

COMMUNITY SERVICE REPORT: ANIMAL POPULATION SURVEY AND IDENTIFICATION OF SOCIO-ECONOMIC CHALLENGES IN BATUAN KALER VILLAGE, SUKAWATI DISTRICT, GIANYAR**Laporan Pengabdian Masyarakat: Pendataan Populasi Hewan Dan Identifikasi Kendala Sosio-Ekonomi Di Desa Batuan Kaler, Kecamatan Sukawati, Gianyar****Yudha Yaksa Crada Yoga Arum Raharjo^{1*}, Laurensius Arvel Wihangga², I Gusti Ayu Agung Candra Sari Dewi², Ni Nengah Indra Pradnya Darmayanti², Ida Ayu Metta Saraswati Sidemen², I Gusti Ngurah Sudisma³, I Wayan Suardana⁴, I Made Kardena⁵, I Gusti Agung Adi Narayana⁶**¹Laboratory of Veterinary Pharmacology, Pharmacy, and Toxicology, Udayana University, Jl. PB. Sudirman, Denpasar, Bali, 80234, Indonesia²Bachelor of Veterinary Medicine Program Student, Udayana University, Jl. PB. Sudirman, Denpasar, Bali, 80234, Indonesia³Laboratory of Veterinary Surgery, Udayana University, Jl. PB. Sudirman, Denpasar, Bali, 80234, Indonesia⁴Laboratory of Veterinary Public Health and Veterinary Epidemiology, Udayana University, Jl. PB. Sudirman, Denpasar, Bali, 80234, Indonesia⁵Laboratory of Veterinary Pathology, Udayana University, Jl. PB. Sudirman, Denpasar, Bali, 80234, Indonesia⁶Indonesian Veterinary Medical Association, Bali Regional, Jl. By Pass Ngurah Rai No 98, Pesanggaran, Denpasar, Bali, 80222, Indonesia

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Abstract

Batuan Kaler Village in Gianyar, Bali, exhibits close communitarian interactions between the local community, domestic animals, and livestock. However, the absence of valid population demographic data and animal health status mapping often hinders the effectiveness of veterinary intervention programs and sectoral development in rural communities. This community service activity, conducted through the XXXVIII Veterinary Clinical Work (KKV), utilized a door-to-door census survey method across four banjars (traditional neighborhood/community unit in Bali) (Sakah, Dauh Uma, Cangi, and Blahtanah) to collect

data on animal populations, dominant clinical complaints, and socio-economic constraints of the residents. The census recorded a total domestic animal population dominated by poultry/chickens (488 heads) and dogs (249 heads), while pig ownership was completely absent (0 heads). The most pervasive clinical complaints across all banjars were ectoparasite-induced skin diseases (pruritus, ticks, and hair loss) alongside low dog sterilization rates. Sectorally, residents faced challenges including rodent pest infestations and weather fluctuations in agriculture, manure accumulation issues in livestock management, as well as capital instability and declining tourist visits in the craft and trade sectors. This community service has successfully established a crucial database for veterinary management in Batuan Kaler Village. Integrated follow-up programs are urgently required, focusing on mass skin disease treatment, dog sterilization, and training on transforming livestock waste into organic compost (*eco-farming*) to sustain the economic resilience of the local community.

Keywords: Animal Demographics, Batuan Kaler, Community Service, Animal Diseases, Veterinary Medicine

Abstrak

Desa Batuan Kaler di Gianyar, Bali, memiliki interaksi komunitarian yang erat antara masyarakat dengan hewan domestik serta ternak. Namun, ketiadaan data demografi populasi yang valid dan pemetaan status kesehatan hewan sering kali menghambat efektivitas program intervensi veteriner serta pembangunan sektoral masyarakat perdesaan. Kegiatan pengabdian masyarakat melalui Kuliah Kerja Veteriner (KKV) XXXVIII ini menggunakan metode survei lapangan bersifat sensus (*door-to-door survey*) di empat wilayah banjar (Sakah, Dauh Uma, Cangi, dan Blahtanah) untuk menghimpun data populasi hewan, keluhan klinis dominan, serta kendala sosio-ekonomi warga. Hasil pendataan mencatat total populasi hewan domestik yang didominasi oleh ayam (488 ekor) dan anjing (249 ekor), sementara kepemilikan komoditas babi nihil (0 ekor). Keluhan klinis hewan yang paling masif di seluruh banjar adalah penyakit kulit akibat ektoparasit (gatal-gatal, kutu, dan bulu rontok) serta rendahnya angka sterilisasi anjing. Dari aspek sektoral, warga menghadapi kendala berupa serangan hama tikus dan fluktuasi cuaca pada sektor pertanian, masalah penumpukan kotoran sapi pada sektor peternakan, serta ketidakstabilan modal dan penurunan kunjungan wisatawan pada sektor kerajinan/perdagangan. Pengabdian ini berhasil menyusun basis data krusial bagi tata kelola veteriner di Desa Batuan Kaler. Diperlukan program lanjutan terintegrasi yang berfokus pada pengobatan penyakit kulit massal, sterilisasi anjing, serta pelatihan pemanfaatan limbah kotoran ternak menjadi pupuk kompos (*eco-farming*) guna mendukung ketahanan ekonomi masyarakat lokal.

Kata Kunci: Batuan Kaler, Demografi Hewan, Kedokteran Hewan, Pengabdian Masyarakat, Penyakit Hewan.

INTRODUCTION

The 38th Veterinary Fieldwork Program (KKV), organized by the Student Executive Board of the Faculty of Veterinary Medicine at Udayana University, is a concrete manifestation of the Tri Dharma of Higher Education, particularly in the area of community service. This community service initiative was carried out dynamically in the village of Batuan Kaler, Sukawati District, Gianyar Regency, Bali. Through a participatory approach, this program is designed to bridge the discipline of veterinary medicine with the social, economic, and environmental health dynamics directly faced by communities preserving culture and agriculture in rural Bali.

Batuan Kaler Village is characterized as a buffer zone for the creative economy and agriculture, relying on close interactions between humans, wildlife, and domestic animals. According to a study by Manro & Yovani, (2018) the intense interaction between rural communities and animals, whether livestock or pets requires integrated animal health surveillance to prevent the transmission of zoonotic diseases and maintain the stability of the micro-economy based on smallholder livestock farming. Therefore, periodic mapping of animal population demographics and clinical status is an essential tool. The lack of valid population data often poses a major obstacle for local governments and academics in formulating effective and targeted animal health intervention policies (Sindawati *et al.*, 2021).

In addition to animal health issues, the social dynamics of the community in Batuan Kaler Village, Sukawati District, also present complex challenges in harnessing the village's potential. Land-use conversion, global climate fluctuations that trigger pest outbreaks, and downstream challenges such as livestock manure management often create a tangled web of issues that reduce residents' productivity. Research by (Dewi *et al.*, 2022) confirms that economic resilience in rural Bali following the tourism crisis is heavily dependent on the diversification and efficiency of the agricultural sector. When the agriculture and livestock sectors are hindered by technical issues and animal health management challenges, aggregate socio-economic well-being is consequently affected.

Given this urgency, KKV XXXVIII focused its activities on livestock data collection in four banjar areas: Banjar Sakah, Banjar Dauh Uma, Banjar Cangi, and Banjar Blahtanah. The primary objective of this community service initiative is to conduct a comprehensive mapping of the animal population, identify the health status of dominant livestock, and collect empirical data on the socio-economic challenges faced by the community on a daily basis. The output from this data collection is expected to serve as an applicable database for planning integrated animal health management programs, economic empowerment, and improvements to environmental sanitation in Batuan Kaler Village in the future.

IMPLEMENTATION METHOD

This community service project employed a field survey method using a census model through door-to-door visits, based on the guidelines provided by Kusumaningtyas & Rahman (2021). The survey was conducted in person at residents' homes spread across four banjars in the Batuan Kaler Village area. During the fieldwork process, the team focused on collecting three main types of data. First, the team recorded the population of domestic animals owned by residents, including dogs, cats, cows, pigs, chickens, and other types of animals. Second, they documented the health status of these animals, which included observations of clinical symptoms of common diseases, vaccination status, and sterilization procedures that had been performed. Finally, this survey also gathered information regarding the primary livelihoods of the local community, while identifying various economic and sectoral challenges they face in their daily lives.

RESULTS AND DISCUSSION

Animal Population Demographics

Based on field data collected directly in the four banjar districts of Batuan Kaler Village, a fairly diverse range of livestock was recorded, with poultry and pet animals dominating the sector. Cumulatively, the chicken population ranked highest among residents' poultry, totaling 488 birds, followed by a dog population of 249, distributed throughout the survey area. Other pet animals, such as cats, numbered 68, while large livestock, specifically Bali cattle, were only found in Banjar Cangi (24 head) and Banjar Blahtanah (3 head). Interestingly, in the data

collection conducted by the KKV XXXVIII team, no ownership or pig farms (0 head) were found at all across these banjar areas. This demographic structure, dominated by poultry and dogs, aligns with the research by Nugraha *et al.*, (2017), which states that animal husbandry characteristics in rural Bali are generally based on the availability of feed and socio-religious functions, where dogs are kept as house guards while chickens are raised for traditional ceremonial purposes as well as small-scale economic investment.

The distribution of animals in each banjar exhibits varying density patterns depending on local geographical and sociological conditions. Banjar Blahtanah is recorded as the area with the densest animal population, where the number of dogs (125) and chickens (209) in this area is the highest compared to other banjars, in addition to 1,204 animals in other categories such as birds and ornamental fish. Meanwhile, Banjar Sakah ranks second for dog populations (69 dogs) and chicken populations (144 chickens). Conversely, Banjar Dauh Uma has the smallest animal population, with only 14 dogs, 7 cats, and 29 chickens recorded. According to the analysis by (Suwartama *et al.*, 2018), differences in animal population density among traditional territories within a single village are influenced by the size of residents' courtyards (Karang Kembar) and the level of local urbanization. Spatial demographic mapping such as this serves as a critical tool in community veterinary medicine, particularly for predicting a region's vulnerability threshold to potential disease transmission and the effectiveness of targeted mass vaccination programs (Salman & Hernawan, 2025). A summary of the animal census results is presented in Table 1.

Mapping Animal Health Issues

The KKV XXXVIII team successfully identified several important clinical observations regarding animal health conditions in the field across various regions. In Banjar Dauh Uma, the dogs' health is generally well-managed because most have been vaccinated and spayed or neutered, so the only remaining major issue is skin complaints such as itching. Meanwhile, the situation in Banjar Cangi showed that dogs there frequently suffer from itching and hair loss, while for large-scale livestock sectors such as cattle, the main challenge lies in the high rate of parasite transmission.

Moving on to Banjar Blahtanah, the team found a high incidence of skin diseases and itching in dogs; from a population management perspective, the majority of dogs have indeed been vaccinated, but most have not yet been spayed or neutered. A nearly identical situation was found in Banjar Sakah, where animal health complaints were dominated by issues of fleas, itching, and hair loss in dogs. Although most dogs in Banjar Sakah have been vaccinated, many have not yet undergone sterilization.

The high incidence of skin conditions such as itching, fleas, and hair loss in dogs in Banjar Cangi, Blahtanah, and Sakah is highly consistent with the findings of Junaedi *et al.*, (2020), who stated that skin diseases caused by ectoparasites (such as *Sarcoptes scabiei* and *Demodex canis*) as well as flea infestations are the most prevalent dermatological cases in local dogs in Bali due to environmental humidity factors.

Furthermore, parasite transmission in cattle in Banjar Cangi aligns with the study by Ariawan *et al.*, (2018), in the Journal of Veterinary Medicine, which confirms that small-scale Balinese cattle farms often face challenges with internal parasites (intestinal worms) and external parasites (flies/ticks) due to suboptimal barn sanitation management.

Analysis of Social and Sectoral Constraints of Society

In addition to mapping veterinary issues, the survey conducted in Batuan Kaler Village successfully identified various operational challenges that hinder the community's economic

productivity across various livelihood sectors. In the agricultural sector, the challenges faced by each banjar are quite diverse; farmers in Banjar Dauh Uma complained of a massive rat infestation, while farmers in Banjar Cangi had to deal with a water scarcity crisis, and in Banjar Sakah, heavy rainfall actually triggered a surge in crop pest populations.

Meanwhile, the livestock sector in Banjar Cangi also faces its own challenges, as livestock farmers struggle to manage and control the accumulation of manure to prevent environmental pollution. Finally, significant challenges are also being felt in the trade and handicraft sectors in Banjar Blahtanah and Banjar Sakah. Business operators in Banjar Blahtanah must contend with capital instability and volatile market conditions. This situation is exacerbated by a decline in tourist visits, which directly impacts the economic well-being of artisans in Banjar Sakah as well as merchants in Banjar Blahtanah.

The problem of livestock manure accumulation in Banjar Cangi is a classic issue affecting the entire value chain of smallholder livestock farming. Failure to manage cattle manure waste can reduce the hygiene of the surrounding environment and trigger resistance among residents (Zulkarnain *et al.*, 2021). However, if processed using simple fermentation technology, this waste has high economic value as organic fertilizer.

Meanwhile, complaints about declining tourist numbers in Banjar Blahtanah and Sakah reflect the uneven recovery of the tourism sector following the global crisis in art-supporting areas like Sukawati, as analyzed by (Santhi *et al.*, 2025) in the Journal of Tourism Analysis, where the diversification of digital-based handicraft products has become an absolute necessity for local artisans to survive.

CONCLUSIONS AND RECOMMENDATIONS

Conclusion

The community service project conducted by the 38th KKV of the Faculty of Veterinary Medicine, Udayana University, successfully identified dogs and chickens as the most common livestock in Batuan Kaler Village. The primary animal health issues center on ectoparasitic/skin diseases (itching, fleas, hair loss) as well as the still-low rate of dog sterilization in some banjars. On the other hand, the well-being of the agricultural and handicraft communities remains hampered by natural factors (pests/weather), infrastructure limitations (water and sewage), and the sluggish tourism sector.

Recommendations

These recommendations for the follow-up program encompass three main, mutually integrated pillars. First, in the area of Veterinary Health Education and Community Service, there is an urgent need to implement free mass treatment programs for skin diseases (such as scabies and demodicosis) and to provide regular internal and external antiparasitic treatments to livestock and dogs. Second, regarding Integrated Population Management, it is recommended to collaborate with relevant government agencies or animal welfare NGOs to organize free mass sterilization (neutering/ovariohysterectomy) to curb the growth rate of the dog population in Banjar Blahtanah and Sakah. Third, through Agricultural & Environmental Innovation (Eco-Farming), it is proposed to provide training on making organic compost from livestock manure for the community in Banjar Cangi. This program is expected to address the problem of livestock waste accumulation while minimizing agricultural input costs during pest seasons.

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Table

Table 1. Table of Animal Data Collection Results in Batuan Kaler Village.

No	Types of Animals	Banjar Batuan Kaler Village					Total Animals
		Br. Sakah	Br. Dauh Uma	Br. Canggi	Br. Tanah	Blah	
1	Dogs	69	14	41	125	249	
2	Cats	31	7	8	22	68	
3	Cattle	0	0	24	3	27	
4	Pig	0	0	0	0	0	
5	Chicken	144	29	107	209	488	
6	Other*	129	11	50	1,204	1,394	

*Description: Includes birds, fish, iguanas, snakes, turtles, and other pets.