



Transformative Role of Gaushalas in Conversion of Waste to Wealth: A Way Forward to Curb the Stray Cattle Menace

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Abstract

India being an agricultural country, the cattle plays a predominant role as a backbone of agricultural sector. But the owners abandon these cattle when they become old, sick, disabled and non-productive. These cattle are called stray cattle who roam on the streets in search of food or are sighted sitting in the middle of the street as they have no place or shelter. There are about 5 million stray cattle in India with Rajasthan (1.27 million) at the top followed by Uttar Pradesh (1.18 million), Madhya Pradesh (853,971), Gujarat (343,918) and Chattisgarh (184,993) (20th Livestock census). The problem of stray cattle is always matter of concern for the government as it has become menace for farmers and general public. The government has intervened numerous times towards the management of these stray cattle in humane manner. Rehabilitation of these stray cattle is one of the main managerial practices followed across India. Stray cattle are rehabilitated at Gaushalas which act shelters for disowned cattle, breeding station for indigenous breeds where these breeds are developed and preserved. Besides providing income and employment to many people, Gaushala can take India to organic future as food grains, pesticides, fertilizers produced from natural agricultural system with the use of cow-urine, cow dung-based manure are free from chemicals. But to address the problem of stray cattle, it is not sufficient and efficacious that they are kept in Gaushalas; the government needs to look beyond that and should consider taking other options to protect stray cattle from suffering as well as to protect the public from the menace caused by the same.

Keywords: Gaushalas; Wealth; Curb; Stray Cattle Menace

Introduction

Each among us must have come across words like homeless, shelter less, heirless, ownerless in common parlance where such terms are associated with humans. These situations are mired with the vagaries of nature and man-made problems. The scenario does not apply only to humans but has context in animal care as well. So in case of cattle, three terms are related with this regard which is as under

- **Stray cattle:** Stray cattle is defined as the one that has no owner, strays across road/public place and wander without any proper destination or have no shelter [11].
- **Loose cattle:** In urban areas, due to lack of space and high cost of feed the cattle are allowed to stray during daytime by their owners [18].
- **Scrub cattle:** Cattle that stray from the herds and run wild in the scrubs (<https://www.wordnik.com//wors/scrub-cattle>).

Stray cattle status in India

The stray cattle population in India is about 5 million which is over and above the 193 million cattle present in the country (Table 1 and Figure 1). The census further trends the population of stray cattle show marginal decrease of about 3.2% over the previous census but the figure still hovers around 5 million which is worrisome.

While the stray cattle population shows a decline at the national level, there is substantial increase in stray cattle population in states such as, Madhya Pradesh (95%), Punjab (38.69%) Rajasthan (34.48%), Chhattisgarh (33.93%) Gujarat (17.59%) and Uttar Pradesh (17.34%), in 2019 in comparison to 2012 as shown in figure 2. However, in some states, a sharp decline has been registered in the stray cattle population. These include Orissa (86.68%), West Bengal (73.59%), Bihar (66.54%) and Tamil Nadu (23.95%). Besides this, there are many states and union territories which have little or no stray cattle population which includes: *D and N Haveli, Lakshadweep, Manipur, Mizoram, Nagaland, Pondicherry and Sikkim*.

In Jammu and Kashmir, stray cattle population has shown increase of 65.73% over previous census with total of about 13,000 stray cattle in 2019 as depicted in table 2 and figure 3 [11].

Reasons for cattle being stray

In urban areas lack of space and high cost of feed due to non-availability of land for cultivation of fodder and grazing has made farmers to stray/abandon their cattle on the streets of cities, where they find their way to graze on waste, garbage and tanks. Cattle

Category	Population (In million) 2012	Population (In million) 2019	% Change
Total Cattle	190.9	193.4	1.3
Stray cattle	5.2	5.0	-3.2

Table 1: Stray cattle status in India.

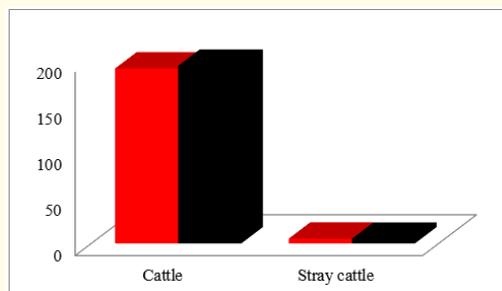


Figure 1: Stray cattle status in India.

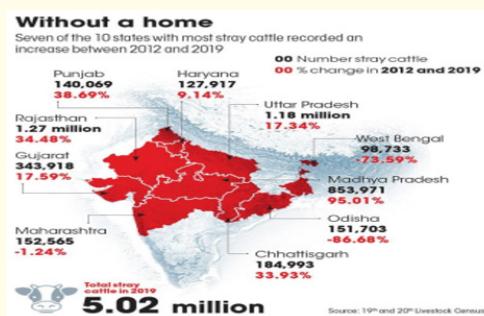


Figure 2: Stray cattle population change in major states (from year 2012-19).

Area	Population 2012	Population 2019
Rural	4451	2471
Urban	3914	11393
Total	8365	13864

Table 2: Stray population in J&K according to 20th Livestock census.

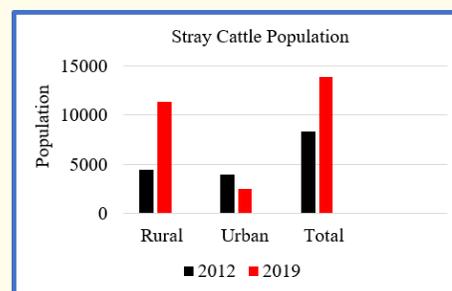


Figure 3: Stray cattle status (J and K).

are being abandoned by farmers because they are beyond the age of productivity that means more than 8-9 years (approx) [7] and the cost to keep an unproductive cow is (94.12 USD/month which leads to severe economic deficit on behalf of the farmer. There has been a decline in agricultural activities and increased industrialization in the past decade which has led to replacement of bullocks by mechanized instruments [9]. In India beef ban has made it difficult for farmers to sell their unproductive cattle and dispose of their males calves. Prior to the beef ban, farmers could sell dried up cows for 251.03 USD to 627.58 US D each depending on their age. Farmers are facing a severe financial insufficiency since they can no longer sell their cattle for profit [8].

Nuisance caused by stray cattle

- **Road accidents:** Prevalence of animals wandering across the public roads is common contributing to traffic accident [9].
- **Disease carriers:** Stray cattle harbor various parasites and acts as disease carriers for other cattle as well as humans such as Salmonellosis, Mycobacterium paratuberculosis, ringworm, Q fever etc. [18].
- **Compete for feed resources:** Huge cattle populations with low productivity have become a great liability as they compete for nutritional resources by grazing on land that should be otherwise only for higher yielding animals owned by farmers.
- **Trespassing on farmland:** Cows trespass on farmland and destroy crops causing annoyance to farmers.
- **Methane emission:** Increasing stray cattle population is one of the contributing factors to increasing methane levels which is a potent cause of global warming [16].

Management of stray cattle

In an agrarian country like India, cattle can be considered as the backbone of rural economy in terms of income, employment, social/gender equity, agricultural sustainability and diversification. It is treated as most pious animal and has the apex position in the country as there is great religious significance and cultural sensitivity towards the welfare of cattle in India. Besides this, it is predominant farm livestock species and represents about 37.28% of total livestock wealth [11]. Thus there is need to manage these cattle in a humane manner when they become old, sick, disabled, non-productive and stray animal.

Stray cattle can be managed by following ways like

- Rehabilitation of stray cattle at cow shelters (Gaushala).
- An effective castration programme needs to be run by each state government. As the Indian cattle breeds produce low milk production as well as this country encourages the beef ban, thus castration of unselected animals by farmers themselves best option. To ensure animal welfare, large number of trained personnel would be necessary and to maintain such a service need huge funds and organizational support.
- Using female sorted sexed semen would help in reduction in number of unwanted male calves. Flow cytometry which is considered a most reliable, fastest and cost effective method for the same [8].
- Re-domestication of cattle may be tried by feeding kitchen residue and special provisions for green fodder/grazing facilities at home [13].
- Recognition and registration of potential breeds to attract state funding for improvement [14].

Rehabilitation of Stray cattle

It is one of the main managerial practices followed across India. Stray cattle are rehabilitated at Gaushalas. *Gaushala*, a Sanskrit word (“*Gau*” means cow and “*Shala*” means a shelter place) which means the institution established for the purpose of keeping, breeding, rearing and maintaining cattle for the purpose of reception, protection and treatment of infirm, aged or diseased cattle. Gaushalas primarily focus on providing shelter to cows and cater mostly to the needs of non-lactating, weak, unproductive and stray cattle. It includes a Pinjarapole or a *Gosadan* where such cattle are kept [20].

Historical perspective of Gaushalas

The *Gaushala* movement is synonymous with the protection of cows and cattle wealth. Being practiced for the last five thousand years or so, its origin can be traced in the Vedic period when social customs and rules laid great emphasis on protection, preservation and development of cows for home, and oxen for agriculture fields. After the establishment of the first *Gaushala* in Rewari (now in Haryana) by Raja Rao Yudister Singh in 1879, between 1880 and 1893, hundreds of *Gaushalas* were established.

In 1947 the Government of India appointed a 'Cattle Preservation and Development Committee' under the chairmanship of Sardar Datar Singh. Along with other issues, the Committee also studied the role of *Gaushalas*, Cattle Protection Societies and Salvage Centres for preserving cattle wealth and for promoting their development. The Committee recommended establishment of '*Gosadans*' where 'uneconomic' cattle could be housed and allowed to die a natural death. In pursuance of this recommendation a scheme for establishment of 160 *Gosadans* in the country was included in the First Five Year Plan (1951-56). It was 1949 when Central Gaushala Development Board was established for coordinating the activities of Gaushalas.

Government of India in 1952 set up Central Council of Govsambardhana which is for preservation and development of cattle. A report published by CCG, New Delhi under the heading "Gaushals and Pinjarapoles in India" during First Five Year Plan [10].

Role of Gaushalas

There are about 7331 registered Gaushalas in India run by Animal Husbandry department and others (NGOs, panchayats, ashrams etc.). Out of which majority is present in Rajasthan with 1881 Gaushalas followed by Gujarat and then Haryana. In Jammu and Kashmir only 25 Gaushalas are there which are all governed by other organizations like NGOs, panchayats, ashrams etc. [7]. Besides providing shelter to non-lactating, weak, unproductive and stray cattle, it plays additional role in many states like in Karnataka some of the Gaushalas act as isolated stations for diseased animals; in Gujarat as productive units for milk, dung and urine; in Punjab as breeding stations for indigenous cattle and in Haryana/Uttar Pradesh as shelters only [19].

Funding

Out of about 7331 Gaushalas in India which largely serves the indigenous cattle population approximately 1850 Gaushalas are registered under Animal Welfare Board of India (AWBI) which is largest funding agency for promotion of animal welfare initiatives by different organizations including Gaushalas. While as rest of them are completely private and depends solely on donations (https://www.awbi.org/awbi-pdf/recog_guidelines.pdf).

Management of Gaushalas

The management of the Gaushalas is by and large on traditional lines rather than on scientific basis. Thus, the animal science di-

vision of Indian Council of Agricultural Research has proposed a manual on "Management of Gaushalas" in 2016 which will significantly help in capacity building of Gaushala staff for scientific rearing of cows. This manual provides information on housing, sanitation, feeding, breeding and health aspects of cattle management which will certainly help in transforming Gaushalas for better upkeep of cows and their progeny [15]. It includes

- Minimum infrastructure required for Gaushalas of three herd size (100, 500, 1000 animals).
- Identification and record keeping of animals.
- Feeding of different types of animals.
- Veterinary care of animals including vaccinations.
- Maintaining hygiene of animals as well as the Gaushala and disposal of wastes.
- How to manufacture eco-friendly products from cow dung.

Source of revenue for Gaushalas

Gaushalas have milk as their primary source of income. Apart from milk, cow urine, cow dung and hides can be used for revenue generation. Cow dung is a vital source for biogas-plants (263,702 million m³/year) [21] and on large scale can be used for sale in brick kilns [17].

Success stories of some Gaushalas

One of the Gaushala was set up by members of women's SHG in Tikamgarh district of Madhya Pradesh in 2004. It was initially started with rearing of stray cattle abandoned by poor farmers that no longer had means to feed them. They planned to milk 8 cows they housed in a Gaushala and use income for their upkeep. Soon when people realized the success of the concept, they started donating their extra cattle and now the Gaushala is proud owner of 102 cows. The revenue is generated from vermi-composting, biogas plant-utilising large quantities of cow dung. Impressed by the effort, 20 acres of land donated by government of Madhya Pradesh in 2008 [2].

Another Gaushala namely Govardhan Gaushala was started in 2003, Maharashtra by V. Lashman Sharma for preserving indigenous breeds. It initially began with 9 cows plus bulls and now number has increased to 104. The main motto of this Gaushala is to make cows happy and loved by providing highest care, protection and natural living. For that personal attention and care given with

separate special zones allocated to bulls, cows, calves and milking cows. The revenue is generated by cows and bulls as well. Bulls are engaged in ploughing the fields, extracting oil in oil mill, flour mill, transportation within farms etc. Cow dung used for biogas plant, manure, cow dung cakes as fuel, soap, toothpowder etc and cow urine for Go Ark, pesticides, manures (<https://iskcongeev.com/goshala>).

Various models/initiatives implemented by Various Models and initiatives implemented by Central and State governments with regard to Gaushalas/Cow shelters

Rashtriya Gokul Mission

An initiative was induced by the central government for development and conservation of indigenous breeds through selective breeding and genetic up gradation. It was launched in December, 2014. The central government had undertaken the mission to support Gaushalas and raise their numbers in order to prevent unproductive cows being sent to abattoir. Animal's bodily wastes like cow dung, cow urine were used to pay for their upkeep. Under this mission, the setting of Gokul Grams was also envisaged. The Gokul Grams are principally integrated cattle development centers to develop indigenous breeds. The Central government had a plan of establishing 21 Gokul Grams all over country but till 2019, only 4 were established (<https://dahd.nic.in>). Besides this, the Modi government has come with a scheme to support Gaushalas by providing them financial assistance. Under this scheme, an amount of Rs 900 crore will be allotted for registered Gaushalas (<https://dahd.nic.in/sites/default/files/rgm.pdf>).

Gujarat Gauseva model

Gauseva and GaucharVikas Board, Government of Gujarat has developed "Gujarat Gauseva model" for care and management of stray and abandoned livestock and desi cows. The board identified 143 Gaushala in the state to launch 23 projects as model institutions and to propagate Gaushala advancement throughout the state towards their self-sufficiency by using cow dung and urine for production of medicines, electricity, bio-fertilizers etc. The model does not only sustain the indigenous breeds but also support the economy of farmers by protecting the ecosystem. Major works done by Gaushala Development in Gujarat State

- Establishment of new gaushals (particularly in jails, schools, temples etc.).
- Provide support for natural breeding of Desi breeds.

- Offer scholarship on Gaushala research, Gau-vigyan courses in schools.
- Awareness in tribal areas to emphasize on organic farming.
- Organise conferences on Gaushala Development and honoring Gaushala workers.

The Gujarat model could be replicated throughout the country to save the cows and its progenies by making Gaushalaself-sufficient [1].

The "model Gaushala" scheme in Madhya Pradesh

As a part of the scheme, the state government plans 1000 shelters to accommodate 7 lakh stray cows and bulls. Gram panchayats, self-help groups and NGOs are working for the welfare of cows will manage the shelters. Moreover the grant for these gaushals has been increased from Rs 3.32 to Rs 20 per cow per day [3]. Besides this scheme, the government of Madhya Pradesh had decided to use colour tags for cows in Gaushalas to get rid of stray cows on streets. Usually most cows in Gaushalas in the state have yellow tags [4].

Initiative by Punjab GauSewa Commission

Punjab government with the efforts of Punjab Sewa commission has decided to construct district level cattle pounds on 15-25 acres of land in 2014 (PashuMandi in Bathinda). The government also constituted District Animal Welfare Societies that will make arrangements for keeping up to 2000 animals in each cattle pound. Furthermore, the Gaushala present in the state are being run by public and other NGOs. By the end of FY 2019-20 about 435 Gaushals have been registered under Punjab GauSewa Act, 2014. The department of local government has issued notification for collection of cow cess in many municipal corporations. Money collected is used for cow welfare activities in the state(<https://pgsc.org.in>). Other than that Punjab's first "Model Gaushala" will come up at GADVASU university campus for addressing stray cattle menace. The aim of the model is going to educate other cow shed owners to run their establishments in a scientific way [6].

Orrisa Gaushala Scheme-2021

The main aim of the scheme is to encourage establishment of new stray cattle shelter houses under Orrisa state plan for financial year 21-22. Under this scheme, assistance will be given to regis-

tered voluntary organizations/institution having 3 years of experience of working in field of animal welfare. Moreover, organisation should not run for profit to any individual or body of individuals and should have properly constituted managing body with its powers clearly defined and laid down in a written constitution. Gaushalas under this scheme have to house at least 50 adult stray cattle and with sufficient land for growing fodder(<https://cdn.s3waas.gov.in>).

MukhyaMantriBesaharaGau- VanshSahbhagitaYojna in Uttar Pradesh, 2019

As we know, one -fifth of stray cattle population is in Uttar Pradesh alone. Thus, a scheme was launched in September 2019, seeking people's participation in protection of stray cattle. Under this scheme government handover one lakh government run Gaushalas to farmers or general public. People in semi-urban and rural areas could adopt upto 4 stray cows, bulls and calves and state government would transfer Rs 3 per animal each day. Other than that, UP government had a plan to set up Gaushala in every district which in turn would prove boon in regions like Bundelkhand that faces problem of Anapratha tradition- abandon cows once they stop giving milk (<https://factly.in/review-what-are-the-various-schemes-initiatives-for-cow-other -milch-cattle/amp/>).

Rehabilitation of Stray Cattle Policy in Himachal Pradesh (2014)

The state adopted this policy so that on one hand seeks secure assistance of civil society in establishment and operation of more gaushals and on other hand encourages individuals and organisation to adopt stray bovines. Under this policy, cow sanctuaries and gausadans would be provided with assistance of Rs 500 per cow by state government and gram panchayat would take responsibility for registration and levy fines on defaulters (<http://hpagrisnet.gov.in>).

Jammu and Kashmir

As per reports there is very less stray cattle population in Kashmir but if any stray cattle are found on the roads of Srinagar city, they are immediately lifted by animal handlers and transported to Municipal Cattle Pond situated at Tengpora, Kashmir. All the sick, abandoned animals are primary focus of this cattle pound. There is adequate care to livestock with respect to feeding, management and veterinary care. The functioning of cattle pound is

closely inspected and monitored by Municipal Veterinary officer. The animals are retained at cattle pound till claimed by owners and are released to owner only on remitting of fine and if they are not claimed by anybody then they are subjected to auction by publishing auction notice in daily newspapers. Similarly in Jammu, the stray cattle are taken to cattle pound at Dogra Hall Jammu and Gaushalas like in Amphala (https://www.livelaw.in/pdf_upload/pdf_upload-375980.pdf). Besides this, the government has planned to get geo-tagged that will help to identify owners of stray cows and penalize them by JMC [5].

Major constraints faced by Gaushalas

As we know every coin has two sides; there are some of the constraints also which are faced by Gaushalas in India that includes.

Non-availability of land for grazing and fodder cultivation, inadequate supply of green fodder round the year and inadequate knowledge on balanced feeding are the major constraints regarding feeding. In healthcare constraints, lack of timely access to veterinary services, poor knowledge about cattle health management and prevalence of poor environmental hygiene are important constraints. The reason might be due to inadequate knowledge regarding good healthcare practices, distant location and limited access to veterinary services. Inadequate credit facilities/funds/donations, inadequate infrastructure and difficulty in registration are some of the important institutional constraints. Inadequate capital for infrastructure development, high cost of inputs and inadequate support for training and development are important constraints. Currently, there is much controversy between Indian political parties on resolving the economic and social stress that cow abandonment has caused on several states in India [12].

Welfare issues of stray cattle in Gaushalas

Five freedoms of animal welfare are as following

- Freedom from Hunger and Thirst
- Freedom from Discomfort
- Freedom from Pain, Injury or Disease
- Freedom to Express Normal Behavior
- Freedom from Fear and Distress.

Primary welfare problems in the shelters are low space allowance per cow, poor quality of the floors, little freedom of movement and a lack of pasture grazing. Compromised biosecurity and risks of zoonosis have also been reported [16].

Conclusion

It is concluded that Gaushala can curb the nuisance caused by the huge stray cattle population next to rehabilitation of cattle when they become old, sick, disabled and non-productive. Moreover, it acts as breeding station for indigenous breeds where these breeds are developed and preserved. Besides providing income and employment to many people, Gaushala can take India to organic future as food grains, pesticides, fertilizers produced from natural agricultural system with the use of cow-urine, cow dung-based manure are free from chemicals. However, there are some lacunas also that are faced by the Gaushalas that includes- poor nutrition, healthcare, inadequacy of skilled labour and credit facilities.

Suggestions

- In order to overcome the lacunas faced by Gaushalas, several NGOs, trusts and SHGs are already working in this area. Their efforts can be supplemented by new government schemes.
- Government has been found lagging in providing financial assistance to Gaushalas. Thus government funding can be increased by allocating a certain portion of funds in the annual budget to the Gaushala alone.
- The net income is found negative for various Gaushalas due to higher expenditure on feeding of large animals and very low milk production. Hence efforts should be made to provide good quality of feed and fodder at reasonable prices.
- The less sustainable Gaushalas should learn lessons from higher sustainable Gaushalas by diversifying their income resources through making and selling various products like pesticides, organic manure, milk, cow dung and urine.
- Gaushalas should be built efficiently so as to accommodate adequate number of stray animals and must have good facilities such as veterinary hospital, ambulance, processing mill etc.

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