

International Journal of Agriculture Extension and Social Development

Volume 9; Issue 8; August 2026; Page No. 564-567

Received: 11-05-2026
Accepted: 15-06-2026

Indexed Journal
Peer Reviewed Journal

Mobile Extension Advisory Services (MEAS) on sheep rearing in Mahabubnagar district of Telangana state

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DOI: <https://www.doi.org/10.33545/26180723.2026.v9.i8h.4063>

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Abstract

A study was conducted in Mahabubnagar district of Telangana state to Mobile Extension Advisory Services (MEAS) in sheep rearing, representing all the four Mandals were chosen thus a sample size of 60 was selected for the study and then they were subjected to Mobile Extension Advisory Services (MEAS) on constraints in sheep rearing. To redress the 18 identified constraints, 53 scientific suggestions were collected from the literature after thorough scrutiny in terms easily understandable, simple, unambiguous, practicable and feasible. These 53 scientific suggestions were translated into local language (i.e. Telugu) and were transmitted to the 60 respondent. The care was taken while identifying the respondents should have had mobile phone with internet facility. So the scientific suggestions were sent to these respondents in terms of voice messages, text messages.

Keywords: Mobile Extension Advisory Services (MEAS), sheep rearing, constraints, messages

Introduction

The Total Sheep population in India is 66 Million and out of which 80% is located in 6 states. In this 40% are non-descript animals and rest comprise of pure/graded, cross bred or exotic animals, details of which are given below (Integrated Sample Survey 2015* and 19th Livestock Census, 2012). Dissemination of needed information to farmers is the heart of the extension services, whereas, almost all extension services lack something crucial. Lack of extension services in combination with a continuing gap in access to resources, inputs and technologies, negatively affects sheep farmers' ability to create sustainable livelihoods from their farms. Access to information through the use of Information and Communication Technologies (ICT) is critical to economic growth, especially in resource constrained environments (Donner, 2008) [2], which can aid greatly in rural development and poverty reduction due to an increase in local people's ability to obtain information.

ICT could be used in rural areas to share knowledge through mobile phones. The diffusion of mobile phones is now in take-off stage with rapid adoption in rural areas, one of the most profound changes in many developing countries in the past decade (GSM, 2008) [3]. According to TRAI, 48 million

rural consumers of India took a new mobile phone connection in the first six months of calendar 2009 compared with just 32 million in the cities (Thomas, 2009) [4]. This trend of using cell phones in rural areas can be used as an opportunity to apply its potentials in disseminating information that would help in improving the socio-economic conditions of the rural poor.

Among livestock farmers by opening up the opportunities in accessing information about various farming practices, markets for livestock products, weather, disease risk and collecting information on disease outbreaks which would strengthen veterinary services. It has given a wider scope of approach to the extension personnel to reach out the livestock farmers with its three fold communication functions of 'provision and co-ordination and support of information' (Blau and Scott, 1962) [1], Mobiles act as catalyst to transfer information to the needy one by Short Message Service (SMS) alerts, Toll free call centers, mobile advisory etc. Of all the mobile value added services, SMS is most ubiquitous service used by the all sections of the rural people as it provides the advantage of being available even with the basic handset models. SMS service is provided in two forms, text based and voice based, which have the potential to deliver the

timely information.

MEAS it is operationally defined as the usage of potential of mobile phones in terms of providing advisory services; through voice messages, text messages and whatsapp messages to address the constraints faced by the sheep rearers.

Hence, an attempt is made to study the Constraints redressal in sheep rearing through Mobile Extension Advisory Services (MEAS) in Mahabubnagar district of Telangana state where good number of sheep population were noticed. The study is aimed to provide need based, relevant, location specific and timely information to the sheep farmers.

Methodology

The present research study was undertaken in the state of Telangana purposively because it had 5.52 per cent of country's sheep population and was implementing prestigious Sheep Rearing Developing Programme (SRDP) worth of 5000 crores. Mahabubnagar district was purposively selected by the researcher as the district was having 2nd highest sheep population (2012 census) in Telangana state. When we took up the study, the Sheep Rearing Development Programme (SRDP) was also being implemented in this District. Representing all the four mandals was chosen

adopting Simple random sampling method. Thus a sample size of 60 was selected for the study and then they were subjected to Mobile Extension Advisory Services (MEAS) on constraints in sheep rearing. To redress the 18 identified constraints, 53 scientific suggestions were collected from the literature after thorough scrutiny in terms easily understandable, simple, unambiguous, practicable and feasible. These 53 scientific suggestions were translated into local language (i.e. Telugu) and were transmitted to the 60 respondent. The care was taken while identifying the respondents should have had mobile phone with internet facility. So the scientific suggestions were sent to these respondents in terms of voice messages, text messages.

Constraints in sheep rearing were obtained through analysis of the secondary data. The constraints on scientific sheep rearing were collected from different published sources viz: literature and published articles of national and international repute which have significance to the sheep rearing in the state of Telangana. Thus a total of 82 constraints were identified and were subjected to the "Delphi technique" to prioritize them.

Results and Discussion

Table 1: Scientific suggestions on selected constraints

S. No.	Scientific suggestions
1.	Newly born lambs must be fed with colostrum milk within half an hour of their birth which will develop disease resistance and provide complete nutrition for growth.
2.	Up to 1 week age of the lambs, feed with colostrum milk about 3 times per day and then 2 times per day till next 2 weeks of age.
3.	Creep ration formulation (Up to 3 months of age): Ground maize-65 parts, Groundnut cake-10 parts, Wheat bran-12 parts, Fish meal-10 parts, Mineral mixture-2 parts, Common salt-1 part. Creep ration will enable the Lambs to gain body weight about 150 grams per day.
4.	Growing period (3-6 months age): maize-27 parts, Groundnut cake (GNC)-35 parts, Wheat bran-35 parts, Mineral mixture -2 parts, Common salt-1 part, Roughage feeding free is choice.
5.	Adult sheep feeding: Roughage requirement will be taken care by usual grazing but during lean period we should give 150 gr. of concentrate mixer/day. The concentrate feed should comprise of Groundnut cake-20%, Maize-20%, Wheat bran 60% and salt with mineral mixture must be fed.
6.	Flushing: 2 weeks prior to breeding when rams are allowed to mate ewes, so 150 to 200 gr. Of concentrate mixture should be provided along with good quality forages (cowpea, oat, green grass, and berseem). It conditions the animal and induces maturation of more no. of follicles and thus improves conception rate and twinning rate.
7.	Breeding Rams feeding: Green fodders like Maize, Berseem, Lucerne, Cowpea, Oat hay feeding would meet all requirements of breeding rams. If forages fed are of poor quality like straw or sorghum hay then 150-200 gm of concentrates should be fed daily.
8.	Water: Depending up on the facilities available at the farm, provide water twice a day in summer and once a day in winter is a good practice. Water requirement is 2-5 liters per day per sheep.
9.	Energy: The soluble carbohydrates, fibre, fats and oils are the sources of energy. The TDN requirement of lambs is higher than that of adult sheep. Similarly the pregnant, lactating and breeding ewes require more energy than the non-pregnant and non-lactating ones. Hence 30 kg sheep requires 350 grams of TDN per day. So daily about 1-1.5 kg of good quality cereals, molasses and oats should be given.
10.	Protein: The breeding animals need protein for prenatal growth, development of the foetus and to produce milk for post-natal growth of young ones. Generally Sheep requires 31 grams of protein per day. So urea, fish meal, soybean meal and poultry litter should be given in equal ratio.
11.	Vitamin A, D and E: Sources of these vitamins are green fodders, cereals, fish oils and concentrates. And also salt @ 2-8 grams/day/sheep should be provided as it has an important regulatory function in the body.
12.	Calcium (Ca) and phosphorus (P) are interrelated in the development and maintenance of the skeleton. Deficiencies may result in rickets. The ratio of calcium to phosphorus in the sheep's diet should be at least 2:1. Sources of calcium and phosphorus: - is Bone meal, Limestone, Sodium Phosphate, Trace mineral mixer.
13.	Daily grazing of sheep for 10 to 12 hours would enable them. To meet their dry matter requirements. Lambs are grazed separately from adults to prevent parasitic infestation.
14.	Sheep kept entirely on roughage may suffer from trace mineral deficiency hence 5-8 gm of salt containing 5mg of Cu/head/day would be desirable.
15.	Dry matter requirement of adult sheep is 1 kg/day. Hence 4 kgs of green fodder/silage/cereals should be given. When pasture grass for sheep is not sufficient to meet the requirements then additional grain mixtures is required @ 150 g/day and provide clean drinking water.
16.	Methods of mating: - Hand mating: In this system the females are allowed to mate one by one. A Ram or Buck will not be allowed to

	mate more than three Ewes/Does in a day. This method ensure the expected time of lambing / kidding. And it also improves the breeding efficiency of male, resulting in an increased number of females that can be bred in shorter period of time.
17.	Pen mating: The Ewes/Does are divided into batches varying from 20 to 25 Ewes/Does. Males are turned in to the flock only during the night time and separated during day time In this system males are also given enough rest besides proper feeding.
18.	Artificial Insemination: Sheep pregnancy percentage rate can be increased through AI. It helps to increase flock size rapidly, to meet the market demand and the cost of raising Rams can be decreased.
19.	Suitable Rams for mating: Breeding Rams age should be 1.5-2 years. And they should be active, vigorous and moderate flesh and it is better to select the Rams from twinning pedigree.
20.	Rams testicles should be in equal size, according to the age, prompt, soft and free from diseases. Select the sheep based on their breeding performance duly following the records. Rather than external appearance of the animal.
21.	Care of pregnant animal: The concentrate feed consisting of 30 parts of maize/jowar/ragi/bajra, 20 parts of groundnut cake/de-oiled groundnut cake, 20 parts of de-oiled rice bran, 20 parts of wheat/rice bran or polish, 7 parts of molasses, 2 parts of mineral mixture and one part of common salt should be provided.
22.	If good green pasture is not available, 25 gm of vitablend/rovimix mixture can be added to 100 kg of concentrate mixture which would develop. A stock of strong and healthy lambs can be maintained inadequately fed. Pregnant ewes will succumb to dystocia, paralysis etc. besides their lower productive capacity.
23.	Vaccination schedule: Foot and Mouth disease (FMD) vaccine should be given at the age of 2 months and repeat every 6 months of age.
24.	Enterotaxaemia (ET) vaccine should be given at the age of 4 months and repeat it after 15 days. (if recommended) and- than annually.
25.	P.P.R vaccine should be given at the age of 3-4 months and repeat after every 1 year.
26.	Sheep pox vaccine should be given at the age of 3 months and above. Consult a veterinarian timely and promptly for sheep vaccination schedule and act accordingly.
27.	Isolate the animals, suspected to be affected with a contagious disease from the apparently healthy ones. Preferably, such segregated animals should be housed in an isolation ward situated far away from the normal animal houses. The isolated animals should be brought back into the flock only when the outbreak ends and they are fully recovered.
28.	Clean and disinfect lambing pens every day. Treat with antiseptic-ointment if sheep's have any wounds on body.
29.	Control of internal parasites: Periodical deworming would, prevent worm infestation of animals and by keeping the premises free from infective forms of parasites by disinfection, and elimination of intermediate hosts.
30.	Control of external parasites: Insects (flies, ticks, mites, fleas, lice) harm animals directly by biting, blood sucking, irritating etc. as well as indirectly by transmitting bacterial, viral and protozoan diseases.
31.	Smoking: Burning of the leaves of Neem, aloe vera, eucalyptus etc. Which emit the smoke will prevent the mosquitoes.
32.	Spraying: take 10% of butox solution in a sprayer and spray it on sheep, sheep shed walls, cracks of walls. Care should be taken not to spray into sheep mouths, eyes, ears and noses.
33.	Dipping: It can control all the external parasites. In dipping process, firstly make a dip tank with 1.5-2 meters length and 1 meter width. And also make fencing around the dip tank and way to enter and exit for the sheep.
34.	Ensure dip tank is having properly mixed water with ecto-parasiticides (lindane, D.D.T, Phenyl, pyrethrin) agitate the dip wash; this can be done effectively by running sheep one by one through the dip. Ectoparasites should be washed out when sheep come out from the dip tank. Do not allow dipping of pregnant animals which are in advanced term.
35.	Proper cleaning of handling areas and houses. During housing, proper attention should be given to ventilation. Stop all animals, animal products, vehicles and persons coming into and out of the farm. Prohibit all visitors in to the farm. Provide foot dips containing disinfectants at the entry of the farm and gear up sanitation and hygiene.
36.	Dead carcasses, placenta and fetal tissues should be removed immediately from the sheep-raising areas to prevent the spread of diseases. Good hygiene and preventive treatments are vital aspects of good production.
37.	Clean and disinfect the sheds, equipment's (feeding and water troughs) and removable fittings by using following disinfectants regularly. 1% phenol, 6% boric acid solution, 2% cresol, 4% washing soda, 2% caustic soda, etc. And avoid overcrowding by providing sufficient floor space for each sheep.
38.	Control of respiratory diseases: Pasteurellosis, Atypical pneumonia, parasitic bronchitis, Maedi-visna etc., disease affected animals should be segregated from the healthy ones. Consult veterinarian for better treatment.
39.	Segregate the sick animals. Provide adequate and proper ventilation to the animals. Keep the sheds clean and dry at all times. Elimination of disease affected sheep or dead ones from the flock by slaughter & proper disposal of carcass may prevent the incidence of the disease. Follow the vaccination schedule without fail.
40.	Deworming schedule: Deworming of sheep firstly at the age of 8 weeks of age and repeat every 4-8 weeks till attains one year.
41.	Deworming of Adult sheep should be done for 4-6 times in every year (January, April, July and October).
42.	Sheep may become healthy, active, and fleshy, increase the resistance, increase the milk, wool, and meat production and decrease the mortality if you follow the Deworming schedule regularly.
43.	Prevention & control of diseases: - Enterotaxaemia: Broad spectrum antibiotics like chlortetracycline may be used for treatment. To prevent this disease, sheep should be vaccinated. Careful feeding programme of younger stock helps in control of ET. Elimination of affected sheep from the flock by slaughter & proper disposal of carcass may control the incidence of the disease.
44.	Blue Tongue: There is no treatment against virus. Antibiotics may be given through parenteral route to check secondary bacterial infection. Localized lesions may be treated with topical antiseptic solution to accelerate healing. Affected animals should be kept away from solar exposure. Control: grazing of the animals should be avoided in areas where there is lot of vectors. Quarantine of sick animals should be done.
45.	Foot and mouth disease (F.M.D.): Affected feet and mouth should be washed with potassium permanganate solution. Glycerin, sodium carbonate, boric acid should be applied in mouth lesions. Affected sheep should be given soft green nutritious grass and given rest. For prevention, the sheep should be vaccinated every year.
46.	Sheep pox: No effective treatment, control secondary infection by use of antibiotics. Isolate affected animals. Apply antiseptic cream on pustules and give crushed, boiled barley or maize mixed with whey or milk. Bury dead lambs after putting lime. Annual

	vaccination should be strictly followed. Proper disinfection of corals and equipment are with 2% lye solution.			
47.	Pasteurellosis: Affected animals become depressed and go off feed. They may cough and show some respiratory distress. The disease may be acute with sudden deaths or take a course of several days. Pneumonia is treated with antibiotics. Bury dead lambs after putting lime.			
48.	Sheep marketing/sales of sheep: In every village sheep co-operative societies should be established. Through these societies modern technologies in sheep rearing can be known and scientific sheep rearing methods.			
49.	Exchange of breeding rams between the societies should be done at every 2-3 years.			
50.	Wool cutting with machine would enable the farmers to get quality wool and higher price. Through co-operative society, wool should be sold to get more profits.			
51.	Middle men should be avoided in sale of sheep. It should be done through co-operative societies to get more profits to the members of society.			
52.	Sale of sheep through sandies/ by auction or middlemen or marketing co-operative societies or by direct sale to the consumer can be done.			
53.	Authorized members for sheep marketing/cooperatives:			
	S. No.	Name	Cell	Address
	1.	Jaffer syed	8048619489	Old malakpet, hyderabad.
	2.	al-kansaar sheep & goat farm	8688663170	ECIL, Hyderabad
	3.	sri yadav sheep farm	7799558880	mothkur, rangareddy.
	4.	Sri sanjana sheep dealers	9666504441	asifnagar, hyderabad.
	5.	SR farms	9393150002	newbowenpalli, hyderabad.

Every day, out of 53 suggestions 2 suggestions were administered to the sheep rearers at 7:00 A.M once and the same was administered at 12 noon, the 2nd suggestion was administered at 4:00 P.M and the same was re-administered at 8:00 P.M in terms of voice message and text message. Thus all 53 suggestions were administered to the 60 respondents in the similar fashion for about nearly a month.

The suggestions which were administered through voice and text messages were also administered through whatsapp voice and text messages twice in a day i.e. 7:00 A.M and 8:00 P.M this was also repeated for all the 53 scientific suggestions.

Conclusion

It can be concluded from the above results that final list of constraints (18) identified through Delphi technique. The results of the present study depicts that MEAS had significant impact on sheep rearers about constraints faced in scientific sheep rearing. The suggestions available on those constraints could be effectively transmitted through the potential of mobile phones in terms of MEAS. The scientific sheep rearing requires adequate knowledge on breeding, feeding, management and disease prevention; knowledge and skills are a pre requisite for successful adoption of scientific sheep farming practices. This strengthens the fact that the above variables should be well exploited by enriching further their knowledge through MEAS, which in turn might place them in early majority categories. The extension agencies pertaining to Animal Husbandry Department should motivate the sheep farmers through MEAS so as to make them successful in profitable sheep farming which ultimately improves their livelihood status.

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