

Traditional Practices Impact on Positive Environment in Selected Villages of Fatehgarh Sahib District, Punjab: A Field Visit Report

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Abstract

Cattle comprises the top most domestic animal in India. Cow is connected with all beings for the use of milk in crucial time of their life. Cow milk products and by products of cow dung and cow urine also have more therapeutic benefits practiced in centuries in India. The cow is treated as holy animal and Hindu religion worshipped as Goddess. The author chosen to visit North Region of Punjab, Fategarh Sahib district, selected two villages to observe the traditional practices of cow dung and manure preparation for the villagers day today life. The field visit the author interviewed the Sarpanches (Panchayat President's) and gathered the information socio economic demographic variables and health of villagers and communicable diseases data of the people. It is reported that there is no incidence of specific and periodic diseases occurred for past years. The author observed the practice of cow dung and manure preparation for long time it enhances the ecological environment and thus prevent the diseases and promote the health of people and positive atmosphere of community climate.

Keywords: Traditional Practices; Environment Health; Cow Dung; Manure; Guhara.

INTRODUCTION

Cattle comprises the top most domestic animal in India. The cow milk is very useful for human life from infant to end life. Other animals off springs for life surviving when mother dead or not available to feed it only depends on cow milk. The cow role not possible to substitute of any

other animals for feed of any living beings in this World. For mother of her kindness to the humanity she is treated Goddess in Hindu religion. Cattle by products of cow dung and urine will be used for therapeutic and hygienic purposes for centuries. Many studies says the cow dung is natural remedy of purified environment and it exposure controls the adverse effects of pollutions.

Cow dung is also called as cow pats, cow pies, or cow manure, is the waste product (faeces) of bovine animal species. A deposit of cow dung is referred to in American English as a 'Cow pie' or less commonly 'cow chip' (when dried) and in British English as a Cowpat.¹

Cow dung is the undigested residue of plant matter which has passed through the animal's gut. The faecal matter is rich in Minerals. Cow dung provides food for a wide range of animal and fungus species, which break it down and recycle it into the food chain and into the soil. Cow dung

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is also used in Hindu religious fire Yajna as an important ingredient.² Cow dung is also used in the making of Panchgavya for use in Hindu rituals.³

Cow dung is utilized for flower and plant pots. It is plastic free, biodegradable and eco-friendly. Cow dung pots dissolves naturally and becomes excellent manure for the plant from 20 July of 2020, state Government of Chhattisgarh India started buying cow dung under “Godhan NyayYojna” Scheme. Cow dung procured under this scheme will be utilized for the production of vermi compost fertilizer.⁴

Cattles population

India cattle inventory amounted over 305 million in 2021. India had the highest cattle population followed by Brazil, China and USA.⁵ The 19th live stock censuses 2012 reported that there are around 300 million bovines in India, which is the 18% of the bovine population existing in the world. The Hindu Vedas mention cow as a holy animal and must be worshiped. Cows are very essential animal resources in India. Cows are vast useful in dairy industry and agriculture.⁶ India has 190.9 and 108.7 million cows and buffaloes respectively.⁷ From time immemorial, cows have been a part of civilized life^{8,9} especially in India.

Characteristics of cow dung

Fundamentally, the dung of the cow is the throwouts or discards containing the undigested herbivorous materials which are processed in their guts by the symbiotic bacteria which resides in the stomach compartment, rumen of the cow. These rejected matters or the faecal matter are very rich in the mineral content (from the human point of views). While cow dung is just a waste by product of the cattle, Ayurveda describes the cow dung (gomeya) as not mere a rejected material but as a best natural purifier (which purifies all the waste products of nature).¹⁰

Cow dung contains around twenty four minerals like potassium, nitrogen, fewer quantities of sulphur, calcium, magnesium, manganese, cobalt etc. Also, it consists of crude fibres like cellulose with lignin hemicelluloses and crude proteins. The overall composition of cow dung is the undigested fibre, sloughed of intestinal epithelium, fewer excreted products which are derived from mucus, bacteria present in the intestine and pigments of bile. The green colouration of the cow dung is due to the presence of the bile pigment called biliverdin. The emulgent property of the cow dung is also due to the salts of bile (confers hydrophilic coat to the

hydrophobic droplets).¹¹

The microbial population of the cow dung consists of plentiful counts of bacilli (lactobacilli) and cocci. Few revealed and unknown and/or anonymous fungi and yeasts are also present. As a whole, more than sixty bacterial species, hundred

Table 1. Composition of cow dung

S.No.	Composition	Percentage
1.	Water	80%
2.	Nitrogen	1.74%
3.	Phosphate	1.7%
4.	Potash	0.6%
5.	Calcium	0.37%
6.	Magnesium	0.53ppm
7.	Ferrous	1400 ppm
8.	Zinc	90 ppm
9.	Manganese	210 ppm
10.	Copper	7.1 ppm
11.	Boron	5.0 ppm
12.	Bacteria	60 species
13.	Protozoans and yeasts	100 species

*ppm- parts per million

Macdonell AA, Keith AB 2007

species of protozoa and yeasts are present in the cow dung.^{12,13}

The cow dung obtained from a matured cow is approximately 5.4 tonnes per annum. It varies from the cow dung obtained from the calf. As a result, the dry cow dung would be nearly 1620 kg per annum (54. x 0.30).¹⁴ Hence, cow dung is considered as a “gold mine” because of the broad applications in department of resource of energy, department of agriculture, protection of environment department and the therapeutics.¹⁵

Environment Protection of Cow dung

Cow dung is considered as an important substance in the preservation of the environment. The atmospheric temperature is balanced when the cow dung is burnt. Cow dung controls the radio active rays and also the heat impact of the environment. The dwellers are protected by coating the walls and cleaning the floors of the house with the mixture of dung and water. The Bhopal gas leak in 1984 killed around 20,000 people, but the people who lived in the cow dung coated walls were less affected. Till today, cow dung is used to shield the radiation in the atomic power centres located in India and Russia. This also prevents the harmful radiations from sun and shields the earth. Overall,

cow dung prevents the environmental pollution by keeping it away from pollutants and do not allow any harmful effects of radiation.¹⁶ Reduction of acid content in water is processed to reduce the percentage of acid by the treatment of water with the dung. This procedure can be followed for cleansing the pond and also to neutralize the acid present in the pond.

Cow dung possesses disease preventing properties. It destroys micro organisms which cause diseases, fermentation and putrefaction. Since olden days to till date (in some villages through out India), there exists the habit of cleaning and moping the floors, especially the clay floorings using the mixture of water and cow dung. Slowly the above practice has vanished due to the transformation of the floorings from clay to mosaic, marble, granite, etc., but in some places still they follow this practice. People who still wanted to practice this traditional system, in spite of their flooring not made in clay, they sprinkle the mixture containing water at the entry of the door in their house.^{17,18}

There is a ritual named “Gobarlep” performed by Hindus. The meaning of “Gobarlep” is nothing but spreading of a thin film of the mixture of cow dung and water of the floors and walls. The films of the mixture of cow dung mainly consist of cellulose in an undigested form. When the moisture in the mixture gets evaporated due to natural sunlight drying, the alkaline content comes up forming a binding coat. The viral particles are mostly acidic in nature and hence when these particles fall on the ground containing a thin film of cow dung, they feel an ionic blow and eventually their virulent effect gets reduced. The neutral viral particles fall on the ground and get attached on to the film. Hence, there will not be any active microbes present on the ground when there is a coat of cow dung.¹⁹

Observational visit to Khumna &Khanian villages.

The author visited to the villages of Khumna and Khanian of Fatehgarh Sahib district, Punjab to observe the environmental health and any hazards exposure of village people.

Firstly met Sarpanches (Head) of villages in prior appointment and arranged in person interview with specific day. In each village a day is fixed and arranged village tour to visit the village. With their permission photographs taken for study purpose. In interview gathered the information about village population, demographic and economic variables, domestic animals, traditional practices of cow dung and manure preparation, facilities

available at village, health status of the villagers and any specific diseases for past and present due environmental pollutions of water , soil and air.

Surprisingly, the author found that the villagers most of them rearing cattle for their own use of milk, cow dung and farming work purposes in their houses or farms.

The villagers for traditional and cultural practices is existing in system is naturally occurring phenomenon ecologically good for health.

The both villages the similarities are observed in cattle care, cow dung cake preparation and storatation house named Guhara and manure preparation process for cultivation.

Khumna is a village located in Amloh Tehsil of Fatehgarh Sahib district, Punjab with total 327 families residing. The village population is 1558 of which 839 are males while 719 are females as per population census 2011. The village population of children with age 0-6 is 165, literacy rate of was 71.79%.The male literacy is at 75.17% while female literacy rate is 67.77%. This village most of the %.This villagemost of the population are from schedule caste constitutes 74.07 % of total population. Children the age group of 5-18 years around 500 .Out of 625 workers engaged in employment work, 20 were cultivators (owner or co-owner) while 7 were agricultural laborers.

The village have open drainage system and few places obstructed the drainage, mosquitoes breeding may be for long times happened. People are managing with mosquitoes repellents with cowdung smoke at evening in their house premises to control and prevent health issues. The waste disposable is road side dumping or anywhere throwing is the real practice there is no facilities to follow waste management of using different dust bins for disposable and regular collecting waste and in different points. No sanitary workers and other Government benefits not reached to this village. This village have Primary school and Primary Health Centre for their use. In this village cattle are living around 300.

Khanian is a large village located in Amloh Tehsil of Fatehgarh Sahib district, Punjab with total 446 families residing. The village population is 2046 of which 1056 are males while 990 are females as per population census 2011.The children with age 0-6 is 215 which makes up 10.51 % of total population of village. Average sex ratio of village is 938 Child sex ratio for as per census is 870, The village has higher literacy rate in 2011, The male

literacy stands at 86.72 % while female literacy rate was 77.30 %.Schedule Caste (SC) constitutes 28.05 % of total population village.

In Khanian village out of total population, 629 were engaged in work activities. 93.64 % of workers describe their work as main work (employment or earning more than 6 months) while 6.36 % were involved in marginal activity providing livelihood for less than 6 months. Of 629 workers engaged in main work, 124 were cultivators (owner or co-owner) while 92 were agricultural laborers.

Schedule Caste (SC) constitutes 28.05 % of total population in village.

The village have good administrative system of by own villagers. They have farmers cooperative society for the benefits of farmers. The village around 900 acres are cultivating by villagers. It is rich village .The Government higher secondary school available for boys and girls. Veterinary hospital facility available for their domestic animals. In this village cattle around 600 numbers.They also doing same way of cow dung and manure preparation



The village Khumna – Photographs of Cow dung

systematically in regular work of their part of life.

The village practiced open drainage system and maintained somewhat cleanliness. Sanitary worker arranged by their own to disposable of waste in regular basis. When the observation the road side dumping is commonly seen and plastics found everywhere in village. It may affect the cultivating land.

As per constitution of India and PanchyatRaaj Act, Khumna and Khanian villages are administrated by Sarpanch (head of village) who is elected as representative of village.

Cow dung Cake Preparation of the Villages

Cow dung is collected in daily basis. Stored in available space of the home or near by place. Then



The Village Khanian - Photographs of Cow dung & Manure Pits

it is taken as big ball size and made it flat and round shape for easy dry.

The first day it kept in the upper part exposed to sunlight next day it is taken lower part to be dried in sunlight, later it is easy to dry with 2 cow dung cakes together support each other. Depends on sunlight it will be dried and beautifully arranged in House of cow dung named in Punjabi as Guhara. It

is like dome shape of arrangement. Broad in bottom and layers by layers it reaches cone shape in top. Whenever it is required fire, smoke it is available for whole year. Also cow dung is used for Manure of the land for cultivation.

Manure Preparation

The cow dung is dumped into the 'manure pits



Picture of Guhara

'and covered with earth after each day dumping. Two such pits will be needed, when one is closed, the other will be use in 5 to 6 months time, the cow dung is converted into manure which can be returned to the field.

The organic manure is ready after 6 months to 1 year for the cultivation. Few of the farmers doing just cow dung dumping for long time in pit and finally closing with earth, not using earth in

between time in summer seasoning.

CONCLUSION

Cow dung prepared by the all regions of India. Some difference may be seen in design and thickness. In Punjab state it is broad and very thick round in big size where as in Tamilnadu it is thin and round in size and which is dried in floors of land

and walls of the mud houses and stored for seasons usage. Where the cattles are more there is naturally ecological positivism can happened and also prevention of many diseases around the premises. For using evening smoke at in front of houses it totally runaway from the area. Land filling manure is useful in organic production of vegetables paddy and wheat to consume for healthy and long life of humans and animals.

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