

Assessment of health, hygiene and socio-economic status in haridwar city during kanwar mela

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Abstract: The present study was carried out in year 2009 to find out the impact of Kanwar Mela on the human health, socio-economic status and on the environmental scenario within Haridwar city. The poor municipal sanitary management and a significant rise in the number of patients, mainly suffering from water borne diseases, was noticed as a consequence of Kanwar Mela, within the city of Haridwar. High influence on solid waste generation, noise level and drinking water contamination reports were also observed during the period of Kanwar Mela. A heavy burden on the economy of local people was also noticed, except some gain to the businessmen in the main city.

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1. Introduction

Pilgrimage to religious places of special importance are usual and normal for the average Indian. It is stated that according to Indian Cultural heritage one has to visit various Tirtha (pilgrim center) to earn virtue. Haridwar is one of such famous pilgrim center where people criss-cross of the country being attracted and come for their aesthetic satisfaction. The holy Ganga signifies the importance of Haridwar as a place of religious importance and ultimately it has got a position in the tourist map of India and thought as a place of religious tourism, which hosts several religious festivals throughout the year. A number of castes and communities are involved, directly or indirectly, in the sphere of religious pilgrimage / tourism activities in Haridwar playing their respective roles at their own levels.

Each Year in the month of June/July/August (The Solar month of Cancer) known as Shravan month of Hindu calendar beginning from new moon day, the auspicious fortnight of Kanwar Mela is held in various parts of the country. During the Kanwar Mela, millions of Hindu pilgrims from the neighboring districts of Uttar Pradesh, Uttarakhand, Haryana, Bihar, Delhi etc. visit Haridwar or Gaumukh and Gangotri (the origin spot of river ganga) to have a holy dip in River Ganga. Ritually they also carry the holy water of Ganga in small pitchers kept in two baskets fitted to a semicircular bamboo carrier, called Kanwar, to offer (pour) over the head of the Lord Shiva (Shivalingam) either at one of the most famous Shiva temple located in their region / native village or city. This mostly they do as an oath in fulfillment of any of their desire, pledged

to Lord Shiva. It can be pledge in anticipation, for a better future or prospects of coming event. The holy Ganga water is offered to Lord Shiva on the 14th day of Lunar dark fortnight, in the Solar month of Cancer.

According to **Gangwar and Joshi (2008)**, the Kanwar Mela is one of the most famous sacred events in Haridwar, which receives around 3.0 to 5.0 million pilgrims during a course of 15 days. This massive influx in the number of pilgrims not only exerts a heavy burden on the total socio-economic, sanitary, health-hygiene but also degrade the quality of ambient environment i.e., life supporting systems of nature. This leads to the high number of patients of water and food borne diseases during mass gathering events like Kanwar Mela on account of worsened conditions of Environment.

2. Materials and Methods

The present study is based on the collected data of patients of pre Kanwar Mela (5th June to 5th July) and of during and post Kanwar Mela (6th July to 6th August) period in Haridwar city. The data was obtained from three reputed hospitals (City Hospital, H. M. G. Hospital and R. K. M. Hospital) to know the impact of heavy influx of pilgrims on human health. Local people as well as Kanwarias (pilgrims) were also consulted to know about the civic facilities within the Haridwar city.

The noise levels were monitored using Sound Level Meter in three selected sites viz. Har-Ki- Pauri, Singhdwar and Jatwada Pul within Haridwar city. Municipal of Haridwar city was also consulted to collect the information about arrangements to

maintain civic facilities as well as solid waste management during Kanwar Mela.

3. Results and Discussion

The present study includes the results about the impact of heavy influx of pilgrims on human health, hygiene, socio-economy and quality of ambient environment with special reference to solid waste generation and noise pollution within Haridwar city. The data of this survey clearly shows a high rise in the number of patients during Kanwar Mela and post Kanwar Mela period as depicted in Table 1. During the present study, a pile of solid waste generated in Pre-Kanwar Mela and during the Kanwar Mela was observed 3991.59 Kg and 4483.90 Kg, respectively.

During the Kanwar Mela, the residents of this city also faces the problem of noise pollution. In the present study, on the festive occasion, average noise

during day period was 18.4% higher than the standard limits of noise in residential zone as given in Table 2. Various researches shows the high noise level within Haridwar city viz. **Sharma *et al.*, (2010)**, **Gangwar & Joshi (2008)** and **Sharma & Joshi (2010)**, who reported heavy noise level during festive and non festive days. They also pointed out the negative impacts of noise on human health and some remedial measures to mitigate noise pollution.

It was also observed during this survey that local people suffered a lot on account of price rise of daily need items, due to scarcity of the commodities. Except this, during present study, the local businessmen got a lot of financial benefits including the income generation and employment opportunities. However, the business in Kanwar Mela this year was low in comparison of Kanwar Mela 2008 as described in Table 3.

Table 1: Status of patients reported/admitted in the three selected hospital of Haridwar city: during the study period of June to August, 2009.

Hospital	Pre Kanwar Period (5 th June to 5 th July)			During and Post Kanwar Period (6 th July to 6 th August)			Rise / Change (%) (C Vs F)
	OPD Patients (A)	Indoor Patients (B)	Total No. of Patients (C=A+B)	OPD Patients (D)	Indoor Patients (E)	Total No. of Patients (F=D+E)	
City Hospital	2382	352	2734	4355	605	4960	81.41
H.M.G. Hospital	8690	80	8770	13287	155	13442	53.27
R. K. M. Hospital	5623	369	5992	8485	626	9111	52.05
Total	16695	801	17496	26127	1386	27513	57.25

Table 2: Average Noise Level at selected sites of Haridwar city during Kanwar Mela-2009

Sites	Normal day					During Kanwar				
	0900 hrs	1200 hrs	1500 hrs	1800 hrs	2100 hrs	0900 hrs	1200 hrs	1500 hrs	1800 hrs	2100 hrs
Har Ki Pauri	88.5	91.2	96.5	100.2	91.5	98.0	105.2	104.9	110.5	95.8
Singh Dwar	68.9	80.6	74.8	88.6	84.6	75.2	102.8	97.7	102.6	94.6
Jatwada Pul	61.0	76.9	70.6	75.4	77.6	71.8	99.5	100.4	100.2	108.8

Table 1: Impact on economic status of local businessmen during the Kanwar Mela-2009

Item	2008	2009	% reduction or gain
Total kanwar expenditure by/ kanwaris	4500000	6000000	33 % Gain
Income of the tea staller / foodvender / day	Rs1000-1500	Rs 500-650	117 % Lose
CDs business/day	Rs 1000	Rs 1400	40 % Gain
Decorative items/day	Rs 8000	Rs 700	1042 % Lose
Total income of Haridwar City	Rs 1500	Rs 600	150 % Lose
	Rs 700000000	Rs 400000000	75 % Lose

It is a fact that no municipality can make effective and foolproof arrangements for lodging and various other civic facilities under rapid movement of such a massive number of pilgrims. As

a consequence, the available places, grounds, fields and riparian city forest areas are used as latrines and toilets. The municipal water points turn as quick wash places. The 4-5 Km Ganga river and canal

bank are used as bathing places (**Photo 1**). The pilgrims also bring a lot of offering in the form of flowers, cloths, old icons of Gods and Goddess, besides last remains of their loved ones to dispose in the river Ganga, at Haridwar. The middle section of Haridwar city turns into a huge drain of solid and semi solid waste material, the human faecal matter. As a rough estimate at least 3-4 million people defaects along the riparian areas of the holy Ganga and its canal during these fifteen days. The situation is worsened, on account of the fact that this is also the peak period of monsoon, in this part of North India. Much of this human faecal matter gets its way to the holy Ganga and its canal (**Sharma et al., 2012**).

These type of festive occasions also generates ample amount of solid waste as reported by **Mishra & Joshi (2002)**, **Gangwar & Joshi (2008)** and

Sharma et al., (2010) in Haridwar city (**Photo 2-4**). It was observed in various festive occasions that the problems of insanitation turns sever and creates a very unpleasant scenario of littered SW. This unsanitary condition leads to enhance various water and air borne diseases as was observed in a parallel study during Kanwar fair at Haridwar in 2008 (**Saini et al., 2009**). The present study also supports this with a high rise in the report of patients catching in a number of infectious diseases during study period. The hospital data also recorded that most of these cases were for sudden development of diarrhea, eye infections, hypertension, indigestion, typhoid, jaundice, liver disorders, stomach troubles and a few case of hepatitis, too. There was a rise of 81.41%, 53.27% and 52.05% in the registered number of patients at City Hospital, H. M. G. Hospital and R. K. Mission Hospital, respectively.



(1)



(2)



(3)



(4)

Photo 1: Kawariyas (Kanwar Pilgrims) taking a holy dip in Ganga River at Ghat / Platform of Har-Ki-Pauri in Haridwar City, 2: A Pile of Solid waste nearby the Har-Ki-Pauri area, 3: Kanwar Maker recovering some raw materials from Old Kanwars, 4: A Pile of discarded old Kanwars just beside the banks of River Ganga at Rishikul Bridge (Opportunity for this discarded matter to find its way into Sacred River Ganga).

On account of monsoon period, many of the city sewerage drain line get chocked for few hours to few days. At places the city water line runs parallel to city sewerage lines and gets contaminated due to leakage of sewage lines. Thus not only the Ganga water gets contaminated on one hand, the city water supply lines at places also get contaminated. As per news paper reports of that period, inadequate chlorination and water treatment also occurred in the city area.

In Haridwar, the number of pilgrims in the festive days increase about six time than that of the normal days. Kanwar Mela comes in the main part of summer monsoon season and make the environment suitable for water and food borne diseases as reported by various researchers (**Shankar and Joshi, 1997., Saini et al., 2008., Gangwar and Joshi, 2008. & Sharma et al., 2011.**)

This study was infact out of a critical hue and cry from the public that, sanitary services and other facilities of Haridwar municipality were not properly cared during the season under study. And as per news paper reports this was boardly accepted by the concerned local authorities too (**Amar Ujala Beuro, 2009, Hindustan, 2009**). During this random survey, when residents of the area concerned were contacted, most of them gave negative remarks about the prevailing sanitary, health and hygiene related amenities and duties of the municipality. It is very clear from the present study, that a strong management is urgently required during these type of Religio-touristic activities, round the year.

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