33 per cent and 10.00 per cent had very low, low, high and very high annual income, respectively.

**Extension Contact:** It is observed from [Table-1] that slightly more than one third(31.67 per cent) of the livestock owners had medium level of extension contact followed by 26.66 per cent and 21.66 per cent of them had high and very low level of extension contact, respectively. Only 11.67 per cent and 08.34 per cent of livestock owners had very high and low extension contact.

**Mass Media Exposure:** The data given in [Table-1] indicate that more than one third(33.33 per cent) of the livestock owners had medium exposure to mass media, followed by 23.33 per cent, 18.34 per cent, 13.33 per cent, 11.67 per cent of them had very high level, low level, very low level and high level of mass media exposure respectively.

**Knowledge:** A look at [Table-1] makes it clear that more than half 56.67 per cent of the livestock owners had medium level of knowledge followed by 15.00 per cent and 11.67 per cent had low and very low level of knowledge respectively. Whereas, only 10.00 per cent and 06.66 per cent of the livestock owners had high and very high level of knowledge regarding vaccination and better animal healthcare practices.

**Economic Motivation:** A look at [Table-1] makes it clear that nearly two fifth (38.33 per cent) of the livestock owners had medium economic motivation, while 26.66 per cent and 13.34 per cent were found to have low and very high economic motivation. Further, 11.67 per cent and 10.00 per cent of them were found to have high and very low economic motivation.

**Scientific Orientation:** A perusal of data presented in [Table-1] reveals that 35.00 per cent of the livestock owners had medium level of scientific orientation followed by 28.33 per cent and 15.00 per cent of the livestock owners had low and high level of scientific orientation, respectively. Only 11.67 per cent and 10.00 per cent of the owners had very low and very high level of scientific orientation.

**Risk Orientation:** A perusal of data from [Table-1] reveals that more than half (55.00 per cent) of the livestock owners had medium risk orientation followed by 20.00 per cent, 13.33 per cent of them with very low and high risk orientation. Only 06.67 per cent and 05.00 of them were observed to have low and very high degree of risk orientation

**Constraints faced by the livestock owners in adoption of vaccination practices in ruminants**

There might be many constraints on the path of livestock owners in adopting vaccination in ruminants. If such constraints are identified, corrective measures can be taken up. With this in view, the livestock owners were requested to express their constraints in adopting vaccination in ruminants. Frequency and percentage for each constraint were calculated. The data in this regard presented in [Table-2]. As seen from the [Table-2], the major important constraints faced by the livestock owner in adopting vaccination in ruminants were lack of knowledge about improved animal vaccination practices (86.66 per cent),inadequate knowledge of vaccination schedule (80.00 per cent), inadequate knowledge of disease for which vaccination is adopted (75.00 per cent), high cost of vaccination (68.33 per cent), lack of veterinary service in time (65.00 per cent), lack of vaccination facilities in villages (60.00 per cent), lack of proper training on animal husbandry (48.33 per cent), non-availability of proper vaccine at village place (45.00 per cent), high cost of medicines on private dealers stall (36.66 per cent).

**Suggestions from the livestock owners to overcome the constraints faced in adoption of vaccination practice in ruminants**

An attempt was also made to ascertain suggestions from the livestock owners to overcome various constraints faced by them in adopting vaccination in ruminants. The livestock owners were requested to offer their valuable suggestions against difficulties faced by them in adopting vaccination in ruminants. The suggestions given by the livestock owners were collected, summarized and presented in [Table-3]. The major suggestions as endorsed by the livestock owner to overcome their constraints in adopting vaccination in ruminants were: timely availability of vaccines at village/cluster level (81.67 per cent), provisions should be made for regular training to livestock owners (76.67 per cent), Proper village wise/cluster wise paraveterians should be made available (73.34 per cent), regular visits of livestock inspector, veterinary doctor and extension specialist should be made available for vaccination (65.00 per cent),easy credit facilities should be made available for emergency animal treatment (61.67 per cent),quite enough members of dairy co-operatives society should be trained to solve the problems in animal husbandry (58.33 per cent) and dairy co-operative society should develop the facility of preservation of vaccine (40.00 per cent).

**Conclusion**

The livestock sector is the backbone of the Indian economy and it is one of the important sources of the income of the tribal people as well. To increase the health statuses of livestock of that area it is quite necessary to take care of their health, which can be, achieve by effective vaccination practices because it controls many dangerous diseases. From the above matter, we can conclude that majority of the livestock owners were of middle-aged group having secondary to college level of education with experience of 11 to 12 year in livestock management. Great majority of the owners had poor social participation with one or two organization. Majority of the owners had marginal to small size of land holding having annual income of ₹1,00,001 to ₹2,00,000, medium to high level of extension contact, medium to very high level of knowledge and economic motivation and scientific orientation. Whereas majority of the owners had very low

to medium level of scientific orientation and vast majority had herd size of 3 to 10 animals. Major important constraints faced by the livestock owner in adopting vaccination in ruminants were lack of knowledge about improved animal vaccination practices, inadequate knowledge of vaccination schedule and inadequate knowledge of disease for which vaccination is adopted. To overcome those constraints the major suggestions as given by the livestock owner in adopting vaccination in ruminants were: timely availability of vaccines at village/cluster level made available, provisions should be made for regular training to livestock owners, proper village wise/cluster wise paraveterians should be made available and provisions should be made for the regular visits of livestock inspector or veterinary doctor and extension specialist.

**Table-2** *Constraints faced by livestock owners in adopting vaccination in ruminants* **n=60**

| Sr. No. | Constraints | Number | Per cent (%) | Rank |
|---|---|---|---|---|
| I | **Economical constraints** | | | |
| 1 | High cost of vaccination | 41 | 68.33 | IV |
| 2 | High cost of medicines on private dealers stall | 22 | 36.66 | IX |
| II | **Technological constraints** | | | |
| 1 | Inadequate knowledge of diseases for which vaccination is adopted | 45 | 75.00 | III |
| 2 | Inadequate knowledge of vaccination schedule | 48 | 80.00 | II |
| 3 | Lack of knowledge about improved animal vaccination practices | 52 | 86.66 | I |
| III | **Input supply constraints** | | | |
| 1 | Non-availability of proper vaccines at local place | 27 | 45.00 | VIII |
| IV | **Administrative constraints** | | | |
| 1 | Lack of veterinary services in time | 39 | 65.00 | V |
| 2 | Lack of proper training on animal husbandry | 29 | 48.33 | VII |
| 3 | Lack of vaccination facilities in villages | 36 | 60.00 | VI |

**Table-3** *Suggestions given by livestock owners to overcome the constraints faced by them* **n=60**

| Sr. No. | Suggestions | Number | Per cent (%) | Rank |
|---|---|---|---|---|
| 1. | Regular visits of livestock inspector, veterinary doctor and extension specialist should be made available for vaccination | 39 | 65.00 | IV |
| 2. | Easy credit facilities should be made available for emergency animal treatment | 37 | 61.67 | V |
| 3. | Quite enough members of dairy co-operatives society should be trained to solve the problems in animal husbandry | 35 | 58.33 | VI |
| 4. | Dairy co-operative society should develop the facility of preservation of vaccine | 24 | 40.00 | VII |
| 5. | Provisions should be made for regular training to livestock owners | 46 | 76.67 | II |
| 6. | Proper village wise/cluster wise paraveterians should be made available | 44 | 73.33 | III |
| 7 | Timely availability of vaccines at village/cluster level. | 49 | 81.67 | I |

**Conflict of Interest: None declared**

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