

Environmental Pollution and Health Status of Petroleum Dealers A Medico- Sociological Study
[With special reference to Chikkamagalore District, Karnataka state]

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Abstract

The word petroleum comes from Greek. The term frequently used to refer to mineral oils produced by distillation from mined organic solids such as cannel coal and refined oils produced from them, they are derived from crude oil as it is processed in oil refineries, they are collection of well defined pure chemical compounds, petroleum products are complex mixtures.

Petroleum products are very essential products for transportation, heating, electricity generation, asphalt and road oil. They are used to make chemicals, plastics and synthetic materials which we are using in daily life. About 74% of the 6.89 billion barrels of petroleum that we used in 2013 were gasoline, heating oil/ diesel fuel and jet fuel.

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Introduction

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Petroleum products are very essential products for transportation, heating, electricity generation, asphalt and road oil. They are used to make chemicals, plastics and synthetic materials which we are using in daily life. About 74% of the 6.89 billion barrels of petroleum that we used in 2013 were gasoline, heating oil/diesel fuel and jet fuel.

Petrol Stations In India

At present approximately there are 54,000 petrol pumps are working in India. There are 4500 petrol pumps working in Karnataka state.

India is the second most populous country in the world, with over 1.277 billion people (2015), more than one sixth of the world's population. Already containing 17.5% of the world's population, India is projected to be the world's by 2022, surpassing China, its population reaching 1.6 billion by 2050. Its population growth rate is 1.2%, ranking 94th in the world in 2013. The Indian population had reached the billion marks by 1998. India has more than 50% of its population below the age of 25 and more than 65% below the age of 35. It is expected that, in 2020, the average age of an Indian will be 29 years, compared to 37 for China and 48 for Japan and, by 2030, India's dependency ratio should be just over 0.4.

Disease is often considered as medical condition associated with specific symptoms and signs. It may be caused by factors originally from an external source, such as infectious disease, or it may be caused by internal dysfunctions, such as autoimmune diseases. In humans, "disease" is often used more broadly to refer to any condition that causes pain, dysfunction, distress, social problems, or death to the person affected, or similar problems for those in contact with the person. In this broader sense, it sometimes includes injuries, disabilities, disorders, syndromes, infections, isolated symptoms, deviant behaviors, and atypical variations of structure and function, while in other contexts and for other purposes these may be considered distinguishable categories. Diseases usually affect people not only physically, but also emotionally, as contracting and living with a disease can alter one's perspective on life, and one's personality.

Death due to disease is called death by natural causes. There are four main types of disease: pathogenic disease, deficiency disease, hereditary disease, and physiological disease. Diseases can also be classified as communicable and non-communicable. The deadliest disease in humans is ischemic heart disease (blood flow obstruction), followed by cerebrovascular disease and lower respiratory infections respectively.

Our seminar topic is environmental pollution and Health status of petroleum dealers a medico-sociological study. The main theme is society environment and development the health condition of petroleum dealers is very important in economical development and social development. Without good health condition of petroleum dealers will not contribute to society environment and development. We can't achieve any development along with the society and environment without the good health condition of petroleum dealers.

There are nearly 54,000 petroleum dealers are working across the country. Thousands of family's are directly or indirectly dependent on petroleum dealers. So we can't achieve any development in society and environment without the integrated development of petroleum dealers.

Review of earlier studies:

- 1) *Richard C. Selley – Elements of petroleum geology* beginning with the disposition and maturation of a source rock followed by the migration of petroleum from the source into porous permeable reservoir rock trapped beneath an impermeable seal. This book also described the science and technology of the petroleum exploration and production from the first geophysical surveys to the final of enhanced recovery
- 2) *Srinivasa Chandrasekharan : Health, safety, and Environmental management offshore and petroleum engineering* The regulations of risks to health, safety, and environmental management that arise from the exploration and production works in the oil and gas industries are gaining more attention in the recent past. There is a growing necessity to maintain good and healthy work-space for people on board and also to protect the fragile ecosystem.

Objectives

- To Analyses the health status of Petroleum dealers due to the Environmental pollution.
- To collect the social and economical information of Petroleum dealers through the medico- sociological perspectives.

Hypothesis

Health status of Petroleum dealers is not good due to the Environmental

pollution.

Statement clarification:

· **Environmental pollution:** The sum total of all surroundings of a living organism, including natural forces and other living things, which provides good conditions for development and growth as well as of danger and damage. Natural resources such as lakes, rivers, forests, wildlife, etc. have a pivotal role in Indian lifestyle but growing population of the country is increasing pressure on environment.

- **Health status:** - It's the condition of the person mentally, physically and socially well being. Health status of Petroleum dealers Medico sociological study in petroleum industry refers to disease which effects human life who are working in petroleum industry directly and indirectly in exploration, refinery, transportation, delivering petroleum products to vehicles, containers and so on.
- **Petroleum dealers:** - petroleum dealers are those dealers appointed by public sector oil companies and private sector oil companies under the purview of ministry of petroleum and natural gas. Union government of India
- **Medico-sociological study** – It's the method of the study of any health issues based on medical along with on sociological perspective ,and also study of the issues like social aspects on the basis on socio medical perspective .

Methodology

In this study we have used simple random sampling method on selected 50 respondents. We have used direct interview method for the collection of information by respondents. Who are working as petroleum dealers. And also used primary and secondary sources to collect the data with medico-sociological prospective.

Sources of information

- 1) **Primary resources:-** To collect the primary information I used self prepared questionnaire on medico-sociological prospective for interview. Finally information is collected from 50 respondents.
- 2) **Secondary resources:-** we have collected information from Articles, journals, library, news papers and websites.

Theoretical perspectives:

We used medico-sociological prospective for this successful study.

Topographical features of the study

Chikkamagalore is a district in the South Indian state of Karnataka. Coffee was first cultivated in India in Chikkamagalore. The mountains in Chikkamagalore which are a part of the Western Ghats are the source of rivers like Tunga and Bhadra. Area. • Total, 7,201 km² (2,780 sq mi). Population (2001). • Total, 11,39,104. • Density, 158.19/km² Geographical scope of study area is Chikkamagalore dist., in Karnataka state regarding public policy and sustainable development. Chikkamagalore dist., will come under the famous western guhths area. Chikkamagaloredist is famous for Coffee, Tea, Cardamom, Rubber plantation crops. It is also famous for horticulture corps like coconut, Aracanut, Banana, Mango, Sapota and other crops. It is also famous for Paddy, Raghi, Jower and other food crops. It is also famous for commercial crops like chilies, Onion, Potato and other crops. It is also famous for tourism sports like Dattapita, Mullaiyanagiri, Kallatthigiri, Kemmannagundi, Amruthapura temple and so on. Information regarding chikkamagalore dist., as on today. There are BPC – 18, HPC-24, IOC-30, Reliance-02, SR-01 total 75 bunks.

Data Analysis

The data collected by using all the research methods, and others sources are analyzed by essential statistical techniques by using analysis of data research report. The data was collected on medico-sociological prospective.

Table . 1 Personal Profile of the respondents

SL NO	Personal profile of the Respondents				
1	Age	18-28	29-39	40-50	51+
		2	10	20	18
2	Gender	Male			Female
		45			5
3	Caste	SC	ST	OBC	Others
		10	05	25	10
4	Religion	Hindu	Christian		Muslim
		46	01		03
5	Education	Illiterates	Primary education	Secondary education	Higher education
		00	24	20	6
6	Yearly Income	Up to 2,40,000	2,40,001 to 3,00,000	3,00,001to 4,00,000	4,00,001+above
		35	05	06	04
7	Marriage	Married	Bachelor	Widow	
		48	00	02	
8	Family	Joint	Nuclear		
		05	45		

In demographic information age, gender, education qualification, , marital status, income size type of family etc, are various information's are followings.

· **Age:** Age is the important factor at the time of interviewee because if the respondents are below 18 years age they will be considered as minors. They are not eligible into any contract according to **Indian contract act-1872**. I have interviewed the respondents from age group 18 to 80.

· **Gender:** We interviewed 90% of the male respondents. 10% of the female respondents.

· **Cast:** At the time of research in India cast plays a important role even though India is secular state. We interviewed 20% SC, 10% ST, 50%OBC and others 20%.

· **Religion:** India is the mother land of several religions. Even though it is a secular state. All the statistics are collected on the basis of religion like Hindu, Muslim, Christian, Jains, Parasis, Buddhists, Siks and so on. We interviewed Hindus 92%, Christians 2%, and Muslim 6%.

· **Education:** Education plays in important role in India. Due to several governmental and non-governmental (NGO's) intuitional efforts. Majority of the respondents are literates. In the interview 48% having primary education 40% having secondary education and 12 % having higher education.

· **Annual income:** 70% of the respondents having income of 2,40,000 per year 10% respondents are having income of 3,60,000 per year 12% respondents having income of 4,00,000 per year and 8 % of the respondents having more than 4,00,000 per year.

· **Marriage:** we have interviewed 96% Married dealers and 4% widows.

· **Family:** we have interviewed 10% joint family dealers and 90% nuclear family dealers.

Table:02 Health statuses of Petroleum dealers

Sl. No.	Components of Health status	Yes	No
01	Are you suffering from Respiratory problems?	20%	80%
02	Are you suffering from Skin Allergies problems?	20%	80%
03	Are you suffering from Irritation problems?	10%	90%
04	Are you suffering from Anemia?	05%	95%
05	Are you suffering from Headache problems?	30%	70%
06	Are you suffering from Nausea?	40%	60%
07	Are you suffering from Euphoria?	20%	80%
08	Are you suffering from Sound pollution?	90%	10%
09	Are you suffering from ENT problems?	60%	40%
10	Are you Affected by Smokey air in your RO's?	80%	20%
11	Are you suffering from Giddiness at the time of unloading the branded fuels?	10%	90%
12	Are you suffering from Back pain?	60%	40%
13	Are you suffering from Obesity?	60%	40%
14	Are you suffering from Joint pain?	40%	60%
15	Are you suffering from Blood pressure?	60%	40%
16	Are you suffering from Sugar problem (Glaucoma)?	80%	20%
17	Are you suffering from Anxiety?	70%	30%
18	Are you suffering from Nervous system?	20%	80%
19	Are you socially suffering due to the environmental pollution of petroleum products?	100%	-
20	Are you recommend the higher grade (BS-V) FUELS?	100%	-
21	Are you taking frequent Medical checkup?	100%	-
22	Has your petrol bunk have following facilities like first aid box, fire extinguisher, pure drinking water, toilet facility, telephone numbers of police - fire and ambulance?	100%	-

Respiratory problems: 20% of the dealers are suffering from respiratory problems. Petrol contains small amounts of benzene. Benzene is human carcinogen. When benzene content enters human respiratory system along with air it causes respiratory irritations. Then it leads to respiratory problems. Health effects from exposure to petroleum products vary depending upon the density of the petroleum products and the time duration exposed to petroleum products. Breathing petroleum vapors can cause nervous system effects. And respiratory irritations. To minimize the respiratory problems by petroleum products, who are working in petroleum

atmosphere should wear mask, and working place should be open to free air circulation.

· **Skin allergies problems:** 20% of the dealers are suffering from Skin allergies. The hydro carbon (C_nH_{2n+2}) contents in petroleum products will lead to allergic problems. The skin allergies problem will lead to immune system disorders, medication and infections. Allergies will lead for triggering an immune system response then it will lead to allergic skin condition called Atopic Dermatitis (Eczema). To reduce skin allergic problems the peoples working in petroleum industry and retail outlets should not handle the petroleum products with bare hands. They must wear the suitable rubber leg and hand gosses.

· **Irritation problems:** 10% of dealers suffering from irritation problems. Irritation will leads to acute and chronic health problems associated with petroleum products. It will lead to tightness of chest and breathing difficulties. The hydro carbon contents and small amount of benzene will effects the nervous system and leads to irritation problem. People working in petroleum industry and petroleum pumps should take care of their health. For Some people the ingredients of petroleum products will not harm, but of some people who as less resistance should keep away from petroleum products.

· **Suffering from Anemia:** 05% of the dealers are suffering from Anemia problems. Anemia is a health condition due to deficiency of normal red blood cells that produce the oxygen carrying pigment hemoglobin. The retail outlet area is full of Smokey air due to motor vehicle emissions which delivers carbon dioxide. Which is harmful to health and it reduces to availability of oxygen in the retail outlet area. Especially in metropolitan city petrol bunks. Where the air pollution level is high. To reduce this problem RO's should be spacious and open to air and light.

· **Headache problems:** 30% of dealers are suffering from Headache problems. The continues sound created by vehicles starting point and vehicles horn at the retail outlets will affect the nervous system. INHALATION OF petroleum products can *cause headaches*, rapid heart rate, tremors, and confusion. Gasoline contains small amount of benzene. Benzene is harmful to human life and it is carcinogen. To keep away from headache problem the dealer and personnel working in retail outlets should be keep away from RO's at the regular intervals.

· **Nausea (vomiting):** 40% are suffering from Nausea problems Inhalation of petroleum products will leads to Nausea. Benzene which is present in petroleum products will create problems regarding Nausea. Benzene is a compound of crude oil and petrol that can be harmful even at base level. Apart from vehicular exhausts,

evaporation from petrol filling station can cause benzene level to rise. Inhalation of Benzene will leads to lymphomas, a cancer that begins in immune system cells called lymphocytes. Totally benzene is a nasty pollutant. The work stress, fear and anxiety of the dealers are the cause for abnormal function of stomach and intestinal including vomiting sensation. It leads to extra adrenaline release from the body causing imbalance in the digestive system. To avoid this problem dealers and personnel working in RO's area should work comely, without anxiety fear and stress.

· **Euphoria (excitement):**20% of the dealers aresuffering from Euphoria problems at the time of Decantation of petroleum products from tanker truck to underground tanks in ROs. The potential hazards of swallowing hydrocarbon leads to *euphoria.Euphoria will give an experience of intoxication in human brain. Some human beings get intoxicated due to potential hazards of hydro carbons. After some time people will be addicted to hydro carbons. To avoid the problem theRO's should maintain will be very well manner and the decantation process should be full proof. The petroleum vapors should not enter in RO's area.*

· **Sound pollution:** - 90% of the dealers are suffering from sound pollution; At present available statistics 2000 vehicles will enter into the retail outlets generally. Including two wheeler, three wheeler, four wheeler, commercial vehicles and others. Each vehicle will horn to draw the attention of the pump attender to receive the desired fuel. So the dealer who is working in the retail outlet should hear the sound of horn coming from entering above said vehicles. The sound is calculated in decibels followed by Canadian federal noise regulations. The sound occupational exposure limit (OELS) for noise is 85 decibels, at the retail outlets for the period of working 8 hours. But generally dealers will work nearly 12 to 16 hours daily in retailed outlets. And the vehicles are delivering more than 110 decibels. . In India db legislation act I-NCE-1997 has fixed minimum 90 decibels peak 140 decibels as upper limit. But usually vehicles will deliver more than peak upper limit in India. Which will affect the dealers ear and creates ENT problems finally it will lead to partial dimness for the dealer, in addition this the mobile phones used by dealer will also add to ENT problem. The vehicle drivers should not create more sound unnecessarily in RO's area. The vehicle driver should be sound conscious. The government should impose penalty on sound polluters regularly. By the high noise will leads to a situation were in a normal person can lose the ability to hear properly.

Noise –Occupational Exposure Limits in Canadian Level
What are the occupational exposure limits for workplace noise?

Occupational exposure limits (OELs) for noise are typically given as the maximum duration of exposure permitted for various noise levels. They are often displayed in exposure-duration tables like Table 1A and Table 1B. The OELs depend on two key factors that are used to prepare exposure-duration tables: the criterion level and the exchange rate.

Table 1A		
Noise Exposure Limits when Criterion Level = 90 dB(A)		
3 dB(A) Exchange Rate	Maximum Permitted Daily Duration (hours)	5 dB(A) Exchange Rate
Allowable Level dB(A)		Allowable Level dB(A)
90	8	90
93	4	95
96	2	100
99	1	105
102	0.5	110
105	0.25	115

Table 1B		
Noise Exposure Limits when Criterion Level = 85 dB(A)		
3 dB(A) Exchange Rate	Maximum Permitted Daily Duration (hours)	5 dB(A) Exchange Rate
Allowable Level dB(A)		Allowable Level dB(A)
85	8	85
88	4	90
91	2	95
94	1	100
97	0.5	105
100	0.25	110

Noise –Occupational Exposure Limits in Indian Level

Exposure criteria, occupational exposure levels (I-INCE, 1997)					
Country (Jurisdiction)	8-hour average A-weighted sound pressure level (dB)	Exchange rate (dB)	8h-average A-wtd limit for engineering or administrative controls (dB)	8h-average A-wtd limit for monitoring hearing (dB)	Upper limit for peak sound pressure level (dB)
India	90				140A peak

· **ENT problems :**

Ear problems: -60% of the dealers are suffering from ENT problems. Ear infections usually begin with a viral infection of the nose and throat. Ear infections may also occur when you have allergies. Symptoms of a middle ear infection include earache, hearing loss, and feeling of blockage in the ear, fever, and dizziness. To avoid some ear problems the dealer and personnel should wear the glass at RO's.

Nose problems:- 60% of the dealers are suffering from ENT problems. Inhalation of petroleum products and petroleum jelly or mineral oils will lead to lungs problems. The inhalation of petroleum products causes nasal secretions and it is swallowed. At the time small amount of petroleum products, petroleum jelly will migrate into the windpipe (trachea) and lungs. The accumulation of petroleum particles' and petroleum jelly can accumulate in the lungs leading to potentially serious inflammation known as lipoid pneumonia. The vehicle drivers should be educated not to create heavy noise at RO's area.

Throat problems: - 60% of the dealers are suffering from ENT problems. The throat is a very sensitive and vital organ in human body which observes the petroleum vapors which are available with air will affect the minute organs that are present in throat. Inhalation of petroleum products will cause dry cough, a scratchy feeling at the back of the throat. In summer season allergies are common cause of throat irritation.

· **Smokey air problem:-**80% of the dealers are suffering from Smokey air problem. Breathing of Smokey air will leads to respiratory irritation and shortness of breath and can worsen medical conditions such as asthma and heart diseases. There is also a chance of chronic health effect from exposure to the components of Smokey air. To avoid Smokey air the vehicle engine should be maintain in a very well manner. And the vehicle engine should not raise in RO's area

· **Giddiness problem:-**10% of the dealers are suffering from giddiness problem, gasoline is dangerous for human health because it is toxic exposure to gasoline, either through physical contact or inhalation can cause health problems. While working in petrol bunks inhalation of hydrocarbon which is present in petroleum products are the harmful ingredients to human health causes uneasiness in health. To avoid this problems the government should enforce safe gasoline handling methods to prevent poisoning.

· **Back pain:-**60% of the dealers are suffering from back pain problems, Dealers who are working continuously in petrol bunks since long duration will suffer from Back pain. While sitting consciously in chairs will lead to nerve root in the

lower spine is compressed, causing pain and numbness to travel along the large sciatic nerve that serves the buttocks, legs and feet. To avoid back pain dealers should sit properly on chairs and on computer chairs also. The dealers and personnel should practice excise and yoga daily.

· **Obesity problem:** - 60% dealers are suffering from obesity problems, petroleum dealers will work approximately 12 to 16 hours in their ROs. When they working usually they will use to sit in the office is standing in the dispensing area. Continuously sitting in office leads to obesity which is an epidemic in 21 century. Obesity is affecting 5 % of the country population. This is because unhealthy and untimely food practices by the dealers because of work load. Obesity is a major factor for cardiovascular disease. According to ministry of health and family welfare along with the Indian council of medical research released updated guidelines in 2012 that a BMI over 23 kg/m² is considered to be overweight normal BMI should be 18.0-22.9 kg/m². Over weight are 23.0-24.9 kg/m². The abdominal obesity will be more in petroleum dealers. The dealer and personnel should maintain good food habits and should take timely food and avoid junk foods which available in the market. The dealers and personnel should perform jogging, walking, daily. The dealers and personnel should take minimum required calories of food.

· **Joint pain:** -40% of the dealers are suffering from joint pain problems, Dealers were working continuously in petrol bunks will suffer from joint pain problems after the age of 50 years. Any damage to the joints from disease are injury, are by continues physical, mental stress on the joints will lead to osteoarthritis, rheumatoid arthritis, bursitis, gout, strains, sprains and other injuries. To overcome this problem the dealer should take rest timely. Not create pressure on joints.

· **Blood pressure :-**

Definition of BLOOD PRESSURE

pressure that is exerted by the blood upon the walls of the blood vessels and especially arteries and that varies with the muscular efficiency of the heart, the blood volume and viscosity, the age and health of the individual, and the state of the vascular wall.

60% of the dealers are suffering from blood pressure problems after the age of 45.

Dealers working with work pressure will suffer from high blood pressure (hypertension) can quietly damage the health. The hypertension is a risk factor more than heart disease. If the patient is not treated well in time it will lead to poor blood flow. Hypertension gradually increases the pressure of blood flowing through arteries.

Healthy arteries are flexible strong and elastic. Their inner lining is smooth so that blood flows freely, supplying the vital organs and tissues with nutrients and oxygen. To keep blood pressure level in control the dealer should work peacefully without any stress. And they must practice good health habits. For Further problems they should consult the doctor timely.

Low blood pressure: - some dealers will suffer from low blood pressure because of their work pressure.

Blood pressure chart:

Top number (systolic) in mm Hg	Bottom number (diastolic) in mm Hg	Your category*
Below 120	and Below 80	Normal blood pressure
Between 120-139	or Between 80-89	Prehypertension
Between 140-159	or Between 90-99	Stage 1 hypertension
160 or higher	or 100 or higher	Stage 2 hypertension

· **Sugar problem (Diabetes) :-**

80 % dealers are suffering from Diabetic problem at different ages. Diabetes is due to either the pancreases are not producing enough insulin or the cells of the body are not responding properly to the insulin produced.

There are 3 types of Diabetes mellitus

- 1) Type 1 DM results from the pancreas’s failure to produce enough insulin. This form was previously referred to as “insulin-dependent diabetes mellitus” (IDDM) or “juvenile diabetes”. The cause is unknown.
 - 2) Type 2 DM begins with insulin resistance, a condition in which cells fail to respond to insulin properly. As the disease progresses a lack of insulin may also develop. This form was previously referred to as “non insulin-dependent diabetes mellitus” (NIDDM) or “adult-onset diabetes”. The primary cause is excessive body weight and not enough exercise.
 - 3) Gestational diabetes is the third main form and occurs when pregnant women without a previous history of diabetes develop high blood-sugar levels.
- The diabetes is incurable. But it can be kept in control the dealers should practice good life habits and the direction of the doctor; dealer should practice daily walking yoga and excise timely.

· **Anxiety problem (Disambiguation):-**70% of the dealers are suffering from anxiety problem. Anxiety is due to several mental and physical problems of the dealer. Anxiety due to combination of the following factor. Genetic factor, ongoing stress, family background, physical health. It causes shortness of breath, a pounding

heart and trembling hands. At present scenario dealers are working under mental and physical problems pressure due to acute competition in petroleum business due to local and global issues. The dealer as to face different department problems, customer problems, market problems continuously. To control anxiety the dealer should work with patience he should not get excited for simple reasons. He should practice yoga daily.

· **Nervous system problem:-**20% of the dealers are suffering from nervous system problems. Nervous system is a complex, highly specialized network, it organizes, explains and directs interactions between human being and the world. Nervous system controls the entire human body and mind. Exposure to toxic petroleum products will create problems in human nervous system. Health effects from exposure to petroleum products vary depending on the concentration of the substance and the length of time that one is exposed. Breathing petroleum vapors can cause nervous system effects. Dealers are advised to keep away from toxic petroleum products and should wear suitable dress. Care should be taken at the time of handling the petroleum products.

· **Environmental pollution:-**100% of the dealers aggree that petroleum products will create environmental pollution. According present statistics there are 24,24,00,000. Vehicles are running on the roads of India.

In Karnataka state according to government statistics up to July 2015.

1,52,66,480 vehicles are running on the road. In Bangalore it's self 60,59,000. Vehicles are running on the road.

The approximately daily consumption of petroleum products in India is 22,00,00,000 (Daily consumption 18,333 loads of 12 KL TT) liters for vehicles only apart from power generators, trains, ships, and others also.

In Karnataka state approximately the daily consumption of petroleum products 1,80,00,000. apart from power generators, trains, ships, and others also. (Daily consumption 1,500 loads of 12KL TT).

Above said vehicles are polluting the environment to the maximum extent. Which is in the alarming position like Delhi, Kolkata, Mumbai, Hyderabad, Chennai, luck now, Bangalore and other city. Above said statements the petroleum dealers who are working in petrol bunks working for a long period will suffer socially from environmental pollution by petroleum products.

Pollution in India:-

Air Pollution	69.15 High
Drinking Water Pollution and Inaccessibility	53.72

Moderate

Dissatisfaction with Garbage Disposal 69.17 High

Dirty and Untidy 64.21 High

Noise and Light Pollution 57.88

Moderate

Water Pollution 68.53 High

Dissatisfaction to Spend Time in the City 62.96 High

Dissatisfaction with Green and Parks in the City 52.47

Moderate

· **Higher grade fuels :-**

100% of the dealers are in need of higher grade fuels like (BS-V). At present the public sector oil companies are providing (BS-IV) grade fuels. (Bharat stage BS-IV) By upgrading the quality of fuels and adding ethanol and using Bio fuels can decrease the pollution level which will avoid environmental pollution. Oil companies are decided to provide Euro-V grade fuel by April 1st 2020.

· **Medical checkup:** - 100% of the dealers are taking frequent medical checkups to maintain their health and to control the above said all diseases.

· **Facilities in petrol bunks :-**

100% of the petroleum dealers are providing facilities like first aid box, Fire extinguisher, pure drinking water, Toilet facility, and Telephone numbers of Police, Fire, Ambulance, company officials, and dealers also.

Findings:

Ø Petroleum dealers working in petrol bunks since long duration are facing some above said health problems. But (petroleum dealers working recently in petrol bunks are not facing critical health problems). Because of the environmental pollution the health of the petroleum dealers will deteriorate.

Ø But generally Gasoline (petrol) contains Benzene. Medically Benzene is carcinogenic. In nature it leads deadly disease cancer. Inhalation of petroleum products creates Skin problems, Irritations, and it leads to nerves related disease. Inhalation of petroleum products causes vomiting sensation (Nausea). Sometimes Euphoria keeps personnel in intoxicated mental condition.

Prove meant of Hypotheses:-

By above all studies and statistics we can prove that the health of petroleum dealers working in petrol bunks are deteriorating, in one way or other way.

Suggestions

I suggest the government, oil companies, the health ministry, should study this aspect. And the standard guidelines should be released to the concerned petroleum industry. The suggestion given by the health ministry and the government should be strictly executed. In the interest of petroleum dealers and society to decrease the environmental pollution and to the improve the health status of petroleum dealers.

Conclusions

Petroleum dealers working in retail outlets and petroleum industry in exploration, refinery, terminal, transportation and dispensing to vehicles and containers will face health problems according to their working conditions. So proper care, proper safety measures should be taken in all the stages. Because petroleum products are highly inflammable and can causes distorters. Our aim is no accidents. Human life is precious and environment is precious and we have to save our mother earth. By controlling environmental pollution society and the environment will also move to words the sustainable development of petroleum dealers, personnel working in petroleum industry and the society in general.

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