

Future of Reflective Collars: From Urban Strays to Rural Livestock

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Abstract

The initial design of these collars comprised of a single piece of reflective tape strapped on to fabric which was loosely tied around the animal's neck. This was then followed by reflective fabric designed with clips to secure it in place, thereby minimizing the loss of collars falling off. Although they were initially used for community dogs, reflective collars are also now used by pet owners with the additional benefit of also working in tandem with reflective leashes. Once considered purely for the welfare of stray dogs in urban areas, reflective collars have now become a reasonably common sight even on domestic animals, in rural areas. Majority of small-scale farmers take their animals for grazing, early morning and return back only at night with their livestock. In such cases, where visibility is poor in rural areas either due to sandstorms or lack of proper lighting, reflective collars have proven to be very useful. The newer age reflective collars contain details regarding the owners and their animals and can also be combined with AI tech to provide information regarding the animal's behavior and habits throughout the day.

Introduction

In a country like India, the stray animal population is estimated to be approximately 90 million with stray dogs accounting for 38.89 per cent. Many a times, these animals were often left to fend for themselves leading to their deaths due to poor visibility on the roads and their inability to escape quickly either due to rash drivers or them merging with their surroundings. Illuminating characteristics of automobile head lamps, provide an illumination range of approximately 25 to 50 feet. This illumination range can be significantly reduced by mist or fog, or bends in the road. Despite improvements to vehicle headlights, stray animals are still not recognized immediately. To combat this, collars were developed which primarily consisted of a collar with an attached small bulb and switch. This provided a novel and decorative way for drivers from oncoming traffic to identify stray animals on the road. However, this was

time consuming, tedious and would often need the batteries to be changed.



Fig. 1. Calf with a new reflective collar

Reflective collars became an alternative as they were cheap, easy to manufacture and inexpensive to mass produce. Some of the other designs for reflective collars involved using a piece of reflective tape or reflective fabric or placing a strip of clear laminate over reflective material which was then attached to a leash coated in luminescent paint, a design which is primarily used by pet owners. The modern reflective collars are secured by fasteners or buckles. The design of the collar was further enhanced by tapes of different colors and alternating shapes which ensured better effectiveness of the collars under different light reflections. Additionally, some reflective materials are also bonded permanently into the fabric either by chemical or thermal bonding. The reflective collars helped immensely and gradually found its way to rural areas where there was a high population of stray livestock.

Reflective collars in rural areas

As per the 2019 livestock census the stray cattle population in the country was estimated to be around 203.31 lakhs. Stray cattle are considered in many areas to be a menace as they go around destroying crops and the more aggressive animals can result in road and human accidents. As per a report by The Hindu (2022)

over a period of five years, 900 cattle related deaths and over 3000 accidents occurred in Haryana. Over time, the stray cattle population has been on the rise due to ban on cattle slaughter, use of high-quality males which results in the weaker males being left to fend for themselves and release of diseased and unthrifty animals. Additionally, many free-range cattle are let out to graze during the day and only return back to their owners at night. With the use of reflective collars being implemented on a mass scale in rural areas it is now easier for them to be spotted, when visibility is poor. Different color schemes can be used for distinguishing between male and female animals.

The reflective collars can be combined with traditional bells to alert people in the surroundings with the sound. They can also be combined with AI technology to provide information about the animal's grazing patterns, physiological aspects and amount of feed consumed. Some reflective collars have also QR codes which can relay information via an app regarding details about the owner and the animal. There are also reflective collars currently in use in European countries which have parasitocides imbibed into them. Organizations have also paired up with colleges to ensure collaring of stray animals. In May 2016, People for Cattle in India (PFCI) collaborated with an NSS unit from ACT, New Delhi to supply reflective collars to the stray livestock in the area.



Fig. 2. A) Multiple colours (Source: Amazon), b) Reflective collars with QR codes (Source: Pawsivity)

Conclusion:

Despite the utilization of reflective collars gaining common usage in rural areas, there are still plenty of hurdles before it can gain mass acceptance. Farmers need to be educated about the importance of

the reflective collars over the traditional rope cords. However, these collars will often cost more than the traditional rope collars used and so they might not be willing to spend extra on an investment they may not deem a necessity. The reflective collars also need to be replaced as they can last anywhere from one to three years at maximum. Continuous wear and tear of the collar also occurs over time either due to the animal rubbing its neck region or due to the elements. Care should also be taken to ensure the collar is secure without being too tight or too loose as the former will result in irritation to the animal and the latter will result in the collar slipping off. Ideally, similar to distribution of reflective collars for stray dogs in urban areas, a similar program should be implemented in rural areas for stray livestock as well as for livestock that roam freely throughout the day.



Fig. 3. A calf sporting a collar which has been stained over time

References

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