ENVIRONMENTAL AWARENESS AMONGST PRE-UNIVERSITY STUDENTS OF DELHI

Ph.D. Thesis Submitted

In

EXTENSION EDUCATION

By

SUNITI KUMAR JHA
Roll No. 398

To

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INDIAN VETERINARY RESEARCH INSTITUTE
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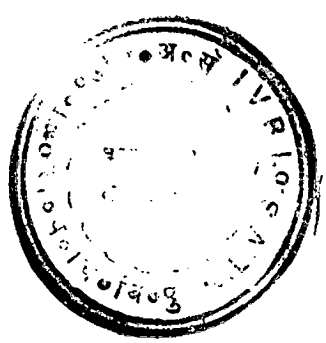

..... To,

The Respondents

Dr. RANJIT SINGH
Senior Scientist

Division of Extension Education
Indian Veterinary Research Institute
Izatnagar 243 122 Bareilly (U.P)

Date : 6.5.2000

CERTIFICATE

Certified that the research work embodied in this thesis entitled **"Environmental Awareness Amongst Pre-University Students of Delhi"** submitted by **S.K. Jha**, Roll No 398, for the award of Degree of **Doctor of Philosophy** in Extension Education of Deemed University, Indian Veterinary Research Institute is the original work carried out by the candidate himself under my supervision and guidance.

It is further certified that **S.K. Jha,** Roll No 398, has worked for more than 36 months in this institute and has put in more than 200 days attendance under me from the date of registration for the **Doctor of Philosophy** Degree of the University as required under the relevant ordinance.

R L Singh 6.5.2000

(Ranjit Singh)
Chairman
Advisory Committee

CERTIFICATE

Certified that the thesis entitled **"Environmental Awareness Amongst Pre-University Students of Delhi"** submitted by **S.K. Jha,** Roll No. 398, in partial fulfilment of the requirements for the degree of **Doctor of Philosophy** of Indian Veterinary Research Institute, embodies the original work done by the candidate. The candidate has carried out his work sincerely and methodically.

We have carefully gone through the contents of the thesis and are fully satisfied with the work carried out by the candidate which is being presented by him for the award of **Ph. D. Degree** of this institute.

It is further certified that the candidate has completed all the prescribed requirements governing the award of **Ph. D. Degree** of Indian Veterinary Research Institute.

Rmsivastava
Signature of External Examiner

Date : 28.8.2000

(Ranjit Singh)
Chairman
Date : 6.9.2000

Members of Student's Advisory Committee

Dr. Ranjit Singh	Chairman	
Dr. M.K. Mandape	Member	
Dr. B. Singh	Member	
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Sri. G.S. Bisht	Member	

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Date: 5-5-2000

Place: Izatnagar

SK Jha

(SUNITI KUMAR JHA)

Contents

INTRODUCTION

All natural eco-systems were balanced and unaffected by man until the dawn of civilization. but the speed and nature of man-induced environmental changes have brought an increasing disharmony between the humans and the nature.

Human being has played a very important role in shaping up the environment. He has been responsible for degrading the quality of environment [illegible] the use of fire which added gases, smoke and ashes to the environment. The other activities like-burning of wood, smelting of ores, tanning of leather and primitive method of sewage dispolsal etc have also caused furhter damage to the environment.

Nature happens to be the best 'open-air shcool' for the mankind, however, unfortunately this school is facing bad times. Nature's resources are being depleted at a much faster rate than they are being replenished. Nature is not just being destroyed, it is also being steadily transformed. There are two major pressure operating on the natural resources : the first, increased house hold demand for biomass resources while the second set of pressures are generated by modernisation, industrialisation processes etc.

Man's interference with the ecosytem has increased a lot, both in terms of volume and intensity; that is why, the country has been incurring a loss of about 600 million tonnes of soil equivalent to nutrient loss of 5.4 to 8.4 million tonnes, thus, involving a production loss of 30-40 million tonnes of foodgranins per year (Agrawal and Gupta, 1994). Even the brick and aggregate industiries are disturbing approximately 23 billion cublic feet and 15 million cubic feet of earth each year, respectively (Gupta, 1995).

In 1854, 40 per cent of the lands were covered by forests which further reduced to 31 per cent in 1947, and now it is only 11 per cent (Anonymous I, 1997) which is 22 per cent less than the requirement, and all this happened despite the saying "one tree is equivalent to 10 sons", as has been told in Veda. Moreover, one tree can provide as much coolness and freshness as 5 air conditioners will provide after being operated for 20 hours and a forest in one hectare absorbs the vehicle emissions and Carbon dioxide gas produced by as much as 20 cars, and purifies the air (Tripathi, 1994).

According to one report from world resource Institute and UNDP (1990), one acre of forest and 5 plant species are being destroyed every second. And, evey year 6 million hectares of land is lost because of erosion (AnonymousII, Hamara Paryavaran, Nov, 1992).

Our forest wealth is dwindling at the rate of 1.3 million hectares per year due to overgrazing, extension of cultivation, mining, wood-based industry, illegal felling of trees and over-exploitation both for commercial and house-hold needs, viz. paper industry in which 277 trees are felled to make one tonne of paper (Kumar, 1995), Extensive deforestation has led to the erosion of top soil which is treatening the livelihood and security of millions of hill people, which ultimately

forced them to initiate "Chipko movement" in 1974 when 27 women of Reni village (Chamoli district, U.P.) led by Guara Devi saved trees by embracing them. Again in 1977, a large number of woman saved Adwani forest under the leadership fo Bachchmi Devi. It is so, because, they say.

"What do the forest bear?
Soil, water and pure air,"

Meanwhile, S.L. Bahuguna is leading the "Chipko movement these days. Similarly, there is "Narmada Bachao Andolan" under the leadership of Medha Patekar which has been recently supported by Arundhati Roy.

Water is scarce, as only 0.8 per cent of it is in the form of fresh water which sustains life, development and environment (Sud, 1997). And, the misery is further increased due to faulty planning and ill-executed irrigation systems. Furthermore, the quality of water is being affected due to chemical effluents. The major rivers of our country are facing problems of both pollution and siltation. In the Ganges itself, 10,000 human dead bodies, 60,000 animal dead bodies, and 500 crore litres of faeces and other litters are dumped every year. One hundred ninety litres of polluted water is daily mixed in the Yamuna river from Delhi alone (Anonymous III, 1997). Due to the present condition, the Yamuna has been classed as D,E river which means its water is suitable only for wild life, fisheries, irrigation, industrial cooling, waste disposal..... but, not safe for for drinking purpose (Biswas, 1997). Besides, the quality of ground water is also being affected due to chemical effluents and due to engress of sea water.

The excessive use of fertilizers (the consumption increased from 13 to 70 kg/ha since 1970 to 1990) and pesticides (consumption increased from 193 g/ tonne to 400 g/tonne of food grains) impose another kind of threat to human-

health (Sankaran, 1994). Their continued 'over-use' reduce the natural fertility of the soil in the long run plus there are 4-20 lakh poisonings each year and 10,000 deaths occur, mostly in the developing countries due to toxic effects of the pesticides. Instead of this, same amount of foodgrains could be obtained on the basis of natural farming, i.e., no ploughing, no fertilizer, no tillage, no weeding and no pest control, but only, sowing and harvesting (Masanobu Fukuoka, 1985).

Vehicular emissions are the primary cause of air-pollution in the urban areas (60%), followed by industries (20-30%) and fossil fuels. About 2000 metric tonnes of pollutants are emitted in the atmosphere by the vehicles every day. Central pollution Board, Delhi (CPCB) has indicated that vehicular activities contribute about 70% of the total quantity of emissions (Sivasamy and Srinivasan, 1997).

The sound waves of these vehicles, through the horns, are in the range of 100-110 db which is not safe for the ear of human beings. It is 25-35 db above the safe imits (i.e. 75 db). Above this limit can be called as noise pollution which increases heart beat, cholesterol level and conseduently produces hypertension, causes headache, causes mental tension, sleeplessness, digestive problems and so no. Above 120 db can cause even the death of human embryo as well as animals' embryo; whereas, the sound level of above 155 db can burn the skin of human, and the sound level of above 180 db sound can cause even instant death of a person (Anonymous III, 1997).

NEED AND IMPORTANCE

Thanks to man and his destructive approach the nature has been suffering from bad to worse, albeit slowly! Earlier man had colonised the far corners of the

earth and described his progress as the "Conquest of Nature", but, now, he wonders who is conquering whom!!! "No bird fouls its own nest(s). But, the wise man excels in this obnoxious practice".

For example, take the case of Delhi, the capital of our country.... from being one of "the greenest cities" it has turned into one of the "grubbiest cities" in the world. The crisp air that was once the envy of the environmentalist in no more clean. The people residing in Delhi breathe polluted air daily which is almost equal to a pack of cigarette smoking. Every year, the citizens of Delhi add about 1,20,000 vehicles to an existing fleet of over 20 lakhs. Therefore, as a result of the increasing air pollution, the incidence of respiratory disease(s) in Delhi is 12 times the national average, and every sixth person of Delhi is either infected with tuberculosis or asthma, and every third family is facing the danger of cancer (Anonymous IV, "Can the clock Be Turned Back", Delhi Environmental status report, p. 215; 1995).

Not only this, contamination of ground water poses a major hazard in areas without proper sewerage and waste disposal facilities, as waste water and garbage denied of proper outlet from sub-standard housing colonies stagnate for long periods and slowly permeate into and eventually pollute the ground water, which causes various water borne diseases viz. cholera, jaundice, gastroenteritis etc.

The average annual rate of pollution in Delhi, Calcutta and Kanpur is five times more than the international standard. If the rate of pollution is maintained at this level, then in the next two years only we have to face the harmful effects of UV-rays at the increased rate of 8-15 per cent (Anonymous III, 1997).

Seeing the current scenario of environmental pollution in Delhi, the present status of environmental awareness amongst future youths needs to be checked.

Therefore, the need for environmental consciousness in day-to-day life is becoming increasingly important these days. Environmental protection should start from the home itself, as each house-hold has to be sensitive to the problems that emerge with his/her surroundings. Most of the health hazards are simply due to ignorance towards environment.

Today, although we wish to have a clean environment but tend to get involved with pollution only, because we lack environmental culture as well as eco-friendly attitude. We just ignore the root cause of these problems, and hence, what could be the long lasting effects on our lives can be any body's guess! It is the duty of not only government but also of evey educational institutions to take up activities for the promotion of environmental awareness. Educational institutions are the best media to bring in environmental awareness in every society. Even as grown up citizen talk green, students do active movement to take care of their suroundings. Students are the basic units of the society. It is very easy to disseminate ideas through them, as they come from a variety of social strata. Thus they can educate different societies about environmental problems in a better way; being more energetic and of a strong will to take up new challenges.

The students would from the best asset for environmental protection once proper environmental awareness is created among them and their energy and enthusiasm can be motivated to safeguard the same.

This study will be an exploratory one which would reveal the extent of environmental awareness amongst students at present. Based on the study, suggestions and recommendations can be given to further our awareness level regarding the environment. This knowledge system will enable us to refrance or restructure the potential policies, according to which social scientists will gain

access to the people and their attitude towards the environment. Governmental organisations and non-governmental organisations (NGOs0 can start fresh project or can amend the current on going programmes or projects if required. As Janssesn (1986) has strongly emphasised that environmental consiousness is an indisponsable basis for each rural development strategy. Moreover, ecologists and environmentalists can also be benefitted by this study, in order to intensify their campaign for "Save the environment".

Objective of the study

"To find out the environmental awareness amongst the pre-university students of Delhi". However, the study will revolve around these four specifie objectives.

Specifie Objectives:

1. To study the socio-personal profile of the respondents.
2. To assess the awareness amongst respondents regarding environmental degradation including the pollution caused by livestock-rearing.
3. To find out the concern for environmental degradation including the pollution caused by livestock-rearing.
4. To identify the problems encountered by the respondents in their willingness to protect the environment.

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REVIEW OF LITERATURE

The review of literature normally aims at helping researchers in formulation of methodology of the research project not the customary of reviewing the past researches. In other words, enormous limitations are encountered in what to review and what not to reveiw. However, whatever could be made available, are reviewed and are presented here under :

Israilides and Codounis (1982) have suggested that cereal straw, by products of juice industries and vineries, whey, vinassa and waters from raising washing can be saccharified, enzymatically or via chemicals for the production of alcohal or animal feed and those which contain sugars could be directly fermented with the appropriate microorganism for the production of ethanol, antibiotics, amino acids or other useful substances.

Das (1983) has found that dust particles on the surface of rice leaf retards the yield and accumulation of dry matter irrespective of the age of the plant and further cleaning of leaves didn't encourage the growth and yield of crops.

Jussawalla (1983) has told that cost of controlling air pollution is less than the damages done by it. In USA, the Environmental Protection Agency (EPA)

estimated that air pollution takes $16.10 billion a year toll on human health and other materials while the cost of air pollution control is estimated to be $10.65 billion a year. Despite this extremely favourable cost-benefit ratio, the gain is not readily visible to the average person.

Janssen (1986) opined that environmental awareness in rural areas of developing countries was not always problem oriented like industrialized countries.

Shrestha (1987) has opined that village level participation in community forestry is more political than a consciousness voluntary decision of the villagers.

Shrestha (1987) found extent of women's participation in community forestry quite low and their participation in implementation was limited to filing polypots and sowing seeds and were not involved in any of the on-going management activities.

UNEP (1987) reported that by the year 2000 A.D., if the present trend continues, one third of the world's productive land wil be driven to extinction and the world's climate will change.

Novakovic and Markovic (1988) suggested and presented a new concept of the machine for spreading solutions into soil using injections, enabling even and exact dosing per unit of the treated area thus reducing the loss of nutrients and environmental pollution while increasing the yield at the same time.

Pasicolan (1988) found that environmental awareness and awareness of governmental restrictions of logging do not significantly affect the intensity of firewood extraction per household.

Groener (1989) has said that applicator certificate required by the law in Germany has made the handling of agrochemicals even safer and made the public even more aware of their responsibilities.

Howe (1990) perceived, distance between one's residence and source of potential exposure to pollute, as matter of concern. He further revealed that women were more concerned than men about exposures, pollution, and related health effects.

Kameshwaran (1990) reported that noise levels on busy roads exceed the permissible limit and affect the people in four ways - (i) Psychological, (ii) Physiological, (iii) Affluent sleep and, (iv) Effect on living.

Karim (1990) opined that the pesticides were also no more pest specific because every pest was developing resistance. So he suggested botanical pesticides as an alternative.

Bodhankar (1991) has stressed for more role of mass media as ignorance has been one of the dereadest causes of large scale destruction of our biological heritage.

Dayal and Singh (1991) have recommended for plugging the loopholes and drawbacks in implementation of the laws and also envisages the rights, duties, and legal powers of various boards, departments and NGOs.

Kumaran Swamy (1991) revealed that neem leaves have the highest capacity for cement dust retention than any other plant species.

Mohan (1991) has stressed the need for independent or autonomous bodies for successful environmental management through legislation.

Naik and Joshi (1991) told about the four major integrating components of environmental education : awareness, real-life situations, conservation and sustainable development which needs to be matched with the needs of the primary to university stages of education.

Naik and Joshi (1991) suggested about environmental education from the early stage so that children develop a healthy and optimistic view of their environment, realising that they are themselves a part of nature.

Verma (1991) has suggested for small group formation on local level to manage local resources in the best manner and making better plans.

Banerjee (1992) has showed that cyanobacteria can be easily grown on flyash.

Patel (1992) has found in his study that the ground water quality was unsuitable for the irrigation purposes because of high concentration of chlorides and sulphates.

Singh *et al.* (1992) found effect of sugar factory effluent beneficial to the plant growth of tomato at all levels.

Dhaliwal and Singh (1993) have found that even small quantity of pesticides residues ingested daily alongwith food can build upto high levels in the body fat.

Kaul *et al.* (1993) have proposed fluidized bed reactor system as a new concept in waste water treatment for biodegradation of organic constituents in waste water.

Singh *et al.* (1993) emphasised about the duty for the present generation in shaping the system of education as to make the child aware of his role in the world in which he would be required to play a dynamic role.

Das (1994) suggested for more involement in non-conventional energy resources to ward off the hazords from toxic chemicals and radioactivity.

Nair (1994) advocated for imparting environmental education which can be best achieved through children, taking advantage of their capacity for receptivity of ideas and innovative mental orientation.

Arvind and Muley (1995) have stressed for effective coordination between the agencies for successful implementation of 'ECOMARK' scheme plus educating both the consumers and manufacturers about the long term benefits of the scheme.

Das and Pritjoshi (1995) revealed that Harsha chullah saves 15.7-24.3% fuel wood and 23.8-38.9% time over the indigenous chullah.

Kataria (1995) has found that soaps and detergents create water pollution and affect the ecology by alterning the physiology and behaviour of organisms through affecting growth, reproduction and mortality.

Patnaik *et al.* (1995) found that due to high organic content of domestic sewage and paper mill effluent, it could be utilized as a cheap and efficient media for algal biomass production.

Muthu (1995) has revealed that tanneries in India have turned 20,000 ha of prime agriculture land into barren wastelands, affecting thousand of farmers, by dumping all the contaminated effluents on the agricultural lands, in the lakes, and on the river beds.

Ratra (1995) has revealed that energy content of the plastics make them the most valuable of the major categories in municipal solid waste (MSW). He also added that Japan's Plastic Waste Management Institute research has revealed

that heat content of Kyoto's MSW has increased by more than 17 per cent per tonne during the last decade, by the presence of plastics.

Mukherjee and Pankajakshi (1995) found that detergents, which are toxic, affect the clean water planktonic forms and natural planktonic rhythm.

Rajendran and Sundararajan (1995) suggested about judicious application of neem powder in sewage treatment, as a low-cost device, as it reduces microbial population.

Scarascia (1995) has attributed, the disposed construction materials, use of fertilizers and pesticides, the emission of gases and contaminants, as the main

Singh and Jain (1995) revealed that commercial areas have the highest noise levels followed by industrial and residential area.

Singh *et al.* (1995) found that grazed plots had seven times more soil loss, several times nutrient loss and 3.3 times less litter fall than the control plots.

Agnihotri *et al.* (1996) found soil samples contaminated with hexachlorocyclohexane and dichlorodiphenyl trichloro ethane (DDT), aldrin and endosulfan.

Dhawan and Kaur (1996) have found that the recently introduced syntheticpyrethroids are highly toxic to fish as these are neither fully metabolized nor quickly detoxicated and therefore create serious problems of residue accumulation.

Jeevan Rao and Shantaram (1996) reported that urban solid wastes had a higher concentration of heavy metals than agricultural soils which might lead to food chain contamination.

Jeevan Rao (1996) found that application or urban solid wastes upto 33 ha with recommended NP and K increases the dry matter yield of maize.

Kavian *et al.* (1996) revealed that paper mill effluent can be turned into biofertilizers using vermiculture technology.

Misra and Misra (1996) revealed that household sewage sludge irrigation can kill the earthworms due to higher level of cadmium and chromium present in the sludge.

Naik *et al.* (1996) have suggested a new method of tapping underground water seopages by digging shallow water collection chambers to provide potable water to populations living in the hills.

Verma and Rahal (1996) found that pods of Albizia lebbeck were more than 90% efficient in removal of chromium from

Anonymous II (1997) opined that yajna could be a good measure to maintain the ecological balance by reducing the level of SO_2, nitrous oxides and bacteria (in water). Besides this, the ash obtained from the yajna contain high amount of phosphorus (4076 mg/kg), potassium (340/mg/kg), calcium (7822 mg/kg), magnesium (6424 mg/kg) and nitrogen (32 mg/kg) which could increase the fertility status of the soil.

Anonymous III (1997) has found that if concord planes and supersonic jets continue to fly at this rate, more than half of the ozone layer will be destoryed.

Biju (1997) reported that the condition of slaughter houses are not as the Civic Bodies Act, 1994 says, i.e. slaughterhouses are not kept clean, caracasses are not washed properly before disposal and the effluents are not discharged in

the approved manner which makes such bazars most unhygienic and breeding places for carriers of several infectious diseases.

Jascja *et al.* (1997) found *Ablemoschus esculentus* (lady finger plant) very useful in removing chromium (VI) from aqueous waste at low pH values.

Joseph and Natarajan (1997) found alum and chittosan useful in removing the pollutants viz. total suspended solids (610-4950 mg/L), BOD (75-570 mg/L), COD (270-1640 mg/L) and oil and grease (14-420 mg/L) below the tolerance limits for disposal on to land for irrigation or into the municipal sewers.

Pathak (1997) has advocated for agro-forestry practices to rehabilitate the natural ecosystems.

Pandya and Verma (1997) suggested for public participation, education, traffic management, proper land use, proper designing of building and green belt as measures for reducing the noise pollution.

Ravichandran *et al.* (1997) found that housewives devoted greater time to household environmental care compared to working women.

Ravichandran *et al.* (1997) found a positive and significant correlation between per capita income and expenditure on environmental care while there was no significant relationship between the size of the family and the expenditure on environmental care.

Tripathy and Sahu (1997) found in pot experiment that when 50% of fly ash was applied to soil, it increased seedling height, plant height girth, leaf number, leaf area, spike length, dry weight etc. of wheat.

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RESEARCH METHODOLOGY

This chapter deals with various methods and procedures involved in achieving the objectives of the study. The different criteria followed with respect to selection of locale and respondents, structuring of schedule and data collection procedures, and lastly, the statistical methods employed for the analysis of data have been discussed here. The contents are presented under the following sub-heads :-

(I) Area and locale of the study.

(II) Delineation of items causing environmental degradation

(III) Construction of schedule

(IV) Selection of respondents

(V) Data collection

(VI) Statistical analyses

AREA AND LOCALE OF THE STUDY

The study was conducted in the capital of our country, as Delhi happens to be the most polluted city of India, and ranks fourth (of course, we shouldn't be proud of it) in the world in terms of pollution. As the study was aimed at youths

who are the future of the country, pre-university students (i.e. students of class 10th, 11th and 12th) of different schools were chosen as the respondents. The schools were chosen in such a manner so that they represented the whole of Delhi. The schools were both Government Public Schools and Convent Schools. Altogether, 15 schools were randomly selected which represented urban, semi-urban and rural areas of Delhi.

Delhi is situated on the banks of the river Yamuna on an attitude of 230m above sea level and it sprawls over 1483 sq.km between the latitudes of 28'24'17" and 28'52" North and the longitudes of 76'50'24" and 77'20'37" East. It is flanked by Uttar Pradesh in the East and Haryana to the North, South and West.

The population and population density of Delhi, according to 1991 census is 9,370,475 and 6,319 respectively.

According to 1981 census, urban areas accounted for 93 per cent population whereas, only 7 per cent lived in rural areas.

DELINEATION OF ITEMS CAUSING ENVIRONMENTAL DEGRADATION

After several visits to the area and having consultations with my seniors, colleagues, advisor and other scientists of Extension Education Division, the items which were thought to be causing environmental degradation in and around Delhi were delineated. These items were representatives of various kind of pollution viz., air pollution, water pollution, sound pollution and social pollution, and accordingly, they were incorporated in the schedule.

CONSTRUCTION OF SCHEDULE AND DATA COLLECTION

Based on the items causing environmental degradation, the schedule was developed, and after pretesting that in the field condition, the final schedule was developed with suitable amendments (please see appendix-I). The schedule was developed of-course by keeping the objectives of the study in mind. The schedule contained some open-ended questions to get some original suggestions from the respondents.

Thereafter, responses were collected from the respondents through the schedule developed. All responses including the suggestions provided by the respondents on certain aspects were directly recorded as such. In addition to this, the problem encountered by the respondents regarding the protection of environment were also noted down.

SELECTION OF RESPONDENTS

The respondents were selected randomly. As the study was aimed at pre-university students therefore, the respondents consisted of students of class 10th, 11th and 12th. Thirty respondents (15 boys + 15 girls) were randomly selected from each of the fifteen schools spread all over Delhi. Therefore, altogether four hundred fifty responses were collected. But, due to unfulfilled questionnaires, illegible writing, half-filled questionnaires, some cuttings etc., fifty questionnaires altogether, were discarded for the study and fortunately it was twenty five responses were from males and twenty five from females. Therefore, the total reesponses came to four hundred finally.

STATISTICAL ANALYSES

After the data collection, the data were compiled, pooled and tabulated and analysed accordingly. In the present study, only simple statistical methods viz., frequency and percentage and chi-square test were used. The chi-square value was calculated by this formula :

$$\chi^2_{(a)} = \sum \frac{(O-E)^2}{E}$$

Where,

O is the observed frequency
E is the expected frequency
a is the degree of freedom

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RESULT AND DISCUSSION

This chapter deals with the major findings of the study related to the extent of awareness of the students regarding environment and its degradation. It further deals with the level of concern of the respondents towards environmental protection or something like that and especially towards environmental degradation caused by the agricultural activities and the livestock rearing practices. Regarding chi-square test, $\chi^2_{(a)}$ indicates the value of chi-square at 'a' df (degree of freedom). Whereas, * - indicates level of significance at 5%, ** - indicates level of significance at 1% and NS - indicates not significant.

The results have been presented under the following sub heads:

4.1 Socio-Personal Profile

4.2 Extent of Awareness Towards Environmental Degradation

4.3 Extent of Concern Towards Environmental Degradation

4.4 Problems Faced by Respondents

4.1 SOCIO-PERSONAL PROFILE

(a) Age

All of the respondents fell in the teenage group, obviously, as they happened to be the students of class 10th, 11th and 12th. However, a comparative view of the age-group of both the sexes have been presented below :

Table 4.1: Distribution of respondents (sex-wise) on the basis of age in terms of frequency and percentage (N = 400)

Sex	Age				Total
	14 years	15 years	16 years	17 years	
Male	8 (4.00)	26 (13.00)	126 (63.00)	40 (20.00)	200 (100.00)
Female	10 (5.00)	34 (17.00)	120 (60.00)	36 (18.00)	200 (100.00)
Overall	**18 (4.50)**	**60 (15.00)**	**246 (61.50)**	**76 (19.00)**	**400 (100.00)**

Note : Figures in parentheses indicate the precentage of the respective cells.

The above table (4.1) depicts that majority of the respondents (i.e. 61.50 per cent) fell in the 16 years age-group : 63 per cent in case of males, and 60 per cent among the females. On the other hand, very few of them (4.50%) were found to be of 14 yrs. of age.

(b) Type of School

Out of 400 respondents, 188 (47%) were from govt. Schools, while 212 (53%) were from private schools.

Table 4.2 : Distribution of respondents (sex-wise) on the basis of type of their schools in terms of frequency and percentage (N = 400)

Sex	Type of School		Total
	Govt. Schools	Private Schools	
Male	86 (43.00)	114 (57.00)	200 (100.00)
Female	102 (51.00)	98 (49.00)	200 (100.00)
Overall	**188 (47.00)**	**212 (53.00)**	**400 (100.00)**

Note : Figures in parentheses indicate the per centages of respective cells

However, sex wise 43 per cent male respondents were studying in the govt. schools, while 57 per cent were studying in private schools, but, in case of female respondent, 51 per cent and 49 per cent of them were from govt. and private schools respectively.

(c) Medium of Instruction

The table (Table 4.3) clearly depicts that our national language has been overshadowed by the 'foreign' language (i.e. English) interms of medium of

Table 4.3 : Distribution of respondents (sex-wise) on the basis of medium of instruction in terms of frequency and percentage (N=400)

	Medium of Instruction		
Sex	**Hindi**	**English**	**Total**
Male	42 (21.00)	158 (79.00)	200 (100.00)
Female	42 (21.00)	158 (79.00)	200 (100.00)
Overall	**84** **(21.00)**	**316** **(79.00)**	**400** **(100.00)**

Note : Figures in parentheses indicate the per centages of respective cells

instruction meant for students sex-wise in each category, majority (79%) are being instructed through English medium, while only 21 per cent of them are being taught through Hindi medium.

(d) Parental Occupation

For the operational purpose this has been divided into three categories viz., Govt. job, private job, and others

(i) Fathers' Occupation

As is evident from the table (Table 4.4.(a)), fathers of majority (56%) of the male respondents were doing private jobs, while it was not true in the case of female respondents as fathers of majority (65%) of them were employed in the govt jobs. On the other hand, fathers of 35 per cent boys and 32 per cent girls

Table 4.4 (a) : Frequency distribution of respondents (sex-wise) on the basis of their fathers' occupation (N=400)

	Fathers' Occupation			
Sex	**Govt. Job**	**Private Job**	**Other**	**Total**
Male	70	112	18	200
	(35.00)	(56.00)	(9.00)	(100.00)
Female	130	64	6	200
	(65.00)	(32.00)	(3.00)	(100.00)
Overall	**200**	**176**	**24**	**400**
	(50.00)	**(44.00)**	**(6.00)**	**(100.00)**

Note : Figures in parentheses indicate the precentage of the respective cells.

were found to be employed in govt. jobs and private jobs, respectively. Fathers of very few respondents (9% boys and 3% girls) were having occupation other than these two mentioned above.

Therefore, it can be inferred, on the basis of the table, albeit indirectly, that the govt. servants (Govt. employees) were more keen (as compared to the employees in the privatre firms) to ensure a better education for their daughters, whereas, in the case of boys, their fathers though employed with private firms also encouraged theirs sons to have a proper education.

(ii) Mothers' Occupation

The occupations here also, has been divided into three categories, (like fathers' occupation) viz., govt. job, private job and others; but the only difference being that, among the mothers those who are only housewives, have been kept in 'others' category.

Table 4.4 (b): Frequency distribution of respondents (sex-wise) on the basis of their mothers' occupation (N=400)

	Mothers' Occupation			
Sex	**Govt. Job**	**Private Job**	**Other**	**Total**
Male	32	8	160	200
	(16.00)	(4.00)	(80.00)	(100.00)
Female	52	4	144	200
	(26.00)	(2.00)	(72.00)	(100.00)
Overall	**84**	**12**	**304**	**400**
	(21.00)	**(3.00)**	**(76.00)**	**(100.00)**

Note : Figures in parentheses indicate the precentages of the respective cells.

In spite of Delhi being the metropolitan city, (besides being the capital of our country), mothers of majority (76%) of the respondents were found to be housewives. However, sex-wise this figure was 80.00 per cent in the case of boys and 72 per cent in case of girls (Table 4.4(b)).

As far as having govt. jobs was concerned, it was observed that, overall, mothers of only 21 per cent respondents (16% boys and 26% girls) had it; whereas, mothers of a meagre 3 per cent respondent (4% bodys and 2% girls) were having some private jobs.

Now, if we see these above two tables (Tables 4.4(a) and 4.4(b)) quickly, then one thing seems very clear that is, more number of girls (as compared with boys) belonged to such a family where father and/or mother happened to be employed with a govt. job : 65 per cent of them were having their (respective) fathers in a govt. job (as against only 35% among boys); and 26 per cent of them had their (respective) mothers in a govt. job (as against a more 16% among boys).

(e) Family type

It seems from the table (Table 4.5) that joint family system still in this metropolitan city even under the onslaught of western influence on pattern/standard of living which mostly prefers nuclear type of family, as 26 per cent of the

Table 4.5 : Frequency distribution of respondents (sex-wise) on the basis of their 'family type' (N=400)

Sex	Family Type	
	Nuclear family	**Joint family**
Male (N=200)	140 (70.00)	60 (30.00)
Female (N=200)	156 (78.00)	44 (22.00)
Overall	**296 (74.00)**	**104 (26.00)**

Note : Figures in parentheses indicate the per centages of respective cells

respondents, overall, were from the joint family system, while the rest (i.e. majority) were from nuclear type of family, and, were the cases with boys and girls also, when taken separately.

(f) Family size

It is clear from the table (Table 4.6) that only 36 per cent of the respondents, belonged to the families comprising of more than five members, while majority (64 per cent) of the respondents were from the families having five or less (than

Table 4.6: Frequency distribution of respondents (sex-wise) on the basis of their 'family size' (N=400)

Sex	Family size	
	(0-5) members	(6-10) members
Male (N=200)	124 (62.00)	76 (38.00)
Female (N=200)	132 (66.00)	68 (34.00)
Overall	**256 (64.00)**	**144 (36.00)**

Note : Figures in parentheses indicate the per centages of respective cells

five) members. And, so were the cases with boys and girls also, taken separately.

(g) Family education status

Majority of the respondents' family education statuses fell in the medium and upper category which clearly indicates that respondents' family members are

Table 4.7: Frequency distribution of respondents (sex-wise) on the basis of their family education status, (N=400)

Sex	educatuion status Score			Total
	Low (<2.5)	Medium (2.5 to 5.0)	High (>5.0)	
Male	8 (4.00)	96 (48.00)	96 (48.00)	200 (100.00)
Female	8 (4.00)	96 (48.00)	96 (48.00)	200 (100.00)
Overall	**16 (4.00)**	**192 (48.00)**	**192 (48.00)**	**400 (100.00)**

Note : Figures in parentheses indicate the precentages of the respective cells.

also well educated. Only 4 per cent of the families fell in the lower category i.e. of low education status.

MASS-MEDIA EXPOSURE

The table 4.8(a) and (b) clearly depicts that the highest number of readership responded was for newspapers as the number one mass media to be closely followed by television, advertisement, exhibition/fair radio, posters, campaigns, educational films, demonstrations and farm publications. Only one respondent has indicated that she frequently comes across with farm publications.

Table 4.8(a) : Frequency distribution of male respondents on the basis of their mass-media exposure (N = 200)

		Frequency of Exposure		
	Sources	**Frequently**	**Sometimes**	**Rarely**
(a)	Radio	50 (25.00)	114 (57.00)	36 (18.00)
(b)	TV	112 (56.00)	74 (37.00)	14 (7.00)
(c)	Educational Films	14 (7.00)	76(38.00)	110(55.00)
(d)	Newspapers	124 (62.00)	46 (23.00)	30 (15.00)
(e)	Farm Publication	0 (0.00)	38 (19.00)	162 (81.00)
(f)	Posters	36 (18.00)	74 (37.00)	90 (45.00)
(g)	Demonstrations	10 (5.00)	74(37.00)	116 (58.00)
(h)	Exhibitions/Fair	56 (28.00)	86 (43.00)	58 (29.00)
(i)	Campaigns	24 (12.00)	48 (24.00)	128 (64.00)
(j)	Advertisement	66 (33.00)	74(37.00)	60 (30.00)

Note : Figures in parentheses indicate the percentages of respective cells.

Therefore, it can be conlcuded from the above table that respondents have a good habit of reading newspapers. Moreover, female respondents (78 per cent) edged male respondents (62 per cent) in this particular area.

Table 4.8(b) : Frequency distribution of female respondents on the basis of their mass-media exposure (N = 200)

	Sources	Frequency of Exposure		
		Frequently	Sometimes	Rarely
(a)	Radio	40(20.00)	104(52.00)	56(28.00)
(b)	T.V.	154(77.00)	40(20.00)	6(3.00)
(c)	Educational Films	14(7.00)	98(49.00)	88(44.00)
(d)	Newspapers	156(78.00)	36(18.00)	8(4.00)
(e)	Farm Publication	2(1.00)	48(24.00)	150(75.00)
(f)	Posters	52(26.00)	86(43.00)	62(31.00)
(g)	Demonstrations	14(7.00)	76(38.00)	110(55.00)
(h)	Exhibitions/Fair	46(23.00)	114(57.00)	40(20.00)
(i)	Campaigns	20(10.00)	60(30.00)	120(60.00)
(j)	Advertisement	132(66.00)	36(18.00)	32(16.00)

Note : Figures in parentheses indicate the percentages of respective cells.

INFORMATION SOURCE UTILIZATION

The same thing followed here in table 4.9(a) and (b) which shows that newspapers got the top priority (60%) from the respondents as far as getting information about environmental problems is concerned which is closely followed by T.V. (50%). Again, readership amongst females is quite higher (68%) as compared with the males (51%). Simultaneously, it was also observed that school teachers can play a big, influential and positive role in moulding the young minds positively towards the environment as it is obvious from the table (Table 4.9(a) and (b) that school teachers provide more and regular information (than the visiting experts) to the students in the personal cosmopolite category.

Table 4.9(a) : Frequency distribution of the male respondents on the basis of their 'Information source utilization pattern' (N = 200)

Information Sources	Utilization Pattern			
	Everyday	Most Often	Sometimes	Rarely
(A) Personal Localite				
1. Family Members	56(28.00)	46(23.00)	80(40.00)	18(9.00)
2. Neighbours	12(6.00)	48(24.00)	80(40.00)	60(30.00)
3. Friends	60(30.00)	84(42.00)	40(20.00)	16(8.00)
4. Relatives	4(2.00)	40(20.00)	70(35.00)	86(43.00)
(B) Personal Cosmopolite				
1. School Teacher	34(17.00)	80(40.00)	64(32.00)	22(11.00)
2. Visiting Experts	12(6.00)	24(12.00)	64(32.00)	100(50.00)
(C) Mass Media				
1. Newspapers	102(51.00)	62(31.00)	36(18.00)	0(0.00)
2. Radio	34(17.00)	70(35.00)	80(40.00)	16(8.00)
3. T.V.	100(50.00)	60(30.00)	36(18.00)	4(2.00)
4. Other Printed media	4(2.00)	36(18.00)	80(40.00)	80(40.00)

Note : Figures in parentheses indicate the percentages of respective cells.

Table 4.9(b) : Frequency distribution of the female respondents on the basis of their 'Information source utilization pattern' (N = 200)

Information Sources	Utilization Pattern			
	Everyday	Most Often	Sometimes	Rarely
(A) Personal Localite				
1. Family Members	80(40.00)	72(36.00)	40(20.00)	8(4.00)
2. Neighbours	10(5.00)	30(15.00)	106(53.00)	54(27.00)
3. Friends	62(31.00)	76(38.00)	60(30.00)	2(1.00)
4. Relatives	6(3.00)	20(10.00)	90(45.00)	84(42.00)
(B) Personal Cosmopolite				
1. School Teacher	76(38.00)	68(34.00)	40(20.00)	16(8.00)
2. Visiting Experts	0(0.00)	24(12.00)	66(33.00)	110(55.00)
(C) Mass Media				
1. Newspapers	136(68.00)	50(25.00)	10(5.00)	4(2.00)
2. Radio	36(18.00)	30(15.00)	90(45.00)	44(22.00)
3. T.V.	102(51.00)	44(22.00)	50(25.00)	4(2.00)
4. Other Printed media	10(5.00)	36(18.00)	100(50.00)	54(27.00)

Note : Figures in parentheses indicate the percentages of respective cells.

AGRICULTURAL ACTIVITIES AFFECTING ENVIRONMENT ADVERSELY

(a) Impact of village operations on the Enivronment

When the respondents were assed about the impact of Tillage-opeations (on the environment), the responses varied amongst males vis-a-vis that amongst

Table 4.10(A) : Frequency distribution of male respondents on the basis of their responses regarding 'Agricultural activities affecting environment adversely' (N = 200)

Sl. No.	Activities	Responses				
		Almost No Effect	Very Little Effect	Some Effect	Consid -erable Effect	Very Serious Effect
(a)	Till age operations	56(28.00)	92(46.00)	38(19.00)	6(3.00)	8(4.00)
(b)	Use of Chemical Fertilizers	4(2.00)	16(8.00)	52(26.00)	74(37.00)	54(27.00)
(c)	Home food waste disposal	10(5.00)	24(12.00)	72(36.00)	72(36.00)	22(11.00)
(d)	Chemical seed treatment	0(0.00)	26(13.00)	60(30.00)	82(41.00)	32(16.00)
(e)	Storing/application of FYM	92(46.00)	48(24.00)	26(13.00)	18(9.00)	16(8.00)
(f)	Chemicals' handling & transportation	34(17.00)	48(24.00)	52(26.00)	38(19.00)	28(14.00)
(g)	Use of farm machinery	54(27.00)	62(31.00)	50(25.00)	18(9.00)	16(8.00)
(h)	Fumigation of grain storages	22(11.00)	64(32.00)	66(33.00)	38(19.00)	10(5.00)
(i)	Burning wood & plant residues	4(2.00)	8(4.00)	34(17.00)	88(44.00)	66(33.00)
(j)	Use of rodenticides	10(5.00)	26(13.00)	72(36.00)	60(30.00)	32(16.00)
(k)	Use of fungicides	10(5.00)	14(7.00)	54(27.00)	68(34.00)	54(27.00)
(l)	Use of insecticides/pesticides	4(2.0)	12(6.0)	54(27.00)	56(28.00)	74(37.00)
(m)	Disposal of chemical containers	0(0.00)	18(9.00)	22(11.00)	58(29.00)	102(51.00)
(n)	Disposal of spoiled fruits & vegetables	34(17.00)	46(23.00)	60(30.00)	34(17.00)	26(13.00)
(o)	Aerial spraying of chemicals	8(4.00)	4(2.00)	48(24.00)	60(30.00)	80(40.00)
(p)	Burning of plastic materials	0(0.00)	6(3.00)	22(11.00)	46(23.00)	126(63.00)
(q)	Disposal of various kinds of garbages in water	0(0.00)	12(6.00)	18(9.00)	62(31.00)	108(54.00)
(r)	Disposal of chem. effluents by industries in the river	0(0.00)	4(2.0)	14(7.00)	22(11.00)	160(80.00)

Note : Figures in parentheses indicate the percentages of respective cells. $\chi^2_{(68)}$ - 1753.95**

Table 4.10(B) : Frequency distribution of female respondents on the basis of their responses regarding 'Agricultural activities affecting environment adversely' (N = 200)

Sl. No.	Activities	Responses				
		Almost No Effect	Very Little Effect	Some Effect	Consid -erable Effect	Very Serious Effect
(a)	Tillage operations	30(15.00)	84(42.00)	48(24.00)	26(13.00)	12(6.00)
(b)	Use of Chemical Fertilizers	0(0.00)	4(2.00)	52(26.00)	70(35.00)	74(37.00)
(c)	Home food waste disposal	14(7.00)	38(19.00)	74(37.00)	54(27.00)	20(10.00)
(d)	Chemical seed treatment	4(2.00)	20(10.00)	66(33.00)	68(34.00)	42(21.00)
(e)	Storing/application of FYM	52(26.00)	62(31.00)	40(20.00)	40(20.00)	6(3.00)
(f)	Chemicals' handling & transportation	16(8.00)	24(12.00)	52(26.00)	54(27.00)	54(27.00)
(g)	Use of farm machinery	28(14.00)	60(30.00)	68(34.00)	32(16.00)	12(6.00)
(h)	Fumigation of grain storages	16(8.00)	44(22.00)	54(27.00)	56(28.00)	30(15.00)
(i)	Burning wood & plant residues	4(2.00)	12(6.00)	26(13.00)	72(36.00)	86(43.00)
(j)	Use of rodenticides	2(1.00)	28(14.00)	52(26.00)	84(42.00)	34(17.00)
(k)	Use of fungicides	4(2.00)	20(10.00)	50(25.00)	88(44.00)	38(19.00)
(l)	Use of insecticides/pesticides	2(1.00)	14(7.00)	20(10.00)	66(33.00)	98(49.00)
(m)	Disposal of chemical containers	0(0.00)	12(6.00)	6(3.00)	56(28.00)	126(63.00)
(n)	Disposal of spoiled fruits & vegetables	32(16.00)	50(25.00)	48(24.00)	60(30.00)	10(5.00)
(o)	Aerial spraying of chemicals	0(0.00)	10(5.00)	44(22.00)	76(38.00)	70(35.00)
(p)	Burning of plastic materials	2(1.00)	2(1.00)	10(5.00)	46(23.00)	140(70.00)
(q)	Disposal of various kinds of garbages in water	0(0.00)	2(1.00)	10(5.00)	56(28.00)	132(66.00)
(r)	Disposal of chemical efflu-ents by industries in the river	0(0.00)	2(1.00)	2(1.00)	26(13.00)	170(85.00)

Note : Figures in parentheses indicate the percentages of respective cells. $\chi^2_{(68)} = 1759.35$ **

females (Tables 4.10A and 4.10B). When the responses were tested by chi-square the effect due to different agril. activities on the environment was found significantly different at 1% level. The obtained responses happened to be : almost no effect (28% males; 15% females); very little effect (46% males; 42% females); some effect (19% males, 24% females); considerable effect (3% males; 13% females); and very serious effect (4% males; 6% feamles).

(b) Impact of chemical fertilizers on the environment

As our agriculture is very much dependent on the chemical fertilizers these days, therefore the respondents were asked about fertilizers' impact on environment, the responses varied amongst males vis-a-vis that amongst females (Tables 4.10A and 4.10B). The obtained responses happened to be : almost no effect (2% males; 0% females); very little effect (8% males; 2% females); some effect (26% males, 26% females); considerable effect (37% males; 35% females); and very serious effect (27% males; 37% feamles).

(c) Impact of waste home food

When the respondents were assed about the impact of disposed home food wastes (on the environment), the responses varied amongst males vis-a-vis that amongst females (Tables 4.10A and 4.10B). The obtained responses happened to be : almost no effect (5% males; 7% females); very little effect (12% males; 19% females); some effect (36% males, 37% females); considerable effect (36% males; 27% females); and very serious effect (11% males; 10% feamles).

(d) Impact of seed treatment

When the respondents were assed about the impact of seed treatment (on the environment), the responses varied amongst males vis-a-vis that amongst females (Tables 4.10A and 4.10B). The obtained responses happened to be : almost no effect (0% males; 2% females); very little effect (13% males; 10% females); some effect (30% males, 33% females); considerable effect (41% males; 34% females); and very serious effect (16% males; 21% feamles).

(e) Impact of Farm Yard Manures (FYM)

When the respondents were assed about the impact of FYM (on the environment), the responses varied amongst males vis-a-vis that amongst females

(Tables 4.10A and 4.10B). The obtained responses happened to be : almost no effect (46% males; 26% females); very little effect (24% males; 31% females); some effect (13% males, 20% females); considerable effect (9% males; 20% females); and very serious effect (8% males; 3% feamles).

(f) Impact of handling and transportation of chemicals on the environment

In response to the query "whether handling and transportation of chemicals from one place to another affect the environment adversely?", the obtained responses ranged from "almost no effect" to "very serious effect" (besides, there were three other types of responses also, in-between, viz., "very little effect", "some effect" and "considerable effect"). And, the responses given by respondents were like this (apropos of the above mentioned five types of responses in the ascending order) : 17, 24, 26, 19 and 14 per cent (among males); and 8, 12, 26, 27 and 27 per cent (among females), respectively.

(g) Impact of farm machineries on the environment

In response to the query "whether use of farm machineries affect the environment adversely?", the obtained responses ranged from "almost no effect" to "very serious effect" (besides, there were three other types of responses also, in-between, viz., "very little effect", "some effect" and "considerable effect"). And, the responses given by respondents were like this (apropos of the above mentioned five types of responses in the ascending order) : 27, 31, 25, 9 and 8 per cent (among males); and 14, 30, 34, 16 and 6 per cent (among females), respectively.

(h) Impact of fumigation (of the grain storages) on the environment

In response to the query "whether use of fumigation affect the environment adversely?", the obtained responses ranged from "almost no effect" to "very serious effect" (besides, there were three other types of responses also, in-between, viz., "very little effect", "some effect" and "considerable effect"). And, the responses given by respondents were like this (apropos of the above mentioned five types of responses in the ascending order) : 11, 32, 33, 19 and 5 per cent (among males); and 8, 22, 27, 28 and 15 per cent (among females), respectively.

(i) Impact of burning of woods and plant materials

In response to the query "whether burning of woods and plant materials affect the environment adversely?", the obtained responses ranged from "almost no effect" to "very serious effect" (besides, there were three other types of responses also, in-between, viz., "very little effect", "some effect" and "considerable effect"). And, the responses given by respondents were like this (apropos of the above mentioned five types of responses in the ascending order) : 2, 4, 17, 44 and 33 per cent (among males); and 2, 6, 13, 36 and 43 per cent (among females), respectively.

(j) Impact of rodenticides on the environment

In response to the query "whether use of rodenticides affect the environment adversely?", the obtained responses ranged from "almost no effect" to "very serious effect" (besides, there were three other types of responses also, in-between, viz., "very little effect", "some effect" and "considerable effect"). And, the responses given by respondents were like this (apropos of the above mentioned five types of responses in the ascending order) : 5, 13, 36, 30 and 16 per cent (among males); and 1, 14, 26, 42 and 17 per cent (among females), respectively.

(k) Impact of fungicides on the environment

In response to the query "whether use of fungicides affect the environment adversely?", the obtained responses ranged from "almost no effect" to "very serious effect" (besides, there were three other types of responses also, in-between, viz., "very little effect", "some effect" and "considerable effect"). And, the responses given by respondents were like this (apropos of the above mentioned five types of responses in the ascending order) : 5, 7, 27, 34 and 27 per cent (among males); and 2, 10, 25, 44 and 19 per cent (among females), respectively.

(l) Impact of insecticides/pesticides on the environment

In response to the query "whether use of insecticides/pesticides affect the environment adversely?", the obtained responses ranged from "almost no effect" to "very serious effect" (besides, there were three other types of responses also, in-between, viz., "very little effect", "some effect" and "considerable effect"). And, the responses given by respondents were like this (apropos of the above mentioned five types of responses in the ascending order) : 2, 6, 27, 28 and 37 per cent (among males); and 1, 7, 10, 33 and 49 per cent (among females), respectively.

(m) Impact of disposed chemical containers on the environment

Apropos disposal of chemical containers' impact (on the environment), the responses differed between males and females ..... in case of males, the responses obtained were : almost no effect (0%), very little effect (9%), some effect (11%), considerable effect (29%) and very serious effect (51%); whereas the concerned per centages among females happened to be 0, 6, 3, 28 and 63 per cent, respectively.

(n) Impact of spoiled/rotten fruits and vegetables on the environment

Apropos spoiled fruits and vegetables' (on the environment), the responses differed between males and females ..... in case of males, the responses obtained were : almost no effect (17%), very little effect (23%), some effect (30%), considerable effect (17%) and very serious effect (13%); whereas the concerned per centages among females happened to be 16, 25, 24, 30 and 5 per cent, respectively.

(o) Impact of aerial spraying of chemicals on the environment

Apropos aerial spraying of chemicals' (on the environment), the responses differed between males and females ..... in case of males, the responses obtained were : almost no effect (4%), very little effect (2%), some effect (24%), considerable effect (30%) and very serious effect (40%); whereas the concerned per centages among females happened to be 0, 5, 22, 38 and 35 per cent, respectively.

(p) Impact of burning of plastic materials on the environment

Apropos burning of plastic materials' (on the environment), the responses differed between males and females ..... in case of males, the responses obtained were : almost no effect (0%), very little effect (3%), some effect (11%), considerable effect (23%) and very serious effect (63%); whereas the concerned per centages among females happened to be 1, 1, 5, 23 and 70 per cent, respectively.

(q) Impact of garbages disposed in water on the environment

Apropos garbages disposed in water (on the environment), the responses differed between males and females ..... in case of males, the responses obtained were : almost no effect (0%), very little effect (6%), some effect (9%), considerable

effect (31%) and very serious effect (54%); whereas the concerned per centages among females happened to be 0, 1, 5, 28 and 66 per cent, respectively.

(r) Impact of chemical effluents disposed in water on the environment

Apropos impact of chemical effluent disposed in water (on the environment), the responses differed between males and females ..... in case of males, the responses obtained were : almost no effect (0%), very little effect (2%), some effect (7%), considerable effect (11%) and very serious effect (80%); whereas the concerned per centages among females happened to be 0, 1, 1, 13 and 85 per cent, respectively.

LIVESTOCK-RELATED ACTIVITIES AFFECTING THE ENVIRONMENT ADVERSELY

When the responses were tested by chi-square the effect due to different livestock activities on the environment was found significantly different at 1% level.

(a) Impact of overgrazing of grasslands on the environment

Apropos impact of overgrazing of grasslands (on the environment), the responses differed between males and females ..... in case of males, the responses obtained were : almost no effect (7%), very little effect (17%), some effect (25%), considerable effect (36%) and very serious effect (15%); whereas the concerned per centages among females happened to be 7, 8, 19, 43 and 23 per cent, respectively.

(b) Impact of bathing of animals on the environment

Apropos impact of bathing of animals (on the environment), the responses differed between males and females ..... in case of males, the responses obtained were : almost no effect (3%), very little effect (6%), some effect (43%), considerable

Table 4.11(A) : Frequency distribution of male respondents on the basis of their responses regarding 'Livestock related activities affecting the environment adversely' (N = 200)

Sl. No.	Activities	Responses				
		Almost No Effect	Very Little Effect	Some Effect	Consid -erable Effect	Very Serious Effect
(a)	Overgrazing of grasslands	14(7.00)	34(17.00)	50(25.00)	72(36.00)	30(15.00)
(b)	Bathing of animals in ponds	6(3.00)	12(6.00)	86(43.00)	74(37.00)	22(11.00
(c)	Excreta of livestock	22(11.00)	30(15.00)	74(37.00)	54(27.00)	20(10.00)
(d)	Dead animals dumped in ground	40(20.00)	56(28.00)	38(19.00)	38(19.00)	28(14.00)
(e)	Dead bodies left in field as such	20(10.00)	24(12.00)	46(23.00)	50(25.00)	60(30.00)
(f)	Dead bodies in ponds/rivers	0(0.00)	8(4.00)	16(8.00)	66(33.00)	110(55.00)
(g)	Slaughter houses' disposal ways	8(4.00)	14(7.00)	52(26.00)	76(38.00)	50(25.00)

Note : Figures in parentheses indicate the percentages of respective cells. $\chi^2_{(24)} = 348.17$ **

Table 4.11(B) : Frequency distribution of female respondents on the basis of their responses regarding 'Livestock related activities affecting the environment adversely' (N = 200)

Sl. No.	Activities	Responses				
		Almost No Effect	Very Little Effect	Some Effect	Consid -erable Effect	Very Serious Effect
(a)	Overgrazing of grasslands	14(7.00)	16(8.00)	38(19.00)	86(43.00)	46(23.00)
(b)	Bathing of animals in ponds	2(1.00)	10(5.00)	58(29.00)	76(38.00)	54(27.00)
(c)	Excreta of livestock	20(10.00)	34(17.00)	60(30.00)	64(32.00)	22(11.00)
(d)	Dead animals dumped in ground	40(20.00)	28(14.00)	50(25.00)	44(22.00)	38(19.00)
(e)	Dead bodies left in field as such	2(1.00)	14(7.00)	30(15.00)	68(34.00)	86(43.00)
(f)	Dead bodies in ponds/rivers	0(0.00)	2(1.00)	12(6.00)	56(28.00)	130(65.00)
(g)	Slaughter houses' disposal ways	4(2.00)	10(5.00)	32(16.00)	86(43.00)	68(34.00)

Note : Figures in parentheses indicate the percentages of respective cells. $\chi^2_{(24)} = 340.09$ **

effect (37%) and very serious effect (11%); whereas the concerned per centages among females happened to be 1, 5, 29, 38 and 27 per cent, respectively.

(c) Impact of animals' excreta on the environment

Apropos impact of animals' excreta (on the environment), the responses differed between males and females ..... in case of males, the responses obtained were : almost no effect (11%), very little effect (15%), some effect (37%), considerable effect (27%) and very serious effect (10%); whereas the concerned per centages among females happened to be 10, 17, 30, 32 and 11 per cent, respectively.

(d) Impact of dead bodies dumped in the ground on the environment

Apropos impact of dead bodies dumped in the ground (on the environment), the responses differed between males and females ..... in case of males, the responses obtained were : almost no effect (20%), very little effect (28%), some effect (19%), considerable effect (19%) and very serious effect (14%); whereas the concerned per centages among females happened to be 20, 14, 25, 22 and 19 per cent, respectively.

(e) Impact of dead bodies left in the field itself on the environment

Apropos impact of dead bodies left in the field itself (on the environment), the responses differed between males and females ..... in case of males, the responses obtained were : almost no effect (10%), very little effect (12%), some effect (23%), considerable effect (25%) and very serious effect (30%); whereas the concerned per centages among females happened to be 1, 7, 15, 34 and 43 per cent, respectively.

(f) Impact of dead bodies being thrown in the ponds/river on the environment

Apropos impact of dead bodies being thrown in the ponds/rivers (on the environment), the responses differed between males and females ..... in case of males, the responses obtained were : almost no effect (0%), very little effect (4%), some effect (8%), considerable effect (33%) and very serious effect (55%); whereas the concerned per centages among females happened to be 0, 1, 6, 28 and 65 per cent, respectively.

(g) Impact of mode of disposal of slaughter houses' materials on the environment

In fact, sometimes back, the Idgah at New Delhi, an abattoir, was very much amidst controvery regarding its way of slaughtering the animals as well as the mode of disposing the waste materials ..... as, it was being felt by the environmentalists that it certainly affected the environment of not only the surrounding locality but also of other areas. Therefore, keeping this in background, the above queries were raised while interacting with the respondents and the responses happened to be : not much effect (4%), very little effect (7%), some effect (26%), considerable effect (38%) and very serious effect (25%); whereas in case of female respondents it was 2, 5, 16, 43 and 34 per cent respectively.

BURNING OF FUELS AFFECTING THE ENVIRONMENT ADVERSELY

Effect due to different kind of fuel on the environment was tested bny chi-square and it was found significant difference between the responses at 1% level.

(a) Impact of Liquid Petroleum Gas (LPG) on the environment

Regarding impact of Liquid Petroleum Gas (LPG) on the environment, the obtained responses in case of male were : not much effect (50%), very little effect

Table 4.12(A) : Frequency distribution of male respondents on the basis of their opinion regarding 'Burning of fules affecting the environment adversely' (N = 200)

Sl. No.	Fuels	Responses				
		Not Much Effect	Very Little Effect	Some Effect	Consid -erable Effect	Very Serious Effect
(a)	L.P. Gas	100(50.00)	84(42.00)	10(5.00)	2(1.00)	4(2.00)
(b)	Kerosene Stove	26(13.00)	66(33.00)	80(40.00)	24(12.00)	4(2.00)
(c)	Coal	8(4.00)	4(2.00)	42(21.33)	76(38.00)	70(35.00)
(d)	Dung Cakes	6(3.00)	6(3.00)	52(26.00)	74(37.00)	62(31.00)
(e)	Biogas	88(44.00)	54(27.00)	40(20.00)	18(9.00)	0(0.00)
(f)	Trash & Baggase	20(10.00)	54(27.00)	50(25.00)	40(20.00)	36(18.00)

Note : Figures in parentheses indicate the percentages of respective cells. $\chi^2_{(16)} = 726.69^{**}$

(42%), some effect (5%), considerable effect (1%) and very serious effect (2%); whereas, the concerned per centages among females happened to be 59, 16, 17, 5 and 3 per cent, respectively.

(b) Impact of Kerosene Stove on the environment

Apropos impact of Kerosene Stove on the environment, the obtained responses in case of male were : not much effect (13%), very little effect (33%), some effect (40%), considerable effect (12%) and very serious effect (2%); whereas, the concerned per centages among females happened to be 8, 23, 35, 24 and 10 per cent, respectively.

(c) Impact of Coal on the environment

However, use of coal didn't get the similar responses (like LPG and Kerosene) as more than 73 per cent of respondents expressed their reservations about its use by putting their answers in considerable effect (38%males; 47% females) and very serious effect (35% males; 33% females) categories. Rest of

Table 4.12(B) : Frequency distribution of female respondents on the basis of their opinion regarding 'Burning of fules affecting the environment adversely' (N = 200)

Sl. No.	Fuels	Responses				
		Not Much Effect	Very Little Effect	Some Effect	Consid -erable Effect	Very Serious Effect
(a)	L.P. Gas	118(59.00)	32(16.00)	34(17.00)	10(5.00)	6(3.00)
(b)	Kerosene Stove	16(8.00)	46(23.0)	70(35.00)	48(24.00)	20(10.00)
(c)	Coal	0(0.00)	16(8.00)	24(12.00)	94(47.00)	66(33.00)
(d)	Dung Cakes	12(6.00)	30(15.00)	34(17.00)	76(38.00)	48(24.00)
(e)	Biogas	122(61.00)	48(24.00)	22(11.00)	6(3.00)	2(1.00)
(f)	Trash & Baggase	42(21.00)	30(15.00)	38(19.00)	46(23.00)	44(22.00)

Note : Figures in parentheses indicate the percentages of respective cells. $\chi^2_{(20)} =$ **

the respondenses were like this : not much effect (4% males; 0% females) very little effect (2% males; 8% females) and some effect (21% males; 12% females).

(d) Impact of dung-cakes on the environment

As far as dung-cakes were concerned, 3, 3, 26, 37 and 31 per cent of the male respondents and 6, 15, 17, 38 and 24 per cent of the female respondents have responded under respective categories of not much effect, very little effect, some effect, considerable effect and very serious effect (on the environment).

(e) Impact of bio-gason the environment

More than 40 per cent of the male respondents and 61 per cent of the female respodents have said that use of Biogas did not affect the environment much, while only 0 per cent male and 1 per cent females said that it has very serious effect on the environment. Other responses obtained are : very little effect (27% males; 24% females) some effect (20% males; 11% females) and considerable effect (9% males; 3% females).

(f) Impact of trashes on the environment

Regarding use of trashes for fuel purpose (generally in rural areas) and its degrading effect on the overall environmet, responses have come almost symmetrically, viz - 10% males and 21% females' responses under 'not much affect; 27% males; 15% females under 'very little effect', 25% males; 19% females under 'some effect', 20% males; 23% females under 'considerable effect' and 18% males; 22% females under 'very serious effect' types of response categories.

GENERATORS POLLUTING THE ENVIRONMENT

The difference in opinion regarding effect of generators on the environment was found significant at 1% level.

Only 11 per cent of youths opined that generators either do not affect the environment much or affect it (the environment) very little. The actual break-up of the responses apropos generators' effect on the environment, as obtained from the respondents, happended to be : not much effect (3.00)), very little effect (7.00%), some effect (15%), considerable efect (43%), and very serious effect (31%). This finding reveals that 74 per cent of the respondents are aware of the bad effects of the genetrators on the environment, be it air-related or sound based.

Table 4.13 : Frequency distribution of respondents (sex-wise) on the basis of their opinion regarding 'Generators polluting the environment' (N = 400)

Sex	Responses					Total
	Not Much	Very Little Effect	Some Effect	Considerable Effect	Very Serious Effect	
Male	12 (6.00)	16 (8.00)	22 (11.00)	100 (50.00)	50 (25.00)	200 (100.00)
Female	2 (1.00)	14 (7.00)	36 (18.00)	74 (37.00)	74 (37.00)	200 (100.00)
Overall	14 (3.50)	30 (7.50)	58 (14.50)	174 (43.50)	124 (31.00)	400 (100.00)

Note : Figures in parentheses indicate the percentages of respective cells. $\chi^2_{(4)} = 19.16^{**}$

AGRO-BASED AND COTTAGE INDUSTRIES AFFECTING THE ENVIRONMENT ADVERSELY

In order to ascertain the respondents' views apropos adverse effect of several cottage industries and agro-based industries (viz. cooking oil processing industries, flour mills, detergent and soap making factories, distilleries, tanneries, sugar mills and tobacco manufacturing units) on the environment, the respondents were asked upto what extent these industries affect the environment and when the responses

Table 4.14(A) : Frequency distribution of male respondents on the basis of their responses regarding 'Agro-based and cottage industries affecting the environment adversely' (N = 200)

Sl. No.	Fuels	Responses				
		Not Much Effect	Very Little Effect	Some Effect	Consid -erable Effect	Very Serious Effect
(i)	Cooking oil processing	40(20.00)	64(32.00)	68(34.00)	16(8.00)	12(6.00)
(ii)	Flour mill operations	24(12.00)	80(40.00)	66(33.00)	30(15.00)	0(0.00)
(iii)	Detergent & soap making	4(2.00)	16(8.00)	46(23.00)	94(47.00)	40(20.00)
(iv)	Distilleries oprations	8(4.00)	12(6.00)	76(38.00)	66(33.00)	38(19.00)
(v)	Tannewries operations	4(2.00)	12(6.00)	78(39.00)	62(31.00)	44(22.00)
(vi)	Sugar mills	12(6.00)	18(9.00)	42(21.00)	88(44.00)	40(20.00)
(vii)	Tobacco manufacturing units	4(2.00)	4(2.00)	16(8.00)	50(25.00)	126(63.00)

Note : Figures in parentheses indicate the percentages of respective cells. $\chi^2_{(24)} = 613.65^{**}$

were checked to see the effect of different agro-based industries on the environment pollution, there was significant difference at 1% level. The responses, as shown in the table 4.14 (a, b & c), clearly depicts that tobacco manufacturing units topped as having severe damaging impact on the environment as 66.50 per cent of the respondents opined that it was affecting the environment very much. But in the same category flour mill had the least per centage (1.50 %) of responses. If we see overall picture, the combination of considerable effect and very serious effect is being headed by tobacco manufacturing units (88%) followed by sugar mills (61%)

Table 4.14(B) : Frequency distribution of female respondents on the basis of their responses regarding 'Agro-based and cottage industries affecting the environment adversely' (N = 200)

Sl. No.	Fuels	Responses				
		Not Much Effect	Very Little Effect	Some Effect	Consid -erable Effect	Very Serious Effect
(i)	Cooking oil processing	56(28.00)	46(23.00)	70(35.00)	24(12.00)	4(2.00)
(ii)	Flour mill operations	50(25.00)	60(30.00)	52(26.00)	32(16.00)	6(3.00)
(iii)	Detergent & soap making	10(5.00)	22(11.00)	46(23.00)	74(37.00)	48(24.00)
(iv)	Distilleries oprations	22(11.00)	22(11.00)	66(33.00)	64(32.00)	26(13.00)
(v)	Tannewries operations	16(8.00)	14(7.00)	54(27.00)	66(33.00)	50(25.00)
(vi)	Sugar mills	22(11.00)	20(10.00)	42(21.00)	80(40.00)	36(18.00)
(vii)	Tobacco manufacturing units	10(5.00)	4(2.00)	6(3.00)	40(20.00)	140(70.00)

Note : Figures in parentheses indicate the percentages of respective cells. $\chi^2_{(24)} = 558.99^{**}$

and detergent and soap making factories (64%), distilleries operations (48.50%), tanneries operations (37.50%), flour mills (17%) and cooking oil processing units

Table 4.14(C) : Distribution of respondents (in percentage) on the basis of their obtained responses apropos 'effect of agro-based and cottage industries on the environment' (it is the overall of table 4.14(a) & (b) (N = 400)

	Industries	Responses					Total
		Not Much	Very Little Effect	Some Effect	Considerable Effect	Very Serious Effect	
(i)	Cooking oil processing	24.00	27.50	34.50	10.00	4.00	100.00
(ii)	Flour mill operations	18.50	35.00	29.50	15.50	1.50	100.00
(iii)	Detergent & soap making	3.50	9.50	23.00	42.00	22.00	100.00
(iv)	Distilleries operations	7.50	8.50	35.50	32.50	16.00	100.00
(v)	Tanneries operations	5.00	6.50	33.00	32.00	5.50	100.00
(vi)	Sugar mills	8.50	9.50	21.00	42.00	19.00	100.00
(vii)	Tobacco manufacturing units	3.50	2.00	5.50	22.50	66.50	100.00

(14%). One very interesting thing to note is except for tobacco manufacturing units in each case the per centage was higher in 'considerable effect' than 'very serious effect'. The 'not much effect'(on the environmen) category was headed by cooking oil processing units (24%) followed by flour mills (18.50%), sugar mills (8.50%), distilleries operations (7.50%), tanneries operations (5.0%), detergent and soap making factories (3.50%) and even tobacco manufactoring units (3.50%).

Here also, like earlier results see Table 4.14(c), except for tobacco manufacturing units, in each case the per centage was higher in 'very little effect' than not much effect.

Again, if we combine both not much effect and very little effect, the flour mills (53.50%) topped the list followed by cooking oil processing units (51.50%), sugar mills (18%), distilleries operations (16%), detergent and soap making (13%), tanneries operations (11.50%) and tobacco manufacturing units (5.60%).

SMOKING-HABITS AND ITS ADVERSE EFFECT ON THE ENVIRONEMNT

Now, if we consider tobacco-manufacturing units as the most dangerous units apropos its bad effects on the environment, then the question arises "how much use of tobacco actually degrade the environment?" Therefore the respondents were asked about smoking habits' adverse effect on the environment and the degree of effect of these habits was found significantly different at 1% level. The Table 4.15 shows, regarding smoking of bidi/cigarettes the break-ups of responses were : 2, 0, 3, 9 and 86 per cent under the respective categories of never, rarely, sometimes, often and always in terms of its effect on the environment.

Table 4.15 : Frequency distribution of respondents (sex-wise) on the basis of their opinion regarding 'smoking-habits and its adverse effect on the environment' (N = 400)

	Responses	Tobacco use pattern								
		Smoking bidis or Cigarettes			Chewing tobacco filled 'paans'			Chewing 'gutkha' (Pan Parag etc.)		
		Male	Female	Overall (N=200)	Male	Female	Overall (N=200)	Male	Female	Overall (N=400)
(i)	Never	4 (2.00)	4 (2.00)	**8 (2.00)**	18 (9.00)	30 (15.00)	**48** (12.00)	18 (9.00)	42 (21.00)	**60** (15.00)
(ii)	Rarely	0 (0.00)	0 (0.00)	**0 (0.00)**	20 (10.00)	12 (6.00)	**32** (8.00)	22 (11.00)	18 (9.00)	**40** (10.00)
(iii)	Sometimes	12 (6.00)	0 (0.00)	**12 (3.00)**	56 (28.00)	64 (32.00)	**120** (30.00)	42 (21.00)	50 (25.00)	**92** (23.00)
(iv)	Often	20 (10.00)	16 (8.00)	**36 (9.00)**	62 (31.00)	62 (31.00)	**124** (31.00)	44 (22.00)	36 (18.00)	**80** (20.00)
(v)	Always	164 (82.00)	180 (90.00)	**344 (86.00)**	44 (22.00)	32 (16.00)	**76** (19.00)	74 (37.00)	54 (27.00)	**128** (32.00)

Figures in parentheses indicate percentages of respective cells.

Consumption of tobacco filled 'paan' always affect the environment, as felt by 19 per cent of the respondents; while 31 per cent felt that it affect the environment 'often', 30 per cent though that it does affect 'sometimes', 8 per cent say that it affects 'rarely' and 12 per cent believe that it never degrades the environment.

Chewing gutka has become another phenomenon these days and are very much popular amogst the youths including school going students. As far as the opinion of 32 per cent of the people (respondents), it 'always' affects the environment; whereas, 20 per cent say that it 'often' affects; 23 per cent believe that it affects 'sometimes'; 10 per cent say that it 'rarely' affects; and 15 per cent say that it 'never' affects the environment adversely.

CULTIVATION AFFECTINGT THE ENVIRONMENT ADVERSELY

To a duery "whether cultivation affect the environment adversely?", 37.50 per cent of the respondents said "yes"; 32 per cent said 'no' and the remaining ones (30.50%) were "undecided" on this issue. The responses regarding effect of cultivation on environment adversly significantly differed at 1% level.

Table 4.16 : Frequency distribution of respondents (sex-wise) on the basis of their response towards 'cultivation affecting the environment adversely' (N = 400)

	Responses			
Sex	**Yes**	**Undecided**	**No**	**Total**
Male	56(28.00)	74(37.00)	70(35.00)	200(100.00)
Female	94(47.00)	48(24.00)	58(29.00)	200(100.00)
Overall	**150(37.50)**	**122(31.00)**	**128(32.00)**	**400(100.00)**

Note : Figures in parentheses indicate the percentages of respective cells. $\chi^2_{(2)} = 16.19^{**}$

Table 4.17 : Frequency distribution of respondents (sex-wise) on the basis of their opinion regarding 'Drinking water sources hazardous to human health' (N = 400)

Responses	Source of drinking water																	
	Hand Pumps			Wells			Rivers			Ponds			Taps			Canals		
	M	F	O	M	F	O	M	F	O	M	F	O	M	F	O	M	F	O
Yes	76 (38.00)	60 (30.00)	**136 (34.00)**	132 (66.0)	116 (58.00)	**248 (62.00)**	146 (73.00)	162 (81.00)	**308 (77.00)**	172 (86.00)	172 (86.00)	**344 (86.00)**	16 (8.00)	26 (13.00)	**42 (10.50)**	108 (54.00)	108 (54.00)	**216 (54.00)**
Undecided	64 (32.00)	76 (38.00)	**140 (35.00)**	32 (16.00)	52 (26.00)	**84 (21.0)**	36 (18.0)	28 (14.00)	**64 (16.00)**	24 (12.00)	12 (6.0)	**36 (9.00)**	54 (27.00)	32 (16.00)	**86 (21.50)**	56 (28.00)	64 (32.00)	**120 (30.0)**
No	60 (30.00)	64 (32.00)	**124 (31.00)**	36 (18.00)	32 (16.00)	**68 (17.00)**	18 (9.00)	10 (5.00)	**28 (7.00)**	4 (2.00)	16 (8.00)	**20 (5.00)**	130 (65.00)	142 (71.00)	**272 (68.00)**	36 (18.00)	28 (14.00)	**64 (16.00)**

Figures in parentheses indicate percentages of respective cells.

DRINKING WATER SOURCES HAZARDOUS TO HUMAN HEALTH

We use water from different sources for drinking purpose, which can be hazardous to our health. Some possible sources of water which we, regularly, use for drinking purpose are : hand pumps, wells, rivers, ponds, tap water and canals. When the respondents were asked how much hazardous these water-sources are for our/their health, a variety of responses were obtained and all such responses (in %) have been tabulated (as shown in Table 4.17) and the responses differed significantly at 1% level (chi-square test)

The table 4.17 depicts that 86 per cent of the respondents believe that pond water is very much hazards to one's health followed by the river (77%), wells (62%), canals (54%), hand pumps (34%) and the tap water (10%). That means the safest source of drinking water, as believed by the respondents happend to be the "tap water", being followed by, "water from the hand-pumps".

However, some of them, it seems, are little bit in doubt about the saftey of hand-pumps' water that is why 35% have said that they can't say confirmly that it is hazardous while 31% have said that it is not hazardous.

SAFETY OF YAMUNA WATER FOR DRINKING PURPOSE

When the respondents were asked whether it was safe to take/consume water of Yamuna river (for drinking purpose) directly, only 1.50 per cent said "yes", but 94.50 per cent of the respondents were totally against its 'direct' use; while the rest (4%) were undecided about it. It shows that respondents are highly aware about the hazardous effects of the polluted water of Yamuna river. Here, also the responses were significantly differed at 1% level.

Table 4.18 : Frequency distribution of respondents (sex-wise) on the basis of their responses regarding 'Saftey/purity of Yamuna water for drinking purpose' (N = 400)

Sex	Responses			Total
	Yes	Undecided	No	
Male	4(2.00)	14(7.00)	182(91.00)	200(100.00)
Female	2(1.00)	2(1.00)	196(98.00)	200(100.00)
Overall	**6(1.50)**	**16(4.00)**	**378(94.50)**	**400(100.00)**

Note : Figures in parentheses indicate the percentages of respective cells. $\chi^2_{(2)} = 10.18^{**}$

PLAYING LOUD-SPEAKERS AND BAND-BAJA ALONG WITH STREET DANCE ARE ANTI-CIVIC ???

During the marriage ceremonies, social rituals, customs and festivals, people use to play band-baja and loud speakers (and that too very loudly); sometimes even street dances are performed apropos such activities. When the respondents were asked abut the civic sense apropos such activities, more than 85 per cent (Table 4.19) people admitted of these being absolutely anti-civic; 10 per cent were undecided about the issue; while the rest of them think that it is alright; here also, the difference in opinion were significantly different at 1% level. It shows that respondents are highly aware of this problem, albeit even then, most of the time one can watch it happening in the capital; itself.

Table 4.19 : Frequency distribution of respondents (sex-wise) on the basis of their responses regarding civic sense of people in 'playing loud speakers and band- baja with street dances' (N = 400)

Sex	Response			Total
	Yes	Undecided	No	
Male	160(80.00)	30(15.00)	10(5.00)	200(100.00)
Female	180(90.00)	10(5.00)	10(5.00)	200(100.00)
Overall	**340(85.00)**	**40(10.00)**	**20(5.00)**	**400(100.00)**

Note : Figures in parentheses indicate the percentages of respective cells. $\chi^2_{(2)} = 11.18^{**}$

IMPACT OF PERSONAL HYGIENE ON THE SOCIAL ENVIRONMENT SURROUNDING THE PERSON

When asked about the impact of one's personal hygiene on the overall social environment surrounding an individual 26 per cent of the respondents opined that personal hygiene plays a big and important role in affecting the social environment around on individual. On the other hand, 6 per cent of the respondents think that it 'doesn't affect the social environment 'so much'; 9 per cent say it affects 'very little', 19 per cent say it was 'some effect'; and 40 per cent think that it has 'considerable effect'. Therefore, it can be said that more than 65 per cent of

Table 4.20 : Frequency distribution of respondents (sex-wise) on the basis of their responses regarding 'impact of one's own personal hygiene on the social environment surrounding himself' (N = 400)

Sex	Responses					Total
	Not Much Effect	Very Little Effect	Some Effect	Consid -erable Effect	Very Serious Effect	
Male	14 (7.00)	26 (13.00)	36 (18.00)	78 (39.00)	46 (23.00)	200 (100.00)
Female	10 (5.00)	10 (5.00)	40 (20.00)	82 (41.00)	58 (29.00)	200 (100.00)
Overall	**24 (6.00)**	**36 (9.00)**	**76 (19.00)**	**160 (40.00)**	**104 (26.00)**	**400 (100.00)**

Note : Figures in parentheses indicate the percentages of respective cells. $\chi^2_{(4)} = 9.46^{NS}$

the respondents believe in personal hygiene to have a better social environment around themselves. The difference in responses were not found significant.

GAMBLING DEGRADES THE SOCIAL ENVIRONMENT

"Gambling is very much seriously degrading the social environment" is what the younger generation believe in; and that is why, 50 per cent of the respondents say that it has very serious effect on the social environment. Over 33

Table 4.21 : Frequency distribution of respondents (sex-wise) on the basis of their responses regarding 'adverse effect of gambling on the social environment' (N = 400)

Sex	Responses					Total
	Not Much Effect	Very Little Effect	Some Effect	Consid -erable Effect	Very Serious Effect	
Male	0 (0.00)	8 (4.00)	30 (15.00)	58 (29.00)	104 (52.00)	200 (100.00)
Female	4 (2.00)	4 (2.00)	18 (9.00)	78 (39.00)	96 (48.00)	200 (100.00)
Overall	**4 (1.00)**	**12 (3.00)**	**48 (12.00)**	**136 (34.00)**	**200 (50.00)**	**400 (100.00)**

Note : Figures in parentheses indicate the percentages of respective cells. $\chi^2_{(3)} = 6.55^{NS}$

per cent opined that it has 'condsiderable effect'; 12 per cent think that it has 'some effect'; 3 per cent think that it has 'very little effect'; and 1 per cent think that it has 'not much effect' on the society's social environment around themselves. Here also, the difference in responses were not found significant.

ADVERSE EFFECT OF MONEY/MATERIALS GAIN THROUGH UNFAIR MEANS

The attitude of some (people) to grab/gain money/materials through unfair means was perceived to be having a strong impact on the social environment as suggested by the respondents in the following manner, viz. very serious impact (20%), considerable effect (43%), some effect (16%), very little effect (7%), and not much effect (14%). The difference in opinion (through responses) was not found significant.

Table 4.22 : Frequency distribution of respondents (sex-wise) on the basis of their responses regarding 'adverse effect of money gain by wrong ways' (N = 400)

Sex	Responses					Total
	Not Much Effect	Very Little Effect	Some Effect	Consid -erable Effect	Very Serious Effect	
Male	28 (14.00)	12 (6.00)	30 (15.00)	98 (49.00)	32 (16.00)	200 (100.00)
Female	28 (14.00)	16 (8.00)	34 (17.00)	74 (37.00)	48 (24.00)	200 (100.00)
Overall	**56 (14.00)**	**28 (7.00)**	**64 (16.00)**	**172 (43.00)**	**80 (20.00)**	**400 (100.00)**

Note : Figures in parentheses indicate the percentages of respective cells. $\chi^2_{(4)} = 7.36^{NS}$

RIGHTNESS OF OCCASIONAL DRINKING

About the habit of taking/consuming the liquor, 52 per cent of today's youths believe that there is no harm in occasional drinking (liquor); but at the same times 29.50 per cent are against such practices, while 18.50 per cent are undecided on this issue. The responses differed significantly at 1% level.

Table 4.23 : Frequency distribution of respondents (sex-wise) on the basis of their responses regarding 'rightness of ocassional drinking' (N = 400)

Sex	Response			Total
	Yes	Undecided	No	
Male	116 (58.00)	18 (9.00)	66 (33.00)	200 (100.00)
Female	92 (46.00)	56 (28.00)	52 (26.00)	200 (100.00)
Overall	**208 (52.00)**	**74 (18.50)**	**118 (29.50)**	**400 (100.00)**

Note : Figures in parentheses indicate the percentages of respective cells. $\chi^2_{(2)} = 24^{**}$

EFFECT OF EXCESS LIQUOR DRINKING ON SOCIAL ENVIRONMENT

Only 1.50 per cent of the respondents think that social environment of the society doesn't suffer "much" due to drinking problem as well as drunkards' tendency to misbehave; whereas 6.50 per cent say it has "some effect", on the other hand, 29.50 per cent and 62.50 per cent of the respondents say that it has

Table 4.24 : Frequency distribution of respondents (sex-wise) on the basis of their responses regarding 'adverse effect of liquor drinking on the social environment' (N = 400)

Sex	Responses					Total
	Not Much Effect	Very Little Effect	Some Effect	Consid -erable Effect	Very Serious Effect	
Male	4 (2.00)	0 (0.00)	20 (10.00)	62 (31.00)	114 (57.00)	200 (100.00)
Female	2 (1.00)	0 (0.0)	6 (3.00)	56 (28.00)	136 (68.00)	200 (100.00)
Overall	**6 (1.50)**	**0 (0.0)**	**26 (6.50)**	**118 (29.50)**	**250 (62.50)**	**400 (100.00)**

Note : Figures in parentheses indicate the percentages of respective cells. $\chi^2_{(4)} = 10.44^*$

considerable and "very serious effect" on the social environment of the society, respectively. The responses differed significantly at 5% level.

EFFECT OF CIGARETTE OR DRUGS (TO PREVAIL UPON TENSIONS) ON THE SOCIAL ENVIRONMENT

Majority of the respondents (youths) i.e. 78.50 per cent, agree with the bad effects of cigarette and or drugs on the social environment on a whole which

Table 4.25 : Frequency distribution of respondents (sex-wise) on the basis of their opinion regarding 'adverse effect of drugs on social environment' (N = 400)

Sex	Response			Total
	Yes	Undecided	No	
Male	136 (68.00)	32 (16.00)	32 (16.00)	200 (100.00)
Female	178 (89.00)	6 (3.00)	16 (8.00)	200 (100.00)
Overall	**314 (78.50)**	**38 (9.50)**	**48 (12.00)**	**400 (100.00)**

Note : Figures in parentheses indicate the percentages of respective cells. $\chi^2_{(2)} = 28.74^{**}$

means that today's youths are very much aware of its negative effects (a good sign). Only 12 per cent of the respondents didn't agree to this point while the rest (9.50%) were undecided to say anything on this.

EFFECT OF PRE-MARRIAGE PHYSICAL RELATIONSHOIPS ON SOCIAL ENVIRONMENT

Cultural invasion in the form of increased physical relationship/intimacy amongst the opposite sexes before/without marriage was supposed to have adverse effect on the social environment which is quite evident from the (Table 4.26) obtained responses, which differed significantly at even 1% level, viz. very serious effect (68%), considerable effect (25.50%), some effect (2.50%), and very little effect (1.50%). Whereas, a more 2.50 per cent of the respondents were of the view that such type of relationship and or close promiscuity/intimacy between the members of opposite sexes did not have any adverse impact on the social environment surrounding the concerned person.

Table 4.26 : Frequency distribution of respondent (sex-wise) on the basis of their opinion regarding 'effect of pre-marriage physical relationship on social environment' (N = 400)

Sex	Responses					Total
	Not Much Effect	Very Little Effect	Some Effect	Consid -erable Effect	Very Serious Effect	
Male	8 (4.00)	4 (2.00)	6 (3.00)	70 (35.00)	112 (56.00)	200 (100.00)
Female	2 (1.00)	2 (1.00)	4 (2.00)	32 (16.00)	160 (80.00)	200 (100.00)
Overall	**10 (2.50)**	**6 (1.50)**	**10 (2.50)**	**102 (25.50)**	**272 (68.50)**	**400 (100.00)**

Note : Figures in parentheses indicate the percentages of respective cells. $\chi^2_{(3)} = 23.03^{**}$

EFFECT OF EVE-TEASING, TAUNTING, MUSCLE POWER AND DESTRUCTION OF PUBLIC AND PRIVATE PROPERTIES ON THE HEALTH OF SOCIAL ENVIRONEMENT

These activities has become order of the day. These tendencies bring a fear of insecurity in common man which is, perheps, not congenial for a healthy society.

Table 4.27 : Frequency distribution of respondents (sex-wise) on the basis of their opinion regarding 'effect of pre-marriage physical relationship on social environment' (N = 400)

Sex	Responses					Total
	Not Much Effect	Very Little Effect	Some Effect	Consid -erable Effect	Very Serious Effect	
Male	28 (14.00)	18 (9.00)	30 (15.00)	70 (35.00)	54 (27.00)	200 (100.00)
Female	2 (1.00)	6 (3.00)	22 (11.00)	40 (20.00)	130 (65.0)	200 (100.00)
Overall	**30 (7.50)**	**24 (6.00)**	**52 (13.00)**	**110 (27.50)**	**184 (46.00)**	**400 (100.00)**

Note : Figures in parentheses indicate the percentages of respective cells. $\chi^2_{(4)} = 58.07^{**}$

When the respondents were asked in this context, 7.50 per cent strongly disagreed with this view; i.e. they said it was not affecting much; 6 per cent said under very little effect', 13 per cent in some effect, 27.50 per cent in considerable effect and 46 per cent strongly agreed; so, the responses were found significantly different at 1% level with this view apropos this growing problem of the society which is, obviously, unhealthy for a better social environment.

ADVERSE EFFECT OF DOMESTIC CLASHES ON SOCIAL ENVIRONMENT

Regarding the statement "domestic clashes disturb the peace of mind", 33.50 per cent of the respondents strongly believed in that i.e. very serious effect, 53 per cent opined that it has considerable effect, 9.50 per cent throught that it has

Table 4.28 : Frequency distribution of respondent (sex-wise) on the basis of their opinion regarding 'adverse effect of domestic clashes on social environment' (N = 400)

Sex	Responses					Total
	Not Much Effect	Very Little Effect	Some Effect	Consid -erable Effect	Very Serious Effect	
Male	4 (2.00)	8 (4.00)	18 (9.00)	132 (66.00)	38 (19.00)	200 (100.00)
Female	2 (1.00)	2 (1.00)	20 (10.00)	80 (40.00)	96 (48.00)	200 (100.00)
Overall	**6 (1.50)**	**10 (2.50)**	**38 (9.50)**	**212 (53.00)**	**134 (33.50)**	**400 (100.00)**

Note : Figures in parentheses indicate the percentages of respective cells. $\chi^2_{(3)} = 41.94^{**}$

some effect, 2.50 per cent thought that it has very little effect while, 1.50 per cent thought that it has not much effect on the peace of mind which in other words can be said that it doesn't affect the social environment much. But the difference in opinion were significant at 1% level.

ADVERSE EFFECT OF CASTE-BASED CLASHES ON THE SOCIETY

Due to caste-based clashes, peaceful coexistance have become a difficult thing, these days, which is naturally affecting the social relationships. When this point was raised, the respondents replied like this : 36 per cent under very serious

Table 4.29 : Frequency distribution of respondents (sex-wise) on the basis of their opinion regarding 'adverse effect of caste based clashes on the society' (N = 400)

Sex	Responses					Total
	Not Much Effect	Very Little Effect	Some Effect	Consid -erable Effect	Very Serious Effect	
Male	16 (8.00)	4 (2.00)	50 (25.00)	72 (36.00)	58 (29.00)	200 (100.00)
Female	2 (1.00)	2 (1.00)	28 (14.00)	82 (41.00)	86 (43.00)	200 (100.00)
Overall	**18 (4.50)**	**6 (1.50)**	**78 (19.50)**	**154 (38.50)**	**144 (36.00)**	**400 (100.00)**

Note : Figures in parentheses indicate the percentages of respective cells. $\chi^2_{(3)} = 22.96^{**}$

effect, 38.50 per cent under considerable effect, 19.50 per cent under some effect, 1.50 per cent under very little effect, and 4.50 per cent under not much effect, categories of responses. And, the responses differed significantly at 1% level.

ADVERSE EFFECT OF PARTY-AFFILIATED FACTIONS ON THE SOCIAL STRUCTURE

Politics and party-affiliated factions have given birth to anti-social elements which is, definitely, ruining the social struicture of the society. For this, respondents', view were like this : very serious effect (47.50%), considerable

Table 4.30 : Frequency distribution of respondents (sex-wise) on the basis of their opinion regarding 'adverse effect of party-affiliated factions on the social structure' (N = 400)

Sex	Responses					Total
	Not Much Effect	Very Little Effect	Some Effect	Consid -erable Effect	Very Serious Effect	
Male	2 (1.00)	2 (1.00)	28 (14.00)	64 (32.00)	104 (52.00)	200 (100.00)
Female	2 (1.00)	0 (0.00)	18 (9.00)	94 (47.00)	86 (43.00)	200 (100.00)
Overall	**4 (1.00)**	**2 (0.50)**	**46 (11.50)**	**158 (39.50)**	**190 (47.50)**	**400 (100.00)**

Note : Figures in parentheses indicate the percentages of respective cells. $\chi^2_{(2)} = 10.17^{**}$

effect (39.50%), some effect (11.50%), very little effect (0.50%), and not much effect (1%) and the responses differed significantly at 1% level. It indicates that youths (respondents) of Delhi are highly aware of this problem.

ADVERSE EFFECTS OF PRE/EXTRA MARITAL RELATIONSHIP (REGARDED AS 'STATUS-SYMBOL') ON FAMILY RELATIONSHIP AND SUBSEQUENTLY THE SOCIAL ENVIRONMENT OF THE SOCIETY

One of the status-symbol, in big cities, now-a-days, is that "How many girl friends/boy-friends do you have?" which compels the youths to follow the suit lest be casted as backwards/laggards among their respective friend-circle(s). These things are certainly affecting the family relationships and bondation between family members. When this point was raised before the respondents, they replied as : not much effect (4.50%), very little effect (3%), some what affecting the

Table 4.31 : Frequency distribution of respondents (sex-wise) on the basis of their opinion regarding 'adverse effect of pre/extra marital relationship on family relationship and social environment' (N = 400)

Sex	Responses					Total
	Not Much Effect	Very Little Effect	Some Effect	Consid -erable Effect	Very Serious Effect	
Male	10 (5.00)	10 (5.00)	66 (33.00)	62 (31.00)	52 (26.00)	200 (100.00)
Female	8 (4.00)	2 (1.00)	44 (22.00)	88 (44.00)	58 (29.00)	200 (100.00)
Overall	**18 (4.50)**	**12 (3.00)**	**110 (27.50)**	**150 (37.50)**	**110 (27.50)**	**400 (100.00)**

Note : Figures in parentheses indicate the percentages of respective cells. $\chi^2_{(4)} = 14.79^{**}$

relationships (27.50%), considerable effect (37.50%); seriously affecting the family bondations and ultimately the social relationships (27.50%). The opinion (through responses) differed significantly at 1% level.

KNOWLEDGE ABOUT ECO-FRIENDLY PRODUCTS

It was very much surprising to find that 56 per cent (Table 4.32, 56%) of the respondents were unaware about the concept of eco-friendly products. This was not the case concerned only with the schools located in the rural areas of

Table 4.32 : Frequency distribution of respondent (sex-wise) on the basis of their opinion regarding 'knowledge about ecofriendly products' (N = 400)

Sex	Responses		Total
	Yes	No	
Male	86 (43.00)	114 (57.00)	200 (100.00)
Female	90 (45.00)	110 (55.00)	200 (100.00)
Overall	176 (44.00)	224 (56.00)	400 (100.00)

Note : Figures in parentheses indicate the percentages of respective cells. $\chi^2_{(1)} = 0.16^{NS}$

Delhi, but also, with the students of schools located in semi-urban and urban areas. The rest (44%) had heard about eco-friendly products but were not very much clear about it, the responses were checked through chi-square test and no significant difference was seen. They named the following things as eco-friendly products, that too, most of the respondents could tell only one of the product (hardly any respondent named more than three products' names ..... very sorry affair); Jute products, cotton products, Recycled papers, Biogas, Various devices based on solar energy, Organic manure, Smokeless chulha, Unleaded petrol, Herbal cosmetics, Electric cars, Battery-operated bus, Chloro-Fluoro-Carbon (CFC) free refrigerators.

CONCERN FOR CONSERVATION OF ENVIRONMENT

In order to know respondet's concern, for the conservation of environment several statements related to this topic were discussed with them, and they were asked to give their responses. Subsequently, their (obtained) responses were categorised properly and tested by chi-square method, they differed significantly even at 1% level, which are being presented as below (courtesy Table 4.33).

When asked about the preference to use plastic bags even when he can carry the product as it is, 34 per cent of the respondents responded in affirmative while 66 per cent in negative. This shows that people are now being aware about the adverse inpact of polythene bags on the environment.

As we all know, most of the agencies concerned with environmetal protection operate from in & around Delhi, and the media highlight them from time-to-time; hence, keeping that in view the respondents were asked whether they keep in touch with such agencies, 70 per cent of the respondents did not have any contact with any agency for the betterment of the environment; albeit the rest of them (30%) have contacted such agencies at one time or other.

Table 4.33 : Frequency distribution of respondents (sex-wise) on the basis of their opinion regarding some statements about 'concern for conservation of environment' (N = 400)

	Statements	Male			Female			Overall		
		Yes	No	Total (N=200)	Yes	No	Total (N=200)	Yes	No	Total (N=400)
1.	A	80 (40.00)	120 (60.00)	200 (100.00)	58 (29.00)	142 (71.00)	200 (100.00)	138 (34.50)	262 (65.50)	400 (100.00)
2.	B	136 (68.00)	64 (32.00)	200 (100.00)	146 (73.00)	54 (27.00)	200 (100.00)	282 (70.50)	118 (29.67)	400 (100.00)
3.	C	154 (77.00)	46 (23.00)	200 (100.00)	174 (87.00)	26 (13.00)	200 (100.00)	328 (82.00)	72 (18.00)	400 (100.00)
4.	D	118 (59.00)	82 (41.00)	200 (100.00)	112 (56.00)	88 (44.00)	200 (100.00)	230 (57.50)	170 (42.50)	400 (100.00)
5.	E	74 (37.00)	126 (63.00)	200 (100.00)	108 (54.00)	92 (46.00)	200 (100.00)	182 (45.50)	218 (54.50)	400 (100.00)
6.	F	50 (25.00)	150 (75.00)	200 (100.00)	22 (11.00)	178 (89.00)	200 (100.00)	72 (18.00)	328 (82.00)	400 (100.00)
7.	G	146 (73.00)	54 (27.00)	200 (100.00)	174 (87.00)	26 (13.00)	200 (100.00)	320 (80.00)	80 (20.00)	400 (100.00)
8.	H	146 (73.00)	54 (27.00)	200 (100.00)	162 (81.00)	38 (19.00)	200 (100.00)	308 (77.00)	92 (23.00)	400 (100.00)
9.	I	142 (71.00)	58 (29.00)	200 (100.00)	188 (94.00)	12 (6.00)	200 (100.00)	330 (82.50)	70 (17.50)	400 (100.00)
10.	J	134 (67.00)	66 (33.00)	200 (100.00)	118 (59.00)	82 (41.00)	200 (100.00)	252 63.00)	148 (37.00)	400 (100.00)

contd.....

11.	K	104 (52.00)	96 (48.00)	200 (100.00)	88 (44.00)	112 (56.00)	200 (100.00)	192 (48.00)	208 (52.00)	400 (100.00)
12.	L	186 (93.00)	14 (7.00)	200 (100.00)	180 (90.00)	20 (10.00)	200 (100.00)	366 (91.50)	34 (8.50)	400 (100.00)
13.	M	166 (83.00)	34 (17.00)	200 (100.00)	168 (84.00)	32 (16.00)	200 (100.00)	334 (83.50)	66 (16.50)	400 (100.00)
14.	N	165 (77.00)	46 (23.00)	200 (100.00)	178 (89.00)	22 (11.00)	200 (100.00)	332 (83.00)	68 (17.00)	400 (100.00)
15.	O	166 (83.00)	34 (17.00)	200 (100.00)	172 (86.00)	28 (14.00)	200 (100.00)	338 (84.50)	62 (15.50)	400 (100.00)

Figures in parentheses indicate percentages of respective cells.

A - I prefer to use a plastic bag even when I can carry the product as it is; B - I have so far not contacted any agency to findout what I can do about pollution; C - I will like to join a group or club concerned solely with ecological issues; D - I do not separate recyclable and non-recyclable waste while disposing it; E - I have never looked around for possible source of originally frown food; F - I feel that it is the govt. job to worry about environmental problems; G - I would donate a day's pocket money to a foundation to help improve the environment; H - I am prepared to stop buying products from companies guilty of pollution the environment, even though it may be inconvenient; I - I am prepared to pay pollution tax if it would decrease the air pollution; J - I don't think writing to our area's MLA/MP concerning environmental problems will help; K - I have never switched products for environmental problems; L - I read articles related to environmental issues in publications; M - I will switch my present brand in case I find it is harming the environment; N - I will accept green alternatives even if these perform less satisfactorily than non-green ones; O - I often carry a cloth bag to bring grocery or vegetables.

However, at the same time, they showed a lot of enthusiasm in thei direction as 82 per cent (Table 4.33 (c)) of the respondents were very much eager to join a group/club concerned with the environmental conservation.

Majority of the respondents, i.e. 58 per cent (Table 4.33 (d)) were not able to differentiate between recyclable and non-recyclable wastes while disposing off the waste materials, whereas, the rest (42%) perceived themselves as capable to differentiate between them.

Majority of the people [54%, Table 4.33 (e)] said they do not look around for the natural food products being grown without the use of chemical fertilizers (i.e. organically grown foods), but the rest (46%) were least bothered about such things.

Eighty two per cent of the respontents (Table 4.33 (f)) realise their (own) responsibility towards the conservation of environment for a better future as they disagreed with the view that it is the job of the govt, to worry about the environmental problems, which is, certainly a very good thing (sign) for they near future, in terms of environmental conservation.

Eighty per cent of the respondents were even ready to donate their one day's pocket money towards the improvement of environment which shows their zeal and eagerness for such things while the rest (20%) were not found to be so enthusiastic in this regard.

Seventy-seven per cent of the respondents were even prepared to sacrifce their convenience for the cause of environment, as they declared that they would not buy the products manufactured by those companies which are guilty of degrading the environment in one way or other, however, the other 23 per cent were not found to be so sacrificing in nature.

More than 82 per cent (83) of the respondents were even ready to pay "pollution tax" kind of things (if it is started) provided it will help in improving the air-related environment which shows their concern and willingness for such a noble cause. However, it could be argued, here, that the citizens of Delhi might be forced to think in that direction, only because, this city is very much notorius for its polluted air environment.

When asked whether writing or complainig to the MLA/MPs of the affected area or locality regarding environmental problems would help much; 63 per cent of the respondents did not think so, while 37 per cent thought that it will certainly help probably, both are right in their approach and thinking, because working towards a better environment is a combined effort from all the sections of the society.

Fifty-two per cent of the respondents have started to decline/reject the products which have some environmental problems, while the other 48 per cent have not done so.

More then 90 per cent (see Table 4.33 (l) - 92% to be precise) of the respondents read articles related to environmental issues which indicates that at least, literally, they try to be aware of the latest things (courtesy Newspapers and magazines). Only 8 per cent are not that much concerned for environment related news articles (may be they are more concerned for practical kind of things).

Eighty four per cent of the respondents were ready to change the products if they find that such products are causing harm ot the environment. This shows their (respondents) concern and involvement for this cause.

Eighty three per cent will go for "green alternatives" (or eco friendly products, in other words) even if those eco-friendly products perform below par (as compared with the non-green ones). Here also, the level of concern seems very high from respondents' point of view.

With respect to carrying of cloth bags in order to bring vegetables or grocery items from the market, the responses obtained indicate that around 85 per cent of them do it regularly, while the rest are not so concerned (and even most of the time the shopkeepers/groceres themselves provide polythene bags for the product, especially in Delhi area).

ALLOCATION OF EFFORTS FOR THESE ENVIRONMENT RELATED ISSUES TO MAKE THE ENVIRONMENT BETTER

When the respondents were asked what could they do if they happen to be the persons having all the powers & resources at their disposal to bring the green issues into limelight and to help decrease the environment pollution, the responses of the respondents (both male & female) received from them being clearly depicted in the Table 4.34. For this, they were asked to allocate their 100 per cent efforts between these issues-pollution (air, water, sound etc), wild life conservation, recycling, deforestation, energy saving measures, and others.

Table 4.34 : Percentage of effort distribution of respondents towards these issues which will make environment better.

Sex	Issues						
	Pollution (%)	Wild life (%)	Recycling (%)	Deforestation (%)	Energy (%)	Others (%)	Total (%)
Male	34.03	15.57	11.00	23.06	11.54	4.80	100.00
Female	36.17	13.35	11.68	20.08	13.29	5.43	100.00
Overall	**35.10**	**14.46**	**11.34**	**21.57**	**12.415**	**5.115**	**100.00**

The table 4.34 clearly depicts that more than 35 per cent of them told that their efforts would be directed towards pollution aspect; and the second most important aspect to be taken care of was deforstation which was told by 21.50 per cent of them, others to follow them were : wild life conservation (14.46%), energy saving measures (12.42), recycling (11.34), and others (5.11%). Distribution of efforts happened to be very much similar in case of both male & female respondents.

KNOWLEDGE ABOUT POLLUTION CHECKING PLANTS/ TREES

It was very much surprising to see that eighty eight per cent (88%) of the respondents were unaware about pollution-checking plants". Only 12 per cent were knowing the names of some plants which are really helpful in checking pollution (may be air/sound) upto certain extent. So, the responses differed quite significantly at 1% level. I suppose that most of them were unaware of the capabilities of some most common plants which help in reducing the pollution level, like Peepal, Neem, Gulmohar etc.

Table 4.35 : Frequency distribution of respondents (sex-wise) on the basis of their opinion regarding 'knowledge about pollution checking plants' (N = 400)

	Responses		
Sex	**Yes**	**No**	**Total**
Male	34 (17.00)	166 (83.00)	200 (100.00)
Female	14 (7.00)	186 (93.00)	200 (100.00)
Overall	**48** **(12.00)**	**352** **(88.00)**	**400** **(100.00)**

Note : Figures in parentheses indicate the percentages of respective cells. $\chi^2_{(1)} = 9.46^{**}$

Those who were knowing about those plants told the names, such as Peepal, Neem, Banyan, Babool, Tulsi, Deodar, Sesham, Gulmohar, Tamarind, Sal etc. Out of these Neem, Peepal and Banyan were the most referred names. Some of the respondents could tell only one name, but some of them told more than one name.

ACTIVE INVOLVEMENT IN ENVIRONMENTAL PROTECTION MEASURES

Regarding active involvement of the respondents in environmental conservation, only 48 per cent admitted of doing so, the other 52 per cent replied in negative (see Table 4.36) which was found significantly differing at 5% level.

Table 4.36 : Frequency distribution of respondents (sex-wise) on the basis of their opinion regarding 'active involvement in environmental protection measures' (N = 400)

	Responses		
Sex	**Yes**	**No**	**Total**
Male	108 (54.00)	92 (46.00)	200 (100.00)
Female	86 (43.00)	114 (57.00)	200 (100.00)
Overall	**194** **(48.50)**	**206** **(51.50)**	**400** **(100.00)**

Note : Figures in parentheses indicate the percentages of respective cells. $\chi^2_{(1)} = 4.82^*$

PARTICIPATION IN ECO-FRIENDLY MOVEMENTS/CAMPAIGNS

Inspite of so many eco-campaigns being organised at school levels (especially in the capital of our country), only 8.50 per cent of the respondents

Table 4.37 : Frequency distribution of respondents (sex-wise) on the basis of their opinion regarding 'participation in eco-friendly movements' (N = 400)

Sex	Responses		Total
	Yes	No	
Male	12 (6.00)	188 (94.00)	200 (100.00)
Female	22 (11.00)	178 (89.00)	200 (100.00)
Overall	34 (8.50)	366 (91.50)	400 (100.00)

Note : Figures in parentheses indicate the percentages of respective cells. $\chi^2_{(1)} = 3.21^{NS}$

have, so far, participated in any kind of movement/campaign organised for the cause of environmental conservation. However, involvement of more number of schools (and the children, of-course) in such campaigns to make this issue more familiar and popular is a must in the present circumstances. No significant difference was observed in the responses.

PARTICIPATION IN COMPETITIONS (ESSAY, DEBATE, PAINTING, OR PHOTOFEATURE) CONCERNED WITH ENVIRONMENT RELATED SUBJECTS

Table 4.38(a) : Frequency distribution of respondents (sex-wise) on the basis of their opinion regarding 'participation in competitions concerned with environment' (N = 400)

Sex	Responses		Total
	Yes	No	
Male	70 (35.00)	130 (65.00)	200 (100.00)
Female	92 (46.00)	108 (54.00)	200 (100.00)
Overall	162 (40.50)	238 (59.50)	400 (100.00)

Note : Figures in parentheses indicate the percentages of respective cells. $\chi^2_{(1)} = 5.01^{*}$

Table 4.38(b) : Frequency distribution of respondents (sex-wise) on the basis of their opinion regarding 'writing articles on environment related topics' (N = 400)

Sex	Responses		Total
	Yes	No	
Male	72 (36.00)	128 (64.00)	200 (100.00)
Female	106 (53.00)	94 (47.33)	200 (100.00)
Overall	178 (44.50)	222 (55.50)	400 (100.00)

Note : Figures in parentheses indicate the percentages of respective cells. $\chi^2_{(1)} = 11.96^{**}$

Contrary to the above aspect, it was heartening to know that 44.50 and 40.50 per cent of the respondents, respectively, have taken part either in essay writing, debate, painting or photofeature, and have written some articles on the environment related issues. And, those who have not taken part in such activities also wish to do so, which is a very encouraging sign. In both of the cases, the responses differed significantly at 5% and 1% level, respectively.

ADEQUACY OF ALLOCATED TIME ON ELECTRONIC & PRINT MEDIA FOR ENVIRONMENT RELATED NEWS

Table 4.39 : Frequency distribution of respondents (sex-wise) on the basis of their opinion regarding 'adequacy of time allocation for environment related news on electronic and print media' (N = 400)

Sex	Responses		Total
	Yes	No	
Male	46 (23.00)	154 (76.67)	200 (100.00)
Female	70 (35.00)	130 (65.00)	200 (100.00)
Overall	116 (29.00)	284 (71.00)	400 (100.00)

Note : Figures in parentheses indicate the percentages of respective cells. $\chi^2_{(1)} = 6.99^{**}$

More than 70 per cent (see Table 4.39) of the respondents thought that existing time allocation for environment related news on electronic and print media are inadequate but 29 per cent did not think so. The responses differed significantly at 1% level.

TAKING ANY KIND OF ACTION AFTER LISTENING TO ENVIRONMENTAL NEWS

More than 70 per cent (71.50% see Table 4.40) of the respondents listen to environmental programmes being broadcast on Radio/T.V. and try to take advantage of such advices, but the rest 28.50 per cent are not even bothered to listen to such programmes. No significant difference was observed in the responses.

Table 4.40 : Frequency distribution of respondents (sex-wise) on the basis of their opinion regarding 'taking up any kind of action after listening to environmental news' (N = 400)

Sex	Responses		Total
	Yes	No	
Male	144 (72.00)	56 (28.00)	200 (100.00)
Female	142 (71.00)	58 (29.33)	200 (100.00)
Overall	**286 (71.50)**	**114 (28.50)**	**400 (100.00)**

Note : Figures in parentheses indicate the percentages of respective cells. $\chi^2_{(1)} = 0.04^{NS}$

ORGANISING ANY KIND OF MOVEMENT FOR ENVIRONMENT RELATED ASPECT

Only 2.50 per cent of the respondents have either organised or tried to organise some movement on environment related issues and surprisingly, all of

Table 4.41 : Frequency distribution of respondents (sex-wise) on the basis of their opinion regarding 'organising environmental movement' (N = 400)

Sex	Responses		Total
	Yes	No	
Male	0 (0.00)	200 (100.00)	200 (100.00)
Female	10 (5.00)	190 (95.00)	200 (100.00)
Overall	**10 (2.50)**	**390 (97.50)**	**400 (100.00)**

Note : Figures in parentheses indicate the percentages of respective cells. $\chi^2_{(1)} = 10.26^{**}$

these repondents are female only (see Table 4.41); the rest 97.50 have not tried to do so. The responses were significantly different at 1% level.

FORMATION OF ANY KIND OF CLUB TO SPREAD INFORMATION RELATED TO ENVIRONMENT

Only 7.50 per cent of the respondents have formed some kind of club (at their own level, of course) to spread more and more information about environment

Table 4.42 : Frequency distribution of respondents (sex-wise) on the basis of their opinion regarding 'formation of any club to spread information related to environment' (N = 400)

Sex	Responses		Total
	Yes	No	
Male	22 (11.00)	178 (89.00)	200 (100.00)
Female	8 (4.00)	192 (96.00)	200 (100.00)
Overall	**30 (7.50)**	**370 (92.50)**	**400 (100.00)**

Note : Figures in parentheses indicate the percentages of respective cells. $\chi^2_{(1)} = 7.06^{**}$

related aspects among other members of the society; and the rest (92.50%) had not done so, albeit wished to do so in future. Here, such little contributions can't be ignored because more of littles only form a big thing. The responses differed significantly at 1% level.

ROLE AND ACTION OF THE GOVERNMENT

Fifty eight per cent of the respondents agreed to the point that the govt. has a major role to play in saving/conserving the environment, but out of these 58 per

Table 4.43(a) : Frequency distribution of respondents (sex-wise) on the basis of their opinion regarding 'role of government' (N = 400)

	Responses		
Sex	**Yes**	**No**	**Total**
Male	98 (49.00)	102 (51.00)	200 (100.00)
Female	134 (67.00)	66 (33.00)	200 (100.00)
Overall	**232** **(58.00)**	**168** **(42.00)**	**400** **(100.00)**

Note : Figures in parentheses indicate the percentages of respective cells. $\chi^2_{(1)} = 11.16^{**}$

Table 4.43(b) : Frequency distribution of respondent (sex-wise) on the basis of their opinion regarding 'governments doing about environment' (N = 400)

	Responses		
Sex	**Yes**	**No**	**Total**
Male	44 (22.00)	156 (78.00)	200 (100.00)
Female	98 (49.00)	102 (51.00)	200 (100.00)
Overall	**142** **(35.50)**	**258** **(64.50)**	**400** **(100.00)**

Note : Figures in parentheses indicate the percentages of respective cells. $\chi^2_{(1)} = 20.53^{**}$

cent only 35.50 per cent were knowing at least something about the govt's efforts in this direction. The responses in both the cases differed significantly at 1% level.

ROLE AND ACTION OF NGOs

When the respondent were asked about NGOs role and functions in the environment related issues, the responses were like this only 27 per cent agreed

Table 4.44(a) : Frequency distribution of respondents (sex-wise) on the basis of their opinion regarding 'role of NGO's' (N = 400)

	Responses		
Sex	**Yes**	**No**	**Total**
Male	50 (25.00)	150 (75.00)	200 (100.00)
Female	58 (29.00)	142 (71.00)	200 (100.00)
Overall	**108 (27.00)**	**292 (73.00)**	**400 (100.00)**

Note : Figures in parentheses indicate the percentages of respective cells. $\chi^2_{(1)} = 0.81^{NS}$

Table 4.44(b) : Frequency distribution of respondents (sex-wise) on the basis of their opinion regarding 'NGO's doing about environment' (N = 400)

	Responses		
Sex	**Yes**	**No**	**Total**
Male	36 (18.00)	164 (82.00)	200 (100.00)
Female	50 (25.00)	150 (75.00)	200 (100.00)
Overall	**86 (21.50)**	**314 (78.50)**	**400 (100.00)**

Note : Figures in parentheses indicate the percentages of respective cells. $\chi^2_{(1)} = 2.90^{NS}$

that there is a major role for NGOs to perform, the rest 73 per cent were ignorant about this (and out of the former 27 per cent only only 21.50 per cent were aware about the doings of NGOs in the field of environmental aspects). The responses in both the cases didn't differ significantly.

PERSONAL CONTRIBUTION TOWARDS ENVIRONMENT RELATED THINGS

Regarding personal contribution for this cause i.e. environmental conservation, 62 per cent of the respondents responded in affirmative while the

Table 4.45 : Frequency distribution of respondents (sex-wise) on the basis of their opinion regarding 'Personal contribution towards environment' (N = 400)

	Responses		
Sex	**Yes**	**No**	**Total**
Male	94 (47.00)	106 (53.00)	200 (100.00)
Female	154 (77.00)	46 (23.00)	200 (100.00)
Overall	**248** **(62.00)**	**152** **(38.00)**	**400** **(100.00)**

Note : Figures in parentheses indicate the percentages of respective cells. $\chi^2_{(1)} = 14.52^{**}$

rest answered in negative. The opinion differed significantly at 1% level. We have to convert these negative responses into positive ones.

KNOWLEDGE ABOUT ENVIRONMENTAL INSTITUTIONS

Only 9.50 per cent of the respondents were knowing about the presence of institutions related to environmental issues; the rest (90.50%) were found to be totally unaware which is really very sad thing to discover, even when 70% of the

Table 4.46 : Frequency distribution of respondents (sex-wise) on the basis of their opinion regarding 'knowledge about environment related institution(s)' (N = 400)

Sex	Responses		Total
	Yes	No	
Male	10 (5.00)	190 (95.00)	200 (100.00)
Female	28 (14.00)	172 (86.00)	200 (100.00)
Overall	**38 (9.50)**	**362 (90.50)**	**400 (100.00)**

Note : Figures in parentheses indicate the percentages of respective cells. $\chi^2_{(1)} = 9.32^{**}$

respondents claim to read newspapers on regular basis. The responses were significantly different at 1% level. They named these institutions :

WHO - World Health Organisation.

I.I.E.R.T. - Indian Institute of Environmental Research & Training.

I.A.R.I. - Indian Agricultural Research Institute.

I.G.F.R.I. - Indian Grassland and Fodder Research Institute

N.E.E.R.I.- Nation Environmental Engineering Research Institute.

W.W.F. - World wide wild fund.

C.P.C.B. - Central Pollution control Board.

D.E.A.N. - Delhi's Environmental Action Network.

KNOWLEDGE ABOUT ENVIRONMENTAL CONCERNED AGENCIES

The responses differed significantly at 5% level and only 7 per cent of respondents were having some knowledge about some agencies working for environment related issues. Again, a very very sad not to add. They named these agencies :

Table 4.47 : Frequency distribution of respondents (sex-wise) on the basis of their opinion regarding 'knowledge about environmental concerned agencies' (N = 400)

Sex	Responses		Total
	Yes	No	
Male	8 (4.00)	192 (96.00)	200 (100.00)
Female	20 (10.00)	180 (90.00)	200 (100.00)
Overall	**28 (7.00)**	**372 (93.00)**	**400 (100.00)**

Note : Figures in parentheses indicate the percentages of respective cells. $\chi^2_{(1)} = 5.53^*$

Jagriti, Green Peace organization, Delhi's Environmental Action Network, Green Valley, Delhi pollution Control Board, Markers of Heads & Tails (One T.V. programme).

KNOWLEDGE ABOUT LAW(S) ENVIRONMENTAL PROTECTION

Table 4.48 : Frequency distribution of respondents (sex-wise) on the basis of their opinion regarding 'knowledge about law(s) for environmental protection' (N = 400)

Sex	Responses		Total
	Yes	No	
Male	60 (30.00)	140 (70.00)	200 (100.00)
Female	60 (30.00)	140 (70.00)	200 (100.00)
Overall	**120 (30.00)**	**280 (70.00)**	**400 (100.00)**

Note : Figures in parentheses indicate the percentages of respective cells. $\chi^2_{(1)} = 0^{NS}$

But, contrary to the above responses 30 per cent of the respondents were knowing about at least (any) one law regarding environmental protection; albeit not the line-by-line of the law (s) but the gist only. Here the ignorance may be due to lack of effort by the mass media (in spreading these important information to the common man). Here no difference in the responses was observed.

KNOWLEDGE ABOUT PERSON (S) RELATED TO ENVIRONMENTAL PROTECTION

Here, more than 50 per cent (52% see table 4.49) of the respondents were knowing the name (s0 of some person (s) who are working for this cause (i.e. environmental conservation); but the rest (48%) were unable to write even one name. No significant difference in the responses was found.

Table 4.49 : Frequency distribution of respondent s(sex-wise) on the basis of their opinion regarding 'knowledge about persons related to environmental protection' (N = 400)

	Responses		
Sex	**Yes**	**No**	**Total**
Male	106 (53.00)	94 (47.00)	200 (100.00)
Female	102 (51.00)	98 (49.00)	200 (100.00)
Overall	**208** **(52.00)**	**192** **(48.00)**	**400** **(100.00)**

Note : Figures in parentheses indicate the percentages of respective cells. $\chi^2_{(1)} = 0.16^{NS}$

POSSIBLE FACTORS INDUCING PEOPLE TO GO FOR ECO-FRIENDLY PRODUCTS

When the respondents were asked about the possible factors which induce or may induce people to go for eco-friendly products, the top most factor came out a surprising one and that was "using eco-friendly product is a matter of status

Table 4.50 : Frequency and ranking of possible factors, given by the respondents, to induce people to go for eco-friendly products (N = 400)

	List of possible factors	Frequency (N=400)	Rank
(i)	As the products are eco-friendly and to use them is a matter of 'status-symbol'	100	1
(ii)	Health related problems	99	2
(iii)	The growing pollution	87	3
(iv)	To save energy	79	4
(v)	Fear to future inconvenience	37	5
(vi)	Not much differing from non-ecofriendly products	28	6
(vii)	Peer-group pressure	18	7

symbol" being closely followed by "health related problems" "growing pollution", "To save energy", and after these factors the other factors were far behind in terms of frequencies; "fear of future inconvenience" and "peer group pressure" being a distant fifth, sixty and seventh on the ranking list, respectively (see Table 4.50)

SUGGESTIONS TO INCREASE THE DEMAND OF GREEN PRODUCTS

Some of the initiatives were suggested by the respondents to increase the demand of green products have been presented in the table 4.51 which clearly

Table 4.51 : Frequency and ranking of suggestions, given by the respondents, to increase the demand of green products in the market (N = 400)

	Initiatives to be taken	Frequency (N=400)	Rank
(i)	Spread more awareness through posters, campaigns, advertisements etc.	149	1
(ii)	Lowering the price of green products.	74	2
(iii)	Encouraging people to listen lectures about green issues and read articles about it.	70	3
(iv)	Make green products more attractive and easily available	55	4
(v)	Penalty imposition	33	5
(vi)	Total ban on plastic products	32	6
(vii)	Govt. should organise more and more seminar and conferences.	21	7
(viii)	Provide some incentives on green products and tell the people about its good effects	18	8
(ix)	Enforce a rule of planting one sapling per citizen	13	9
(x)	Using 'pattals' instead of plastic 'thalis' in the feast etc.	10	10
(xi)	Less purchase of green products	8	11

indicates that the idea of "spreading awareness through mass-media" was far ahead of any other ideas. Some very intersting suggestions, viz providing some incentives

on green products, use of 'pattals' instead of plastic plates (thalis) in the feast etc. came up.

WAYS TO REDUCE OR CHECK POLLUTION

The respondents suggested 17 ways to reduce the polluction which have placed in the table 4.52. The afforestation programme was ranked first followed

Table 4.52 : Frequency and ranking of ways suggested by the respondents to reduce or check pollution (N = 400)

	Ways	Frequency (N=400)	Rank
(i)	By afforestation	130	1
(ii)	By increasing awareness	90	2
(iii)	Timely tuning & servicing of vehicle	80	3
(iv)	Introduce lead-free petrol everywhere	47	4
(v)	Proper treatment of wastes	45	5
(vi)	Less use of vehicle	43	6
(vii)	Enforcement of environmental laws strictly	42	7
(viii)	By closing polluting industries	41	8
(ix)	By setting industries far from cities/townships	35	9
(x)	By not throwing wastes in the rivers/ponds	28	10
(xi)	Less use of chemical fertilizers	27	11
(xii)	By not smoking	21	12
(xiii)	By stopping various degrading activities concerned with livestock	20	13
(xiv)	Car-pooling system	17	14
(xv)	Using platinum catalyst for oxidation	14	15
(xvi)	By adding tetra ethyl lead to petrol	7	16
(xvii)	By increasing the size and height of chimneys	4	17

by awareness programme and timely tuning & servicing of vehicles. By having a close look of the table it can be concluded that due to vehicular pollution in Delhi, so many suggestions regarding 'vehicle' have come up.

REACTION OF THE RESPONDENTS TO THE ENVIRONMENTAL NEWS

The reactions of the respondents have been presented in the table 4.53 which tells that youths of today feel their duty towards the environmental conservation which may instil some sort of enthusiasm to do something for the environment which is a very good and positive sign for the future.

Table 4.53 : Frequency and ranking of reactions of the respondents towards environmental news (N = 400)

	Reaction of the respondents	Frequency (N=400)	Rank
(i)	Make me realise my duty towards environment	86	1
(ii)	Feel sad	60	2
(iii)	Feel helplessness	46	3
(iv)	Very calm/don't over react	36	4

ACTIVITIES DONE BY THE RESPONDENTS TO PROTECT ENVIRONMENT

By seeing the table 4.54 we can clearly see that the respondents have done all practical things to protects the envirenment and the list is headed by planting of saplings which is far ahead of other activities such as giving advice to others for plantations, opening of environmental club, regular servicing and checking

of vehicles and contribution of pocket money towards environmental conservation, in the list.

Table 4.54 : Frequency and ranking of activities followed by the respondents, to protect the environment (N = 400)

	Activities	Frequency (N=400)	Rank
(i)	Planting of saplings	125	1
(ii)	Giving advice to others for plantation	56	2
(iii)	Opening of environmental club	44	3
(iv)	Regular servicing & checking of vehicles	34	4
(v)	Contribution of pocket m,oney towards environmental conservation	25	5

SUGGESTION, BY THE RESPONDENTS, FOR THE GOVT. TO PROTECT THE ENVIRONMENT

Table 4.55(a) : Frequency and ranking of suggestions by the respondents to the govt. for reducing the environmental degradation (N = 400)

	Suggestions	Frequency (N=400)	Rank
(i)	Can spread awareness on a large scale	87	1
(ii)	Afforestation on large scale	75	2
(iii)	Strict checking of vehicle pollution	58	3
(iv)	More financial support to environmental projects	30	4
(v)	Can make/amend laws regarding environment	27	5
(vi)	Strictly ban smoking	19	6
(vii)	Should enforce pollution tax	9	7
(viii)	Cleaning of water for drinking purpose on large scale and that too speedily	6	8

The top three priorities for the govt, according to the respondents, should be spreading awareness on large scale, mass afforestation and strict checking of vehicl pollution. Some other suggestions are : more financial support to environmental projects, making or amending laws regarding environment, strict ban on smoking, enforcing pollution tax and cleaning of water for drinking purpose and that too speedily [see Table 4.55 (A)].

ACTIVITIES BEING FOLLOWED BY THE GOVT. TO PROTECT THE ENVIRONMENT, AS PERCEIVED BY THE RESPONDENTS

These are the activities, which the respondents perceived, being done by the govt to protect the environment : pollution checking of vehicles being the number one ranked being followed by closing of polluting factories, planting saplings, organizing summits and conferences, organizing cleanliness drives, banning smoking in public places and cleaning of the Ganges.

Table 4.55(b) : Frequency and ranking of activities being done by the govt. to protect the environment, being given by the respondents (N = 400)

	Activities	Frequency (N=400)	Rank
(i)	Pollution checking of vehicles	58	1
(ii)	Has closed pollution factories	51	2
(iii)	Planting saplings	44	3
(iv)	Organizing summits & conferences on environment related subjects, viz. ozone depletion	33	4
(v)	Organising cleanliness drives (especially in Delhi)	27	5
(vi)	Has banned smoking in public places	12	6
(vii)	Ganga action plan i.e. cleaning of the Ganges	7	7

SUGGESTIONS FOR THE NGOS, BY THE RESPONDENTS, TO PERFORM FOR PROTECTING THE ENVIRONMENT

Only three major suggestions were given, by the respondents, to the NGOs for protecting the environment which were : spreading awareness through mass-

Table 4.56(a) : Frequency and ranking of the suggestions being given by the respondents to the NGOs for checking environmental degradation (N = 400)

	Suggestions	Frequency (N=400)	Rank
(i)	Can spread awareness through mass-media viz. posters, campaigns, rallies etc.	47	1
(ii)	Can motivate people to conserve our (their) surroundings	30	2
(iii)	Tell the people about the benefits of the green products	4	3

media, viz., posters, campaigns, rallies etc, followed by motivating people to go for environmental conservation and a distant third was telling the people about the benefits of the green products (see table 4.56 (A)).

ACTIVITIES BEING DONE BY THE NGOs AS PERCEIVED BY THE RESPONDENTS, TO PROTECT THE ENVIRONMENT

Table 4.56(b) : Frequency and ranking of activities being done by the NGOs to protect the environmental as perceived by the respondents (N = 400)

	Activities	Frequency (N=400)	Rank
(i)	Publish posters on environment related issues	47	1
(ii)	Plant saplings	37	2
(iii)	Organise road shows for environmental awareness	24	3

Here we can see (table 4.56 (B)) that most of the respondents have identified the NGOs with publishing posters, organising campaigns etc. and nothing more than that, but actually they do cover a lot of research projects also on environmental issues.

SUGGESTIONS FOR THE SOCIETY, BY THE RESPONDENTS, TO PERFORM FOR REDUCING THE POLLUTION

The table 4.57 (A) clearly shows that the two suggestions were afforestation and mass awareness being followed by throwing garbages at fixed place (a typical society's problem faced regularly), avoiding non-eco friendly products and organising people to spread awareness. The last three suggestions, although lowly ranked, were real practical things to do, viz. using low pressure horns and listening music at low volume, paying pollution tax and car-pooling system, these

Table 4.57(a) : Frequency and ranking of the suggestions being given by the respondents to the society for checking environmental degradation (N = 400)

	Suggestions	Frequency (N=400)	Rank
(i)	Should plant saplings on a regular basis	68	1
(ii)	Make the unawares aware about its value	42	2
(iii)	Throw garbages at fixed places	31	3
(iv)	Everybody should try to avoid unecofriendly products	29	4
(v)	Organise people to spread awareness	6	5
(vi)	Use of low pressure horns as well as listening music at low volume	5	6
(vii)	Pay pollution tax	4	7
(viii)	Car-pooling system	3	8

suggestions have come up because of day-to-day problem faced by the people due to high speeding cars with blaring horns and loud music.

ACTIVITIES OF THE RESPONDENTS OF THE SAKE OF ENVIRONMENTAL CONSERVATION

The first ranked activity was planting of saplings at other places than home which is followed distantly by making samll garden, rarely throw garbage at unfixed place, do not use plastic bags and use of recycled papers. It shows the spirit of the youths.

Table 4.57(b) : Frequency and ranking of the activities of the respondents for the save of environmental conservation (N = 400)

	Activities	Frequency (N=400)	Rank
(i)	Planted sapling at different places (other than home)	83	1
(ii)	Made a small garden	31	2
(iii)	Rarely throw garbages other than the fixed place	20	3
(iv)	Do not use plastic bags	10	4
(v)	Use of recycled papers	7	5

ENVIRONMENTAL LAWS KNOWN TO THE RESPONDENTS

The respondents have ranked illegal felling of trees (unlawful) first. In addition to the above one the other activities (which have been dealt as a law not in exact words but in meaning) to follow the ranking order were necessity of pollution checking certificate, wild life protection & conservation, law against poaching, ban on smoking in public places, and ban on loudspeakers (after certain

Table 4.58 : Frequency and ranking of the laws (environmental) known to the respondents (N = 400)

	Environmental laws	Frequency (N=400)	Rank
(i)	Felling of the trees is unlawful	54	1
(ii)	Necessity of pollution checking certificate for each vehicle.	25	2
(iii)	Wild life protection & conservation	20	3
(iv)	Laws against poaching	12	4
(v)	Ban on smoking in public places	11	5
(vi)	Ban on loudspeakers (after certain time period)	6	6

time period). The number two ranked is so highly advertised & publicised in Delhi & neighbouring areas, that is why, it is known to the respondents.

PERSONS RELATED TO ENVIRONMENTAL CONSERVATION

Regarding person(s) involved or concerned with the environmental conseravtion only 4 names came up from the respondents which are listed in the

Table 4.59 : Frequency and ranking of the personalities (environmental) known to the respondents (N = 400)

	Personality (ies)	Frequency (N=400)	Rank
(i)	S.L. Bahuguna	97	1
(ii)	Maneka Gandhi	96	2
(iii)	Medha Patekar	25	3
(iv)	M.C. Mehta	7	4

table 4.59. The table reveals that S.L.Bahuguna and Maneka Gandhi were almost endorsed by the same number of respondents, Mr. Bahuguna is ahead only by one

number. The other two names of Medha Patekar and M.C. Mehta were less remembered by the respondents.

FREQUENCY AND RANKING OF EACH OF THE ENVIRONMENTAL POLLUTION IN THE ORDER OF SEVERITY

A perusal of table 4.60 (A) & (B) clearly indicates that the air pollution has been regarded as very serious problem by the respondents (37%) while 4.75% of the respondents have considered it as a considerable problem Water pollution,

Table 4.60(a) : Frequency and kind of pollution categorised into different order of severity (N = 400)

	Name of the Pollution	Categories of Severity			
		Very serious	Considerable	Some what	Not a problem
(i)	Air pollution	148	19	-	-
(ii)	Sound (noise) pollution	41	90	53	37
(iii)	Water pollution	98	84	16	-
(iv)	Solid-based pollution	-	7	4	-
(v)	Soil pollution	9	37	41	5
(vi)	Radioactive pollution	10	16	32	-
(vii)	Social pollution	-	8	15	16

$\chi^2_{(24)} = 646.32^{**}$

and Noise pollution Radioactive and Soil pollution have been considered as the very serious problem by 25 (approx), 10.25, 2.50 and 2.25 per cent of the respondents (table 4.60 (A)). For the rest of the categories of severity Noise pollution topped the ranking. Regarding social pollution, 4, 3.75 and 2 per cent of the respondents have placed it in not a problem, some what problem, and considerable problem respectively. The thinking regarding noise pollution varies;

Table 4.60(b) : Ranking of each of the environmental pollution on the basis of their frequencies in the order of severity (N = 400)

	Order of severity	Kinds of environmental pollution						
		Rank (1)	Rank (2)	Rank (3)	Rank (4)	Rank (5)	Rank (6)	Rank (7)
(i)	Very serious	Air	Water	Noise	Radio -active	Soil	-	-
(ii)	Considerable	Noise	Water	Soil	Air	Radio -active	Social	Social
(iii)	Somewhat	Noise	Soil	Radio -active	Social	Solid based	-	-
(iv)	Not a problem	Sound (noise)	Social	Soil	-	-	-	-

22.50 per cent considered it as a considerable problem, 13.25 per cent thought it as some what problem, 10.25 per cent considered it very serious and surprisingly 9.25 per cent thought it not as a problem. The responses were significantly different at 1% level regarding order of severity of these pollutions on the environment.

LIST OF POSSIBLE FACTORS AFFECTING THE ENVIRONMENT NEGATIVELY

Regarding factors which do affect our environment in a negative way, may be directly or indirectly, the extent of literacy has been considered as the rank one factor by more than 28 per cent of the respondents (see Table 4.61) while 12.25, 12, 7.25, 6.75, 4, 2.50 and 2 per cent of the respondents have placed extent of population growth, extent of industrialization, lack of civic sense, corruption, carelessness of the people, poverty and growing urbanisation, respectively in the rank order of possible factors in degrading the environment. The degree of effect of these causal factors on degrading the environment was found significantly different. In the list of possible causal factors, four unusual factors other than the

Table 4.61 : Ranking given by the respondents to each of the possible factors degrading the environment viz. for some factor somebody has given rank (1), some has given rank (2) and some rank (3) (N = 400)

	Factors	Ranking			
		Rank (1)	Rank (2)	Rank (3)	Rank (4)
(i)	Extent of literacy	112	45	3	2
(ii)	Extent of population growth	49	96	10	-
(iii)	Growing urbanisation	8	42	52	9
(iv)	Extent of industralization	48	38	34	10
(v)	Corruption	27	14	50	22
(vi)	Improper treatment of wastes	-	10	40	22
(vii)	Carelessness of the people	16	17	35	14
(viii)	Lack of civic sense	29	23	30	19
(ix)	Poverty	10	17	40	28

$\chi^2_{(24)} = 444.12^*$

usual ones have been given by the respondents which are-corruption (a major social problem), lack of civic sense (causing all sorts of problem), carelessness of the people and poverty.

RANKING OF EACH POSSIBLE CAUSAL FACTORS FOR EACH OF THE ENVIRONMENTAL POLLUTION

The degree of effect of possible causal factors for each kind of pollution differed very much significantly at 1% level.

Air pollution

By seeing the table 4.62(A) it can conctuded that nearly 58 per cent (57.25%) of the respondents have given vehicle as the no. 1 factor in causing air pollution, to be distantly followed by industries (13.75%) and deforestation (3.75%) for the number one degrading factor. It seems that due to a lot of vehicles in Delhi, this factors has got rank one.

Table 4.62(a) : List of possible causal factors along with their rankings for air pollution (N = 400)

	Kind of Pollution	Possible Causal Factors	Ranking			
			Rank (1)	Rank (2)	Rank (3)	Rank (4)
(I)	Air Pollution	(i) Vehicle	230	35	-	-
		(ii) Industries	55	250	15	-
		(iii) Deforestation	15	15	55	-

$\chi^2_{(4)} = 399.69^{**}$

Water pollution

Unlike air pollution where only three causal factors were named, here there are seven possible factors named by the respondents. Out of these 7 factors, industrial sewage has got 35.75 per cent respondents voted (see table 4.62(B)) for rank one while 18.75 per cent of the respondents have ranked it as number two. For the rank one, other factors, in order in the list are – sewage disposal (16.75%), chemical fertilizers and pesticides (9.25%), domestic wastes (6.25%), disposal of

Table 4.62(b) : List of possible causal factors along with their rankings for water pollution (N = 400)

	Kind of Pollution	Possible Causal Factors	Ranking			
			Rank (1)	Rank (2)	Rank (3)	Rank (4)
(II)	Water	(i) Industrial sewage	143	75	7	-
	Pollution	(ii) Sewage disposal	67	52	47	-
		(iii) Sanitary disposal	-	11	31	36
		(iv) Domestic wastes	25	54	70	7
		(v) Chemical fertilizers & pesticides	37	68	90	26
		(vi) Use of detergent	10	18	27	39
		(vii)Disposal of dead bodies (both human beings & animals	18	22	28	32

$\chi^2_{(18)} = 458.09^{**}$

dead bodies of animals as well as human beings (4.50%) and use of detergents (2.50%). Here no body gave sanitary disposal rank one.

While 18.75% of the respondents thought industrial sewage as the number two factor in causing water pollution; 17, 13.50, 13, 5.50, 4.50 and 2.75 per cent thought chemical fertilizers and pesticides, domestic wastes, sewage disposal, disposal of deal bodies of animals as well as human beings, use of detergents and sanitary disposal as the other number two factor in degrading the water. Therefore, altogether industrial sewage and sewage disposal came out as the top two degrading factors of water environment.

Noise Pollution

Altogether six factors were listed by the respondents as the causal factors in degrading the sound environment (see Table 4.62 (C)). Noise made by the vehicles were given top rank in causing the sound pollution by 16.75 per cent of the respondents while, noise made by the loudspeakers came out second in the rank one (11.75% of the respondents opined in favour of it) to be followed by

Table 4.62(c) : List of possible causal factors along with their rankings for noise (sound) pollution (N = 400)

Kind of Pollution	Possible Causal Factors	Ranking			
		Rank (1)	Rank (2)	Rank (3)	Rank (4)
(III) Noise Pollution	(i) Vehicle	67	55	2	-
	(ii) Loudspeaker in social functions	47	65	34	-
	(iii) Jets/Aeroplanes	13	15	7	4
	(iv) Industries	23	15	22	7
	(v) Crackers/Bombs	-	-	19	8
	(vi) Neighbours	-	-	15	12

$\chi^2_{(15)} =$ **

noise made by industrial units (5.75%) and aeroplanes/jets (3.25%). The other two factors-crackers and neighours were not considered for the top slot even by a single respondent.

Soil pollution

Here surprisingly deforestation came out as the joint second with industrial wastes for number one factor by 17.50% of the respondents, in causing the soil erosion (pollution) to chemical fertilizers which got 22.25 per cent respondents' vote. The other factors also got some responses for the rank one factor in degrading the soil environment, the break-up was pesticides/insecticides (11.50%), domestic

Table 4.62(d) : List of possible causal factors along with their rankings for water pollution (N = 400)

Kind of Pollution	Possible Causal Factors		Ranking			
			Rank (1)	Rank (2)	Rank (3)	Rank (4)
(IV) Soil Pollution	(i)	Pesticides/germ-cides etc.	46	65	43	-
	(ii)	Radioactive wastes	10	20	24	-
	(iii)	Chemical fertilizers	89	40	28	-
	(iv)	Deforestation	70	40	53	-
	(v)	Plastics	12	35	55	-
	(vi)	Hospital wastes	3	25	45	-
	(vii)	Domestic garbages	15	35	35	-
	(viii)	Industrial wastes	70	40	17	-

$\chi^2_{(14)} = 163.20^*$

garbages (3.75%), plastics (3%), radioactive wastes (2.50%), and hospital wastes (0.75%) (a surprising factor to be chosen by the respondents). Regarding the second most important factor to degrade the soil environment, pesticides/insectivides got

the number one position by securing 16.25% of the respondents' opinion to be followed jointly by industrial wastes, deforestation and chemical fertilizers all gathering 10% of the respondents' opinion. Plastics & domestic garbages (8.75%), hospital wastes (6.25%) and radioctive wastes (5%) were the other ranked two causal factors.

PROBLEMS FACED BY THE RESPONDENTS

1. Lack of availability of non-conventional renewable energy generation system in abundance.
2. No proper and separate bathing facilities for livestock.
3. No peoper sewage facility especially in semi-urban areas.
4. Lack of more and more biogas plants whic use cow dung, human excreta and vegetable wastes and produce cheap and low cost energy.
5. No proper arrangement for drainage of used water.
6. Planting saplings couldn't be done everwhere and anywhere due to space limitation.
7. Eco-movements/campaigns are very much irregular.
8. No environment related information centres available.
9. Large number of illegal industrial units, using acids, chemical and inflammables and trades like rexine, plastic etc. proliferating over the years because of traders-police nexus. Therefore, no heeding to public complaints.

10. In congested areas, people face the problem of proper place fixed for dustbins as the community puts up resistance if a dustbin is put near their homes. [Here the govt, is very much in catch-22 situation as due to high population density and less open space, such residentail areas are left without dustbins and so, with garbages].

11. Due to dairy farming activities they face problems because of liquid sewage sludge, cattle slurry, silage effluent etc. which affect the surface water quality by run off from farms but they unable to dethrow it from its place because of some political problems plus the wrath of other consumers who are not residing near by.

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SUMMARY & CONCLUSION

Human being has played a very important role in shaping up the environment. Man's interference with the ecosystem has increased a lot, both in terms of volume and intensity. Human disregard for the natural resources has resulted in a worrying catalogue of ailments. Uncontrolled economic growth, rising urbanisation and industrialization have ripped apart the forests, mined the land, overused the ground water systems, polluted air and water and stuffed the land with unknown poison.

Now take the case of Delhi, one of the "greenest cities" has turned into one of the "grubbiest cities" in the world. The residents of Delhi daily breathe polluted air which is equal to a pack of cigarette smoking, seeing the present status of environmental pollution in Delhi, it was thought that it is not only the duty of the government but also of every educational institutions to take up the activities for the promotion of environmental awareness. Educational institution are the best media to bring in environmental awareness in every society. In view of the above, the study was designed with the following objectives :-

(i) To study the socio-personal profile of the respondents.

(ii) To assess the awareness amongst respondents regarding environmental degradation including the pollution caused by livestock rearing.

(iii) To find out the concern for environmental degradation including the pollution caused by livestock rearing.

(iv) To identify the problems encountered by the respondents in their willingness to protect the environment.

In view of the above objectives, all together fifteen schools, spread all over Delhi, were selected and thirty students from each school were selected randomly as the respondents; and of that 30 students, 15 were from the fair sex. In other words, four hundred fifty students (respondents) were selected but, due to unfulfilled questionnaires, 50 responses (fortunately it was twenty five each from male and female) were discarded. Therefore, finally environmental awareness of four hundred students (respondents) were checked.

Major findings

1. Newspapers came out as the number one mass media among the respondents which was read by 78 per cent female and 62 per cent male respondents. This was also the number one media (60%) which the respondents preferred in getting the information related to environmental problems which was closely followed by T.V. (50%).

2. School teachers provide more and regular information than the visiting experts.

3. Majority of the respondents said that tillage operations and use of farm machineries respectively have either very little effect or almost no effect on the environment.

4. As we all know that our agriculture is very much dependent on chemical things viz chemical fertilizers, seed treatment with certain chemicals etc. Therefore, when asked about their adverse effects on the environment, majority of the respondents were quite aware about their degrading effects on the environment which can be seen through these figures as 68, 56, 43.50, 85.50, and 71.50 per cent of respondents told respectively that use of chemical fertilizers, chemically treated seeds, handling and transportation of chemicals, disposal of chemical containers and aerial spraying of chemicals had either considerable or very serious effect on the environment.

5. Regarding disposal of home food-wastes and spoiled fuits & vegetables 42 and 32.50 per cent responses came out in the category of either considerable effect or very serious effect.

6. To a query about the effects, of fumigation of grain stroages, use of rodenticides, fungicidies, insecticides/pesticides 43.50, 52.50, 62 and 73.50 per cent respondents respectively were found out in the combined categories of considerable effect and very serious effect, on the environment.

7. After combining the considerable effect and 'very serious effect' categories' responses, 78 per cent and 89.50 per cent respondents were found to be aware about the adverse effects of burning of wood and plant residues and burning of plastic materials respectively.

8. Eighty five per cent (82.67%) of the respondents were aware about the degrading (very serious) effect of chemical effluents discharged in the water, on the environment. Similarly sixty six per cent agreed that disposal of various kinds of garbages in the water had also very serious impact on the environment.

9. Ninteen per cent of the respondents were very much aware about the degrading effects of overgrazing of grasslands by the livestock, as they said that this activity was affecting the environment seriously but contrastly 7 per cent were unaware and said this is not affecting the environment much.

10. Only 19 per cent were highly aware about the bad effects caused by the bathing of livestock in ponds.

11. Only 10.50 per cent responded that cxcreta of livestock cause very degrading effect on the environment.

12. More then fifty per cent (59%) of the respondents were aware about the bad effects of dead bodies of animals, dumped in the ground, on the environment but only 16.50 per cent out of that were highly aware.

13. More than thirty six per cent (36.50%) were highly aware about the degrading effect of dead bodies of animals left in the field as such on the environment.

14. Sixty per cent of the respondents were highly aware about the adverse effects being caused by the dead bodies thrown in the ponds/ rivers. Here expectedly none were found to be telling that it doesn't degrade the environment.

15. Although 91 per cent of the respondents disagreed with the disposal ways of slaughter houses' waste materials but only 29.50 per cent thought that this was a very serious concern for the clean environment.

16. Regarding degrading of air environment through burning of kitchen fuels 83.50 per cent and 78.50 per cent respondents were highly aware about the utility of LPG and Bio gas respectively so they

rightly responded that these things don't degrade the environment much. Similarly 76.50, 65 and 41.50 per cent respondents were very much aware about the dust, smoke and other bad effects of coal, dung-cakes and trash & baggsase respectively. But surprisinghly only 24 per cent respondents were aware about the adverse effect of kerosene stove.

17. Only 31 per cent of the respondents were highly aware about the negative effects of generators on the environment.

18. The number of respondents being highly aware apropos effect of agro-based and cottage industries on the environment were 5, 1, 22, 16, 5, 22 and 66 per cent respectively for cooking oil processing, flour mill operations, detergent and soap making, distilleries operation, tanneries operations, sugar mills and tobacco manufacturing units as they put their responses under 'very serious effect' response category. The most surprising finding was, although tanneries operations degrade the environment very much still only 5 per cent respondents were aware about its serious effects.

19. Eighty six per cent of the respondents said that smoking bidi/cigarette always affected the in and around environment. On the other hand only 19 and 32 per cent of respondents agreed that chewing tobacco-filled 'paan' and chewing 'gutkha' affect the environment in an adverse manner, respectively. Here surprisingly, 2, 12 and 15 per cent of the respondents were highly unaware about the adverse effects of smoking bidi/cigarette, chewing tobacco-filled 'paan' and chwing 'gutkha', respectively.

20. Almost one third of the respondents (30.50%) were undecided about the adverse effect of cultivation on the environment whereas, 37.50 per cent said yes and 32 per cent answered in negative.

21. More than eighty five per cent (86%) of the respondents are aware of the hazardous effect of pond's water these days, followed by 77 per cent for river water, 62 per cent for wells, 54 per cent for canals, 34 per cent for hand-pumps and 10 per cent for the tap-water which meant that respondents rightly believe that tap is the safest source of drinking water.

22. Nearly ninety five per cent of the respondents were highly aware about the poor quality of Yamuna river water.

23. Eighty five per cent of the respondents were highly aware of the civic sense while judging the playing of loud-speakers and band-baja along with street dance as anti-civic.

24. Twentysix per cent of the respondents were found to be highly aware of the fact that one's own personal hygiene affects the social environment surrounding him.

25. Fifty per cent of the respondsnts were aware about the degarding effects on the society caused by gambling.

26. Sixty three per cent of the respondents were aware that social environment is degarding by money / material gains through unfair means wheareas surprisingly 14 per cent were quite contrary to this view and told that these things do not affect the social environment in a negative way.

27. Majority of the respondents (52%) believed that occasional drinking of liquor has no antagonistic effect on the society whereas 29.50 per cent were totally against this view.

28. Sixty two per cent of the respondents were found be highly aware of degarding effects of excessive liquor drinking on the social environment.

29. Majority of the respondents (78.50%) agreed with the antagonistic effect of cigarette or drug smoking on the social environment which means high awareness.

30. Sixty eight per cent of the respondents -youths were highly aware about the adverse effect of pre-marriage physical relationships on the society especially surrounding the concerned person.

31. Altogether 46 per cent of the respondent- youths were highly aware about the unhealthy practices of eve-teasing, taunting, muscle power, destruction of public and private properties and their bad impact on the social environment.

32. Only 33.50 per cent respondents strongly believed / agreed that domestic clashes disturb the peace of mind and home-environment, while 53 per cent agreed that it has considerable effect on the home environment and ultimately the social environment.

33. Altogether seventy four per cent of the respondents were aware of the fact that caste-based clashes have made the peaceful coexistence in society very difficult. Out of these 36 per cent considered it very serious for the healthy social relationship.

34. More than forty seven per cent (47.50%) of the respondents were found to be very much aware that politics and party-affiliated factions these days are ruining the social structure instead of binding it.

35. Altogether 65 per cent respondents were found to be aware and concerned about the degrading effect of pre/extra-marital relationships on the family bondations and ulitimately the social relationships.

36. More than 55 per cent (56.00%) of the respondents were unaware about the concept of eco-friendly products.

37. Nearly 35 per cent respondents showed little concern for the environment by preferring to use the plastic bag even when the product can be carried as such.

38. Nearly 70 per cent of the respondents had not contacted any environment related agency to take some suggestions for controlling pollution which showed their little concern for the environment.

39. More than 80 per cent of the respondents were very much concerned to save the environment as they wished to join any group or club which work for ecological issues.

40. A little less than sixty per cent (58.00%) of the respondents didn't know the difference between recyclable and non-recyclable products.

41. More than 45 per cent of the respondents did never look around for organically grown food.

42. Eighty two per cent of the respondents aware of the govt's limitations in curbing the environmental problems therefore, they said it was not only govt's job to worry about environmental problems. They also said writing alone to area's MLAs/MPs to solve environmental problems would not help much.

43. Eighty per cent of the youtrhs (respondents) were ready to donate one day's pocket money to a foundation to improve the environment, that shows their concern.

44. Seventy seven per cent of the respondents were ready to stop buying products from companies guilty of the polluting the environment even if, it may be inconvenient to them but contrary to this, 48 per cent of respondents said they would never switch the products for environmental problems.

45. More than eighty two per cent of the respondents were ready to pay even pollution tax if it would help in reducing the air pollution.

46. More than ninety per cent were found to be having a habit of reading environent related articles in publications.

47. Eighty four per cent were ready to switch their brands in case those are harming the environment.

48. Eighty three per cent were ready to accept green alternative even if those perform less satisfactorily than non-green ones.

49. Pollution control and checking of deforestation were the two most important issues in the minds of the respondents while allocating their efforts to various environment related issues to make the environment better, as 35.10 per cent and 21.57 per cent efforts were allocated for these issues.

50. Only a meagre 12 per cent respondents were aware enough to name some plant(s) which help in checking the pollution especially air (dust) pollution and noise pollution.

51. Only forty eight per cent respodents were actively involved in environmental protection measures.

52. Only 9 per cent (approximately) said that they had taken part in eco-friendly campaigns.

53. Nearly forty per cent of the respodents were participating in competitions concerned with environment while 44.33 per cent showed their concern by writing articles on environment related aspects.

54. More than seventy per cent of the respondents were showing their concern for inadequacy of time allocation of environment related news on electronic and print media.

55. More than seventy one per cent of the respondents try to seek more information after listening/seeing to the environment related news which means they are active listener/viewer or reader.

56. Only 2.50 per cent of the respondents had tried to organise some kind of movement with regard to environment protection.

57. Fifty eight per cent of the respondents had the opinion that the government has a major role to play in protecting the environment while 35 per cent were knowing about some of government's action in this direction.

58. Surprisingly only 27 per cent had the view that NGOs have important role to play in curbing the environmental degradation and only 21.50 per cent were known to some of the activities done by NGOs in this direction.

59. Regarding personal contribution towards any environment related things 62 per cent nodded in affirmative.

60. Knowledge about environment related institutions was too low as only 9.50 per cent were knowing about, at least, one institute's name.

61. Only 7 per cent of the respondents were knowing about environment concerned agency(ies).

62. Law(s) regarding environmental protection were known to only 30 per cent of the respondents.

63. Only 52 per cent of the respondents were knowing about the name(s) of the person(s) concerned with environmental protection and that too name if them could tell even four names of persons involved.

Recommendation and implication

This study was designed and conducted to know the awareness of the pre-university students with respect to the environment, with the hope that it would aid in arriving at findings useful to improve the existing conditions of the environment. These are the suggestions/recommendations to make the environment more clean and safe for the living-beings.

1. Involvement of basis ecological concepts, environmental concerns and strategies in our educational system to influence and motivate the child and the youth who are to inherit the world.

2. Formation of small group on local level to help in gathering more information in making better plans and providing best opportunities to use local resources.

3. More investment in non-conventional energy resources should be done to ward off the hazards from toxic chemicals and radioactivity. Use of bio-gas should be cncouraged on a high priority basis as it is produced from night soil and kitchen-refuse.

4. Environmental education should be imparted which can be best achieved through children, taking advantage of their capacity for receptivity of ideas and innovative mental orientation.

5. The general objective of any environmental programme should be to develop and motivate a network of young leaders, particularly secondary students with inclination in creative writing and environmental consciousness and equip them with the necessary skills, knowledge and attitude in managing and conducting information dissemination and educational activities on environment enhancement and protection.

6. More and more professionalism and efficiency should be followed into pollution control systems. There should be effective coordination between the agencies for successful implementation of the "ECOMARK" scheme plus, consumers as well as manufacturers have to be educated towards the long term benefits of the scheme.

7. Environmentalists and local authorities should carefully reconsider their options of banning the institutions of rag-pickers and waste collectors who silently promote environmental awareness in the society and manage the plastic waste industry successfully in the country.

8. Dairy farmes should not be established in the vicinity of the residential areas.

9. The cattle slurry, liquid sewage etc. should be cleaned immediately to check the spead of mosquitoes and flies and it should be utilized properly either in the form of dung-cakes or as farm yard manure.

10. Institution with expertise in the field of environmental education need to be commissioned for developing educational materials and teaching aids not only for the schools system but also for the illiterates.

11. Correct mix of traditional methods and high technology is needed, camel/bullock cart exhibitions as also modern mobile exhibitions, designed by centre for environmental education, Ahmedabad respectively are indeed very useful.

12. At present radio and T.V. are both urbane based and urban biased in content, medium and practice which need to taken care of as power of media is tremendous and they remian essentially impersonal.

11. There is an urgent need for utilising the work force of 5-34 years age group people, for cleaning, greening and grassing of our country.

CONCLUSIONS

The results of the study indicates that awareness of the respondents is not up to the mark despite so much coverage by print as well as electronic media about environmental conservation aspects. But the situation is not so bleak, we can see the ray of hope through their concern to do something for environmental conservation (especially those respondents who had not done so in the past).

We need much discussion between agriculturists and the fringe industries with ecologists.

Existing research and development need to be strengthened to develop the appropriate low cost technology tailored to the local environment.

As the dominant mammal as the clever one, the only one as far as we know capable of reflection and of accumulating knowledge, our duty is plain, to serve the lesser creation, to keep our world clean and pass on to posterity a record of which we shall not feel shame.

We need man of action whose motto should be "I can do it". Words cannot solve problems that affect the very survival of man because it may be too late, any moment for now on. A famous french riddle asks, "The lily in a pond gets doubled from that of pervious day, when will the pond be half full if it is full on the thirtieth day". Perhaps, we are on the twentyninth. So"No wait see" approach now.

Spreading of awareness (regarding environmental protection is very much needed through posters, campaigns, advertisements etc.

There is a need to discourge the purchase of non-green products by making the green products more attractive in packaging and readily available. As the

price of green products are too high we need to lower their prices and provide some incentive on them.

Immediate banning of plastic and other such non-degredable products.

Instead of using plastic plates in the feasts etc. We should start using 'pattals' a biodegredable and environment friendly product.

The government should organise more and more seminars and conferences on environmental issues and encourage not only "so called intellectuals" but also the common man to participate in it and take their valuable suggestions.

We need to take up more and more afforestation programmes at various level through encouraging participation of common people so that they feel closeness to such programmes.

As the air pollution in Delhi is a threat to life we need to give a serious thought over, vehicular pollution which is the number one factor in causing the air pollution (64%). These may be the ways to check the menace of vehicular pollution - (must) use of lead free petrol, using catalytic converters, regular tuning of vehicle engines by adding tetra ethyl lead to petrol, less use of vehicles through car-pooling system etc.

We need to take care of certain other factors suggested by the respondents such as increasing the size of chimneys to check air pollution, by setting industries far from cities or township, by closing polluting industries , proper treatment of wastes, wastes not to be thrown in the river, less use of chemical fertilizers, by not smoking and strict enforcement of environmental laws on each and every citizen of India.

Suggested areas of future research

1. Since this study is confined to a particular area, its findings cannot be widely generalised. So the area can be increased for further study.

2. For each type of environment viz, air, water, land, sound, social etc. a separate study can be done by increasing the area and number of respondents.

3. An important area for future research is comparative study of Delhi, the highly urbanised area and some adjoining rural areas oif either Haryana or U.P.

ENVIRONMENTAL AWARENESS AMONGST PRE-UNIVERSITY STUDENTS OF DELHI

MINI ABSTRACT

The present study was carried out to assess the environmental awareness of future youths of Delhi keeping in view with the environmental pollution in Delhi and its too much reporting in media. The respondents were students of 10th, 11th and 12th standard from schools spread all over Delhi. These are some of the major findings :

Majority of the respondents preferred newspapers over T.V. and other mass-media for getting environment related information. Majority of the respondents were aware of the degrading effects of chemical fertilizers, insecticides, pesticides etc. on the environment while regarding livestock-related activities only few were aware of the bad effects of livestock bathing in the ponds. But, majority of them were aware of the degrading effects caused by the disposal of dead animal bodies either in the ground or thrown in the water, on the environment. It was very surprising to find that people regard bidi/cigarette smoking dangerous but not gutkha. Majority of the respondents were aware of the safest source of drinking water i.e. tap water as well as the poor water quality of thre Yamuna river at present. Majority of the respondents firmly believed that gambling, eve-teasing, caste-clashes, party-affiliated factions, pre/extra marital relationships affect the healthy social environment. More than half of the respondents opined that occasional drinking is alright but excessive drinking is bad. Majority were not aware of the difference between recyclable and non-recyclable products, eco-products, pollution checking trees, environment protection laws, environment related agencies and institutions, concerned persons viz. S.L. Bahuguna etc. The concern of the respondents towards environmental conservation may be considered very high as they wish to pay 'Pollution tax', donate one day's pocket money to any foundation working in this directions, to do car-pooling system, no purchase from guilty companies, participate in seminars, debates, campaigns on environmental conservation. By seeing the result we can say that awareness of the respondents is not upto the mark despite so much coverage, especially in Delhi, about environmental conservation aspects by print as well as mass media.

दिल्ली के छात्रों में पर्यावरण जागरूकता

लघु सारांश

वर्तमान अध्ययन दिल्ली के छात्रों के पर्यावरण जागरूकता को देखने के लिए किया गया था। यह अध्ययन दिल्ली के विद्यालयों के छात्र-छात्राओं (दसवीं, ग्यारहवीं और बारहवीं कक्षा के छात्र-छात्रा) को लेकर किया गया जिसके कुछ प्रमुख परिणाम इस प्रकार से रहे :-

अधिकांश प्रतिवादी टेलीविजन वगैरह के अपेक्षा अखबारों से पर्यावरण के बारे में जानकारी लेते हैं। अधिकांशतः लोग रासायनिक ऊर्वरकों, कीटनाशकों दवाईयों की पर्यावरण पर खराब प्रभाव के बारे में जागरूक है। जबकि पशुओं के तालाबों में नहाने से जो जल प्रदूषण होता है उसके बारे अनभिज्ञ है। परन्तु पशुओं के मृत शरीर के निपटारा करने के विधियों यथा जमीन में गाड़ने पानी में फेंकने या खेत में ऐसे ही छोड़ने से वातावरण पर जो बुरा प्रभाव पड़ता है उसके बारे में जानते हैं। एक आश्चर्यजनक बात ये पायी गयी कि लोग बीड़ी व सिगरेट पीने को तो अत्यधिक हानिकारक मानते हैं, लेकिन गुटखा के बारे में उनका विचार ऐसा नहीं है। अधिकांश लोग इस बात से सहमत हैं कि जुआ खेलना, मदिरा सेवन इत्यादि स्वस्थ सामाजिक वातावरण को प्रभावित करते हैं। अधिकांश लोगों को चक्रीय और अचक्रीय पदार्थों के बीच अंतर तथा प्रदूषण कम करने वाले पेड़, पर्यावरण संरक्षा कानून, पर्यावरण संस्थाएं और इससे संबधित लोगों के बारे में बहुत कम जानकारी थी। फिर भी पर्यावरण संरक्षा के प्रति प्रतिवादियों की चिन्ता अधिक मानी जा सकती है क्योंकि वो 'पर्यावरण टैक्स देने के पक्ष में है, मोटर गाड़ियों के एकत्रित कर कम चलाने, में अपने एक दिन के 'जेब-खर्च' तक देने के पक्ष में, वातावरण प्रदूषित करने वाले दोषी कम्पनियों से वस्तु न खरीदने के पक्ष में हैं। पर्यावरण सम्बन्धित गोष्ठी, वाद-विवाद, अभियानों इत्यादि में, हिस्सा लेने के पक्ष में तत्पर है। उपर्युक्त सभी परिणामों से ये ज्ञात होता है कि प्रतिवादियों का जागरूकता उतना नहीं है जितना कि होना चाहिए खासकर यह देखते हुए कि दिल्ली में मीडिया पर्यावरण संरक्षण के बारे में काफी जानकारियाँ कवर करती है।

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DIVISION OF EXTENSION EDUCATION

IVRI, Izatnagar

SCHEDULE

1. Respondents' Code No. : .....
2. Name of the Respondent : .....
3. Sex : Male/Female
4. Age : .....
5. Father's Occupation : .....
6. Mother's Occupation : .....
7. (a) Type of School : Govt. / Private

   (b) Medium of Instruction : Hindi / English / Others
8. Area in which the School is situated : .....
9. (a) Family Type : Nuclear / Joint

   (b) Family Size : Less than 5 / More than 5
10. Family Education Status : .....

Education Level	Score	No. of Family Members
Illiterate	0	
Can read only	1	
Can read & write	2	
Primary	3	
Middle	4	
High School	5	
Graduate & Above	6	

11. Mass media Exposure :

Sources	Frequently	Sometimes	Rarely
(a) Radio			
(b) T.V.			
(c) Educational Films			
(d) Newspapers			
(e) Farm publications			
(f) Posters			
(g) Demonstrations			

(h) Exhibitions/Fair

(i) Campaigns

(j) Advertisment

Total

12. Information source Utilization : .....

How often do you use the following information sources to receive the information on environmental pollution.

Category	Information Sources	Everyday	Most Often	Sometimes	Rarely
(A) Personal Localite	(1) Family Members				
	(2) Neighbours				
	(3) Friends				
	(4) Relatives				
(B) Personal Cosmopolite	(1) School teacher				
	(2) Visiting Experts				
(C) Mass Media	(1) News Papers				
	(2) Radio				
	(3) T.V.				
	(4) Other printed media				

13. Please tell me about your extracurricular activities, if any.

14. Are you extrovert/ambivert/introvert ? Please tick any one.

PART - II

1. What is environment ? Define it.

2. Domain of environment.

3. Source of this knowledge.

4. (a) Types of environmental pollution.

(b) Name them and rank them in order of severity, viz., Not a problem/Somewhat/ considerable/Very serious.

5. What kinds of things mostly cause these pollution ? Name the factors responsible for each & every kind of pollution, for example.

Type of Pollution	**Factors (in Order of severity)**
(1) Air pollution	(i) Vehicles, (ii) Industry (iii) Deforestations etc.
(2)	
(3)	
(4)	
(5)	
(6)	

6. Name and rank possible factors affecting the environment in order of their magnitude. e.g. Extent of literacy, extent of population growth etc.

7. Do you think these avctivities have any effect on the environment ?

Activities	**Responses**				
	Almost No effect	**Very little effect**	**Some effect**	**Considerable effect**	**Very serious effect**
(a) Tillage operations					
(b) Use of Chemical Fertilizers					
(c) Home food waste disposal					
(d) Chemical seed treatment					
(e) Storing/application of FYM (Farm Yard Manure)					
(f) Chemicals handling & Trans-portation					
(g) Use of farm machinery					
(h) Fumigation of grain storages					
(i) Burning wood & plant residues					
(j) Use of rodenticides					
(k) Use of fungicides					
(l) Use of insecticides/pesticides					

(m) Disposal of chemical containers

(n) Disposal of spoiled fruits & Vegatables

(o) Aerial spraying of chemicals

(p) Burning of plastic materials

(q) Disposal of various kinds of garbages in the water

(r) Disposal of chemical effluents by industries in the river

8. Do you think these livestock activities degrade the environment ? If yes, then, how much ?

	Not Much	Very little effect	Some effect	Considerable effect	Very Serious effect
(a) Overgrazing of grasslands					
(b) Bathing of animals in ponds					
(c) Excreta of livestocks					
(d) Dead animals being disposed off by dumping in the ground					
(e) Throwing of dead bodies in the field as such					
(f) Throwing of dead bodies in the ponds or river					
(g) Slaughter house's disposal ways					

9. Do burning of these degrade the environment ? Yes/Undecided/No If yes, then, how much ?

	Not Much	Very little effect	Some effect	Considerable effect	Very Serious effect
(a) L.P. Gas					
(b) Kerosene Stove					
(c) Coal					
(d) Dung Cakes					
(e) Biogas					
(f) Trash & Baggase					

10. Do generators pollute the environment ? Yes/Undecided/No. If Yes, then, how much,

	Not Much	Very little effect	Some effect	Considerable effect	Very Serious effect

11. Do agro-based industries and cottage industries pollute the environment ? Yes/UD/No, If Yes, then, how much,

Industries	Not Much	Very little effect	Some effect	Considerable effect	Very Serious effect
(i) Cooking oil processing					
(ii) Flour mill operations					
(iii) Detergent & Soap making					
(iv) Distilleries operations					
(v) Tanneries operations					
(vi) Sugar mills					
(vii) Tobacco manufacturing units					

12. Tobacco is used in various forms. Which of the following forms you think degrades the environment most ?

Tobacco Use	Never	Rarerly	Sometimes	Often	Always
(i) Smoking bidis/cigrattes					
(ii) Chewing tobacco-filled *'paans'*					
(iii) Chewing *'gutkha'*					

13. Do you think cultivation is affecting the environment ? Yes/Undecided/No

14. Which of the following sources of drinking water are hazardows to human health

	Yes	Undecided	No
(i) Hands pumps			
(ii) Wells			
(iii) Rivers			
(iv) Ponds			
(v) Tap water			
(vi) Canals			

15. Is Yamuna water safe for drinking purpose directly ? Yes/Undecided/No

16. Do playing of loudspeakers & band-baja with street dances are anti-civic ? Yes/Undecided No

17. Does personal hygiene have deterimental effect on the social environment around the person ?

Not Much	Very little effect	Some effect	Considerable effect	Very Serious effect

18.Is gambling a social evil and does it degrade the social status ? If Yes, then,

Not Much	Very little effect	Some effect	Considerable effect	Very Serious effect

19. Does money gaining by any means degrade the environment of social relationship ? Yes/ Undecided/No, If Yes, then,

Not Much	Very little effect	Some effect	Considerable effect	Very Serious effect

20.Is occassional drinking (Liquor) alright ? Yes/Undecide/No

21.Liquor drinking is a curse, especially when one becomes alcohalic or so to say drunkard. It not only causes a great nuisance in the society but also a misbehaviour tendency. In both the cases, social environment is the sufferer. Do you think so ? If Yes, then, how much

Not Much	Very little effect	Some effect	Considerable effect	Very Serious effect

22.Most of the young people (especially in metros) take the help of cigratte or drugs to prevail upon their tensions. Is it alright? Why ? Does it also affect the social environment ? How ?

23.Growing wasternisation in our society is having one big impact on our culture i.e. in form of increased physical relationships among opposite sexes which can cause AIDS. Does it affect the social environment ?

Not Much	Very little effect	Some effect	Considerable effect	Very Serious effect

24.Eve-teasing, taunting, superiority show, muscle power and destruction of public and private property has become order of the day. These tendencies have made the common man panicky and brought in them a fear of insecurity. These situations are not at all congenial to health social environment. Don't you think so.

Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree

25.Domestic clashes, for whatever the reasons, have become a common feature practically in every home. These clashes have disturbed the peace of mind and healthy living. Environment of social relationship, therefore remains no more comfortable. Don't you think so ?

Strongly Agree Agree Undecided Disagree Strongly Disagree

26. Caste-based clashes have reached such a pass that it has practically become an infectious disease in the society. Social relationship, as a result, have become tense. In these situations, social environment remains no more conducive to peaceful co-existence. Don't you agree with this ?

Strongly Agree Agree Undecided Disagree Strongly Disagree

27. Politics and Party-affiliated factions have not only ruined the social structure but also have given birth to anti-social elements. As a result, sense of belongingness is thus broken beyond repairs, Don't you agree with this ?

Strongly Agree Agree Undecided Disagree Strongly Disagree

28. Premarital or extramarital relationship are these days have become a common feature rather a status symbol in the society. Do these activities affect the family relationships and thus the social relationship ?

Not Much Very little effect Some effect Considerable effect Very Serious effect

29. Do you know about eco-friendly products ? Yes/Undecided/No. If Yes, then,

(a) Name the products.

(b) Do you prefer to use it over conventional products ?

(c) How did you come to know about the products ? Through T.V., Films, Paper, Magazines etc.

30. Please respond to the following statements as Yes or No.

(a) I Prefer to use a plastic bag even when I can carry the product as it is.

(b) I have so far not contacted any agency to find out what I can do about pollution.

(c) I will like to join a group or club concerned solely with ecological issues.

(d) I do not separate recyclable and non-recyclable waste while disposing it.

(e) I have never looked around for possible source of organically grown food.

(f) I feel that it is the govt. job to worry about environmental problems.

(g) I would donate a day's pocket money to a foundation to help improve the environment.

(h) I am prepared to stop buying products from companies guilty of polluting the environment, even though it may be inconvenient.

(i) I am prepared to pay pollution tax if it would decrease the air pollution.

(j) I don't think writing to our area's MLA/MP concerning environmental problems will help.

(k) I have never switched products for environmental problems.

(l) I read articles related to environmental issues in publications.

(m) I will switch my present brand in case I find it is harming the environment.

(n) I will accept green alternatives even if these perform less satisfactory than non-green ones.

(o) I often carry a cloth bag to bring grocery or vegatables.

31. Please write the factors which in your view induce people to prefer eco-friendly products :

(a)

(b)

(c)

(d)

32. Please mention any green products or services that you have not seen but would like to see in the market.

33. Please suggest some initiatives which can be taken up (by govt., NGO or the consumer) to increase the demand of green products.

(a)

(b)

(c)

(d)

34. If you were the person who could make a change in all these green issues in India, how would you spend your effort ? (Allocate 100% of your effort between in different issues).

(i) Pollution (Air, Water, Lnad, Noise)

(ii) Wild Life conservation

(iii) Recycling

(iv) Deforestation

(v) Energy saving measures

(vi) Others

35. Do you know about pollution checking plants ? Yes/No. If Yes, name then.

36. How pollution can be checked ? Name the ways.

37. How do you react to the environment related news (especially environmental degradation).

38. Are you actively invloved in environmental protection? If Yes, how ?

39. How many saplings have you planted ?

40. Have you participated in eco-friendly movements/campaigns ? Yes/No. If no, do you wish to particiapte ?

41. (a) Have you participated in competitions (essay, debate, painting or photo feature) concerned with environment related subjects ? Yes/No.

(b) Have you written any article on this aspect ? Yes/No

42. Do you think the existing time allocation of environment related news on electronic media and print media are adequate enough ? Yes/Undecided/No.

43. Do you listen to environmental programmes being broadcast on Radio/T.V. only or further read or further take some action ? Yes/No.

44. Have you organised any movement in this regard ? Yes/No.

45. Have you formed any club to spread more information about it ? Yes/No. If no, do you wish to do.

46. (a) What is the role of govt. in it ?

(b) Do you know what the govt. is doing for it ? Yes/No. If Yes then what ?

47 (a) What is the role of NGOs ?

(b) Do you know what they are doing for it ?

48. What about role of the society ? Please tell about your personal contribution towards it ?

49. Do you know about any institution (s) related to this ? If Yes, name them.

50. Do you know about any agencies related to this ? If Yes, name them.

51. Do you know about any law (s) for environmental protection ? If Yes, name them.

52. Do you know about any person (s) related to this ? If Yes, name them.

✺ Thank You ✺

CURRICULUM VITAE

The author of this manuscript was born on 30th May, 1968 at village Baruar, Distt. Madhubani, Bihar. He passed his Matriculation from M.L. Academy, Laheriasarai (Bihar) in 1983 and Intermediate of Science from C.M. Science College, Darbhanga (Bihar) in 1985. Thereupon, he joined Orissa University of Agricultural and Technology, Bhubaneswar (Orissa) to pursue his Graduation programme and completed his B.Sc. (Ag.) in 1992 with first class. Subsequently, he joined I.V.R.I., Izatnagar (U.P.) in 1993 to pursue his Post-graduate study and earned M.Sc. (Extension Education) with first class. He was the recipient of IVRI, Junior Fellowship during his Master's Degree Programme. Thereafter, he joined Ph.D. programme in 1995 at IVRI itself, and successfully completed all the requirtements for the degree of Doctor of Philosphy in Extension Education. He was the receipient of IVRI Senior Fellowship during his Ph.D. programme. He was selected as a Scientist, by the ASRB, New Delhi, in the discipline of Agricultural ERxtension, in 19996 batch of ARS (Agricultural Research Service). Presently, he is a scientist in the divisionof Agricultural Extension, Central Soil Salinity Research Institute, Regional Research Station, Canning Town, West Bengal. He has contributed some articles in different journals, besides being involved as a core team member in TAR-IVLP (NATP) going on at his institute. He is the life member of Indian Society of Extension Education.