ENVIRONMENTAL IMPLICATIONS ON THE HEALTH AND BEHAVIOUR OF THE TRAFFIC FORCE

Basharat Ali
Lecturer, Department of Sociology, Government College University, Faisalabad
basharat492@gmail.com

Umer Zafar
Lecturer Department of Sociology, Government College University, Faisalabad

Muhammad Atif
Research Officer, Department of Sociology, Government College University, Faisalabad

ABSTRACT
The police hold a unique position in the society; Traffic Wardens play a very significant role in controlling the traffic system especially in the metropolitan and surrounding areas despite several limitations. The traffic police have the task which is more vital in the recent past, due to enormous growth in the numbers of various kinds of automobiles and road use. Traffic is managed by traffic police, who spent two thirds of their duty hours amidst of polluted working environment. Environmental pollutants have various adverse health consequences from minor to most important harmful fetal effects like prenatal disorders, infant mortality, respiratory disorders, allergy, malignancies, cardiovascular disorders, increase in stress oxidative, endothelial dysfunction, mental disorders, and various other harmful effects. Present study focused on the environmental implications on the health and behavior of the traffic force in District Faisalabad. Multi-stage sampling technique was used for data collection, while random sampling technique was used at all stages. Sampled shows that traffic warden faced many environmental pollutions borne diseases i.e. cough (76.7%), breath difficulty (51.3%), wheezing (5.3%), Running Nose (7.3%), Throat Irritation (40.0%), Throat diseases (33.3%), skin diseases (30.7%), viral hepatitis (21.3%), Congestion (16.0%) etc.
Key words: Pollution, Environment, Health, Behavior, Traffic force, Disorder.

INTRODUCTION
Pollution is a major environmental problem in most of the developing countries. Developed countries, such as U.S, have been quite successful in solving these problems by passing environmental laws and producing alternatives to such sources that cause a lot of pollution, such as coal and oil power stations. However, in Pakistan, since its inception, the pollution has been a mounting problem. Very few people have concerns about the negative effects of pollution on themselves as well as their environment. Air pollution in Pakistan's major cities like Lahore, Faisalabad and Karachi is 20 times higher than the World Health Organization standards (Agha, et al., 2005). There are layers of smog, dust and smoke that exist over Karachi. There is also a prominent smell of gasoline that infiltrates air. Islamabad, the capital city of Pakistan, is known to be covered with a thick layer of smog that actually keeps the view of Margalla hills away from the sight of the residents of Islamabad. While traveling to Murree, so much of exhaust fumes from vehicles are experienced that affect both the children and the grown and cause vomiting and other sickening moods, even if you keep windows of your vehicles closed (Tahir, 2014).

Noise is a prominent feature of the environment including noise from transport, industry and neighbors. Exposure to transport noise disturbs sleep in the laboratory, but not generally in field studies where adaptation occurs. Noise interferes in complex task performance, modifies social behavior and causes annoyance. Studies of occupational and environmental noise exposure suggest an association with hypertension, whereas community studies show only weak relationships between noise and cardiovascular disease (Mehwish, 2011). Aircraft and road traffic

noise exposure are associated with psychological symptoms but not with clinically defined psychiatric disorder. In both industrial studies and community studies, noise exposure is related to raise catecholamine secretion. In children, chronic aircraft noise exposure impairs reading comprehension and long-term memory and may be associated with raised blood pressure. Further research is needed examining coping strategies and the possible health consequences of adaptation to noise (Matheson, 2003).

Nowadays, noise pollution is considered as one of the main problems of urban communities which has many hazardous effects on the urban environment and may result in a great deal of costs on the society (Martin et al., 2006; Chien & Shih, 2007). Traffic can be considered as the main source of noise pollution in large cities (Jamarah et al., 2006; Murthy et al., 2007). According to the researches, noise pollution caused by traffic is one of the major problems in the southern large cities of Sweden (Skanberg & Ohrstrom, 2002; Bjork et al., 2006).

Concentrations of transport-related air pollution vary between areas of a city. In a belt along urban highways that can be 0.2–0.5 km wide, concentrations of nitric oxide, black smoke and PM2.5 are much higher than background levels. The gradient is less pronounced for nitrogen dioxide, while PM2.5 and PM10 have an even smoother spatial distribution. In "street canyons", with heavy traffics and limited dispersion of emissions, levels of all traffics-related pollutants are much higher than the urban background (Krzyzanowski, 2005).

Pollution in Pakistan is persistently increasing and on the other hand, healthy environmental policies are not on the priority list, resulting the spread of the diseases, for instance, asthma and lungs cancer etc. Government should make substantial environmental policies and should implement them rigorously. Awareness campaigns among people should be executed to educate them about their health and climate. It is expected that alternative sources of clean energy are used and promoted at government and private sectors. So that in future, we may be able to see the country with salubrious environment. Time to act is now. It is strange to note that the hydro generation of electricity is getting the least priority. Our vested interests men in authority, under one pretext or the other, are undermining the option of hydel power generation and going for environmentally hazardous coal (Tahir, 2014).

The system of traffic wardens was introduced by the previous government to control the deteriorating condition of traffic and to ensure its smooth flow. It is running in five major cities of Lahore, Rawalpindi, Faisalabad, Multan and Gujranwala. Although more than two years have passed, no proper and firm organizational structure of this system has been developed. The Punjab home ministry is still dithering over that what steps should be taken to develop this system. The provincial government lumps this system with the infamous Punjab police. This system should have its separate structure like the Motorway police. All the personnel of this system have two stars at their shoulders. The equality of rank creates a problem when two or more wardens are deployed at one point. This system was established to bring young, energetic and educated persons in the traffic police so that the good image of the police could be revived. The public is our chief witness that we have taken out the traffic police of old rut of corruption and bribery. But, unfortunately, this system has been mixed with the Punjab police and doesn't have any separate structure, and that's why it lacks an animated support by the top brass of the police (DAWN, 2008).

Objectives
1. To study the socio economic characteristics of the respondents.
2. To find out the awareness level of traffic wardens about environmental pollution.
3. To analyze the effects of environmental pollution on traffic wardens' behavior and health
4. To suggest some policy measures on the issue

METHODOLOGY
Present study focused on the environmental implications on the health and behavior of the traffic wardens in Faisalabad district. Multi-stage sampling technique was used for data collection, random sampling technique was used at all stage i.e. Circle, Sector and respondent. At the first stage, two Traffic Circles of District Faisalabad were selected, at the second stage, six traffic

sectors (three from each circle) were selected, and at the last stage, 150 traffic wardens (25 from each sector) were selected randomly. The data was collected through survey method, and a well-designed interview schedule was used as an instrument for data collection. Descriptive and inferential statistical techniques were used for data analysis.

RESULTS AND DISCUSSION

Table 1: Distribution of the respondents according to their age

Age (in years)	Frequency	Percentage
Up to 28	39	26.0
29-30	62	41.3
Above 30	49	32.7
Total	150	100.0

Mean = 29.69   Std. Dev. = 1.79

Table 1 represents the age distribution of the respondents. About one-fourth i.e. 26.0 percent of the respondents had up to 28 years of age, while a major proportion i.e. 41.3 percent of them had 29-30 years of age, and 32.7 percent of them had above 30 years of age. Mean age of traffic warden was 26.69 with standard deviation of 1.79 years. So, all of the selected Traffic Warden belonged to young age group.

Table 2: Distribution of the respondents according to their education

Education	Frequency	Percentage
Graduation	91	60.7
Master	59	39.3
Total	150	100.0

Table 3: Distribution of the respondents according to their monthly income

Monthly income (Rs.)	Frequency	Percentage
Up to 35000	101	67.3
Above 35000	49	32.7
Total	150	100.0

Table 4 depicts that a majority i.e. 67.3 percent of the respondents had up to Rs. 35000 monthly incomes, while 32.7 percent of them had above 35000 monthly incomes.

Table 5: Distribution of the respondents according to their working experience

Working experience (in years)	Frequency	Percentage
Seven	82	54.7
Eight	52	34.7
Nine or above	12	10.7
Total	150	100.0

Table 5 shows that more than a half i.e. 54.7 percent of the respondents had seven years working experience, while 34.7 percent of them had eight years' experience, and 10.7 percent of them had nine or above years working experience.

Table 6 shows that a huge majority i.e. 78.0 percent of the respondents was agreed 'to a great extent' and 22.0 percent of them were agreed 'to some extent' that industries are a main source of environmental pollution. About 44.0 percent of the respondents were agreed 'to a great extent' and 52.0 percent of them were agreed 'to some extent' that motor vehicles are a main source of environmental pollution, whereas 4.0 percent of them never agreed with this opinion. About 18.7 percent of the respondents were agreed 'to a great extent' and 68.0 percent of them were agreed 'to some extent' that generators are main source of environmental pollution, whereas 13.3 percent of them never agreed with this opinion. More than a half i.e. 53.3 percent of the

respondents were agreed 'to a great extent' and 44.0 percent of them were agreed 'to some extent' that smoke is a main source of environmental pollution.

Table 6: Distribution of the respondents according to their opinion about the main source of environmental pollution n = 150

Main source	To a great extent		To some extent		Not at all	
	F.	%	F.	%	F.	%
Industries	117	78.0	33	22.0	0	0.0
Motor Vehicles	66	44.0	78	52.0	6	4.0
Generators	28	18.7	102	68.0	20	13.3
Smoke	80	53.3	66	44.0	4	2.7
Dust	104	69.3	46	30.7	0	0.0
exhaust fumes	49	32.7	101	67.3	0	0.0
toxic substances (such as sulfur dioxide and nitrogen dioxide)	59	39.3	79	52.7	12	8.0
Agricultural Waste e.g., pesticides (herbicides and fungicides)	26	17.3	117	78.0	7	4.7
Hospital waste e.g. packaging material, used syringe, Biological waste, pharmaceuticals	48	32.0	102	68.0	0	0.0
Any other	31	20.7	78	52.0	41	27.3

A majority i.e. 69.3 percent of the respondents were agreed 'to a great extent' and 30.7 percent of them were agreed 'to some extent' that dust is a main source of environmental pollution. About 32.7 percent of the respondents were agreed 'to a great extent' and 67.3 percent of them were agreed 'to some extent' that exhaust fumes is a main source of environmental pollution. About 39.3 percent of the respondents were agreed 'to a great extent' and 52.7 percent of them were agreed 'to some extent' that toxic substances (such as sulfur dioxide and nitrogen dioxide) is a main source of environmental pollution, whereas 8.0 percent of them never agreed with this opinion.

About 17.3 percent of the respondents were agreed 'to a great extent' and 78.0 percent of them were agreed 'to some extent' that Agricultural Waste e.g., pesticides (herbicides and fungicides) is a main source of environmental pollution, whereas 4.7 percent of them never agreed with this opinion. About 32.0 percent of the respondents were agreed 'to a great extent' and 68.0 percent of them were agreed 'to some extent' that Hospital waste e.g. packaging material, used syringe, Biological waste, pharmaceuticals is a main source of environmental pollution. About 20.7 percent of the respondents were agreed 'to a great extent' and 52.0 percent of them were agreed 'to some extent' that any others are main source of environmental pollution.

Table 7 depicts that 21.3 percent of the respondents were agree 'to a great extent' and 67.3 percent of them were agreed 'to some extent' that two-wheeler vehicles are main cause of environmental pollution, whereas 11.3 percent of them never agreed with this opinion. About 28.7 percent of the respondents were agreeing 'to a great extent' and 60.0 percent of them were agreed 'to some extent' that cars are main cause of environmental pollution, whereas 11.3 percent of them never agreed with this opinion. A huge majority i.e. 90.0 percent of the respondents was agreeing 'to a great extent' and 10.0 percent of them were agreed 'to some extent' that autos are main cause of environmental pollution in Faisalabad. A large majority i.e. 82.7 percent of the respondents were agree 'to a great extent' and 17.3 percent of them were agreed 'to some extent' that buses are main cause of environmental pollution in Faisalabad.

Table 7: Distribution of the respondents according to their perception about which type of vehicle is a main cause of environment pollution n = 150

Vehicle	To a great extent		To some extent		Not at all	
	F.	%	F.	%	F.	%
Two-wheeler	32	21.3	101	67.3	17	11.3
Car	43	28.7	90	60.0	17	11.3
Auto	135	90.0	15	10.0	0	0.0
Bus	124	82.7	26	17.3	0	0.0
Urban transport	122	81.3	24	16.0	4	2.7
Heavy vehicles	114	76.0	32	21.3	4	2.7
Any other	17	11.3	48	32.0	85	56.7

A vast majority i.e. 81.3 percent of the respondents was agreeing 'to a great extent' and 16.0 percent of them were agreed 'to some extent' that urban transport is main cause of environmental pollution in Faisalabad. A large majority i.e. 76.0 percent of the respondents was agreeing 'to a great extent' and 21.3 percent of them were agreed 'to some extent' that heavy vehicles are main cause of environmental pollution in Faisalabad. About 11.3 percent of the respondents were agreeing 'to a great extent' and 32.0 percent of them were agreed 'to some extent' that any other vehicles are main cause of environmental pollution in Faisalabad.

Table 8: Distribution of the respondents according to their perception of outdoor air quality in Faisalabad

Perception of outdoor air quality in Faisalabad	Frequency	Percentage
Air pollution is worsening	51	34.0
Air quality has improved	35	23.3
There is no change, air remains polluted as before	64	42.7
Total	150	100.0

Table 8 indicates that 34.0 percent of the respondents had thinking that air pollution is worsening in Faisalabad, while 23.3 percent of them had thinking that air quality has improved in Faisalabad, and 42.7 percent of the respondents had opinion that there is no change, air remains polluted as before in Faisalabad.

Table 9: Distribution of the respondents according to their thinking that the increasing traffic volume caused environmental pollution

Respondents' thinking that the increasing traffic volume caused environmental pollution	Frequency	Percentage
To a great extent	105	70.0
To some extent	30	20.0
Not at all	15	10.0
Total	150	100.0

Table 9 shows that a huge majority i.e. 70.0 percent of the respondents had thinking 'to a great extent' that the increasing traffic volume caused environmental pollution, while 20.0 percent of them had thinking 'to some extent', and 10.0 percent of them never agreed with this opinion.

Table 10: Distribution of the respondents according to their knowledge about environmental pollution borne disease

Disease	Yes		No		Total	
	F.	%	F.	%	F.	%
Cough	150	100.0	0	0.0	150	100.0
Breathing Difficulty	150	100.0	0	0.0	150	100.0
Wheezing	97	64.7	53	35.3	150	100.0
Running Nose or Congested Nose	86	57.3	64	42.7	150	100.0
Sneezing Bouts	77	51.3	73	48.7	150	100.0
Throat Irritation	134	89.3	16	10.7	150	100.0
Fever	113	75.3	37	24.7	150	100.0
Throat disease	136	90.7	14	9.3	150	100.0
Asthma	141	94.0	9	6.0	150	100.0
Lungs disease	126	84.0	24	16.0	150	100.0
Skin disease	116	77.3	34	22.7	150	100.0
Cholera	89	59.3	61	40.7	150	100.0
Typhoid	109	72.7	41	27.3	150	100.0
Viral hepatitis	122	81.3	28	18.7	150	100.0
High Blood Pressure	130	86.7	20	13.3	150	100.0
Congestion	96	64.0	54	36.0	150	100.0
Any other (eye burning, etc.)	99	66.0	51	34.0	150	100.0

Table 10 represents the respondents' knowledge about environmental pollution born disease. Table shows that the selected traffic warden had knowledge about environmental pollution disease i.e. cough (100%), breathy difficulty (100.0%), wheezing (64.7%), Running Nose or Congested Nose (57.3%), Sneezing Bouts (51.3%), Throat Irritation (89.3%), fever (75.3%), Throat disease (90.7%), Asthma (90.7%), lungs disease (84.0%), skin disease (77.3%), cholera (59.3%), typhoid (72.7%), viral hepatitis (81.3%), high BP (86.7%), Congestion (64.0%) and any other diseases (86.7%).

Table 11: Distribution of the respondents according to their thinking that Faisalabad is particularly having serious problems of environmental pollution

Respondents' thinking that Faisalabad is particularly having serious problems of environmental pollution	Frequency	Percentage
Agree	73	48.7
Disagree	62	41.3
Not at all	15	10.0
Total	150	100.0

Table 11 show that 48.7 percent of the respondents were agreed that Faisalabad is particularly having serious problem of environment pollution, while 41.3 percent of them disagreed and 10.0 percent of them were not at all about this opinion.

CONCLUSION

A huge majority the traffic wardens were agreed that Auto Rakhshawas and heavy vehicles were the main cause of environmental pollution in Faisalabad. Majority of them reported that liquid discharged from factories is also more injurious for human health. Sampled traffic warden faced many environmental pollutions borne diseases i.e. cough, breathy difficulty, Throat Irritation, fever, Throat disease, Asthma, lungs disease, skin disease, viral hepatitis, high BP. Environmental pollution had also bad impact on the behaviour of traffic warden. It was concluded that protective measures should be adopted to protect them from hazardous effects of environmental pollution.

SUGGESTIONS

It was found that main source of environmental pollution was Auto Rakhshawa in Faisalabad, so the Government should ban Auto Rakhshawa and Taxi should made be available in Faisalabad for inter-city commute. Faisalabad is an industrial city, so industry owner should arrange proper arrangement to control their wastage. Awareness in regard to pollution and environment protection should be promoted through the media and the educational institutions.

REFERENCES

Agha F.A. Sadaruddin, & Khatoon N. (2005), "Effect of Environmental Lead Pollution on Blood Lead Levels in Traffic Police". *Journal of Pakistan Medical Association, 55*(2).

Bjork, J., Ardo, J., Stroh, E., Lovkvist, E., Ostergren, P. & Albin, M. (2006). Road traffic noise in southern Sweden & its relation to annoyance, disturbance of daily activities and health. *Scand. J. Work Environ. Health*, 32(5), 392-401.

Chien, M.K. & Shih, L.H. (2007). An empirical study of the implementation of green supply chain management practices in the electrical and electronic industry and their relation to organizational performances. Int. J. Environ. *Sci. Tech, 4*(3), 383 –394.

Mahdi, A. (2007). Environmental pollution –a silent killer. *Dawn*.

Krzyzanowski, M. 2005. Health effects of transport-related air pollution. WHO (World Health Organization). WHO Regional Office for Europe herfi gsvej 8 DK-2100 Copenhagen Ø, Denmark.

Mehwish, A., (2011, April 11). Traffic Problems. Retrieved from https://www.pakistanto day.com.pk

Martin, M.A., Tarrero, M.A., Gonzalez, A. & Machimbarrena, M. (2006). Exposure–effect relationships between road traffic noise annoyance and noise cost valuations in Valladolid, Spain. *J. Appl. Acoust, 67*(10), 945-958.

Matheson. 2003. Noise pollution: non-auditory effects on health. Retrieved from http://bmb.oxfordjournals.org/content/68/1/243.full.

Murthy, K., Kamruzzaman, M.A., Nath, K.S. & Prasad, S.D. (2007). Assessment of traffic Noise Pollution in Banepa,A semi urban town of Nepal. Kathmandu University. *J. Sci. Eng. Tech, 1*(4).

Skanberg, A. & Ohrstrom, J.F. (2002). Adverse health effects in relation to urban residential sound scopes. *J. Sound Vib, 250*(1), 151-155.

Tahir, M.U. (2014). *Air pollution and environment*. Pakistan Observer.