Design of Mobile Veterinary Clinic and Livestock Care on Wheels

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Abstract:
Livestock sector plays a critical role in the welfare of India's rural population. It contributes 9% to Gross Domestic Product (GDP) and employs 8% of the labour force. Livestock output is growing at a rate of about five percent a year. Animal husbandry is the key department for taking care of livestock development. There are very few veterinary hospitals with basic medical and surgical facilities to protect the livestock from diseases. Emergency services are hard to be seen in the cities and towns. Existing veterinary hospitals are facing difficulties reaching rural areas for delivering the services. This project is an attempt to design a “Mobile Veterinary Clinic” to be introduced to serve the livestock in remote villages, at the farmer's door step and also the pets in urban areas.

The design process started with a primary research and identified the needs of veterinarians. Data collection was carried out by adopting methodologies such as literature review, product study, market study and product environment study. Benchmarking was carried out to understand similar products in the market. Interviews were conducted with veterinarians to understand their needs and aspirations. Ergonomic study was conducted to gather data on vehicle interior parameters and treatment areas. Quality Function Deployment (QFD) and Product Design Specification (PDS) were generated based on the data collected. Concepts were generated with respect to the derived PDS and shortlisted by participatory method. Various issues and needs were identified through data collection and were addressed in the developed concepts. Final concept was selected by weighted ranking method.

A scale down 1:10 mock-up model was developed to validate the final concept and feedback was collected from veterinary doctors. Users’ requirements such as usability, aesthetics and ergonomics were addressed in the final design. User response on the final design was found to be positive and satisfactory.