NEED FOR GREEN CONSUMPTION IN EMERGING ECONOMIES---A CASE STUDY OF CONSUMPTION PATTERNS IN PUNE, MAHARASHTRA, INDIA

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Abstract

"There is a sufficiency in the world for man's need but not for man's greed." ~Mohandas K. Gandhi

The 21st C has seen of late a lot of literature and campaigns promoting the green consumption of goods and adopting green measures in order to preserve our environment and to ensure that businesses thrive in a sustainable environment. Today, more and more people are switching over to CFL bulbs and paper bags instead of the conventional incandescent bulbs and fluorescent tubes and plastic bags. More and more people are being made aware of the need to preserve energy resources and water in order that human beings may have a longer trouble free existence on Mother Earth. India, as an emerging economy, is the focus of many MNCs who are looking to gain a foothold in this very promising market having a relatively cheap labour force and a growing number of prosperous consumers. It is therefore imperative that the Indian population be a party to the growing global concern for depleting global resources and global warming that is affecting agriculture, marine life, human health, and consequently businesses.

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This study wished to find out how aware Pune citizens are of the various environmental issues that the world is now facing and whether they are consciously bringing about a positive change in their consumption behaviour in an effort to conserve natural resources. Five hundred, educated consumers from all walks of life and who could read and write English were selected by the random stratified method. A structured questionnaire was administered together with a personal interview to gather primary data. Results showed that most people were aware of sustainability and global warming mainly through social networking sites. The survey brought out the fact that majority of the respondents kept an eye on their water and electricity consumption. However, 26% did not closely monitor the consumption of water unless there was a scarcity. It was heartening to note that not a single Puneite consumed non vegetarian food on all seven days of the week either for religious or health purposes. Most respondents went in for cfl bulbs inorder to save both electricity and money. Very few of them used solar panels. In fact, if the common man refurbished his home with the latest energy saving devices, it would lead to a reduction of 45 % to 70% energy consumption. It was found that Puneites seemed to believe strongly in saving energy in order to protect the environment followed by some amount of recycling. They were found to prefer the use of mobile phones as against landline connections. Most Puneites were found to favour the use of paper bags though forty percent admitted to receiving around 4 plastic bags per week.

Keywords: Global warming, Energy saving, energy use, India as an emerging market

Introduction

India as an Emerging Market

India today is poised for extensive growth in all areas especially economic growth. It now figures prominently on the World Map in terms of business, peace talks, nuclear energy, and many other areas of global concern. It is one of the emerging markets that developed countries are turning to for trade and business purposes. For this reason it is necessary for India also to be part of the growing global concern about depleting environmental resources and the global warming that is already affecting agriculture, marine life and consequently businesses. The authors wanted to find out how India is trying to overcome the growing environmental issues that progress brings in its wake. They wished to ascertain whether, Indians are aware of the dangers of ignoring

environmental sustainability issues, and if yes, how they are helping to sustain a "green environment". This study will help marketers and Government to come up with strategies and laws that will conserve natural resources and to encourage an environment friendly lifestyle amongst people.

Today, almost every appliance or time and energy saving device operates on some form of energy. Energy is defined as "the ability to do work"- moving something, lifting something, warming something, or lighting something. Electricity is generated from both renewable and non renewable energy sources. These are:

a) **Renewable energy sources:** These sources are constantly renewed or restored and include wind (wind power), water (hydropower), sun (solar), vegetation (biomass), and internal heat of the earth (geothermal).

b) **Non renewable energy sources**: These are natural resources that cannot be replenished (fossil fuels such as oil, gas, and coal). It may take years to replenish this energy because it is essentially taken from finite resources that will eventually dwindle. Consequently it will be very expensive and too environmentally damaging to retrieve. On the other hand, renewable energy sources are naturally replenished in a short period of time.

Why Is Energy Conservation Important for a Green Environment?

Due to the limited amount of non renewable energy sources on Earth, it is important to conserve our current supply or to use renewable sources so that our natural resources will be available for future generations. Conservation of energy may mean efforts made to reduce its consumption or an increase in the efficiency of its usage, along with its reduced consumption, and/or reduced usage of energy obtained from conventional resources. Energy conservation can yield more money/capital, a better environment, security of the nation and the individual, as also a more comfortable life. Individuals and organizations that are direct consumers of energy choose to conserve energy to reduce energy costs and promote economic security. Industrial and commercial users can increase energy use efficiency to maximize profit.

Literature Review

India, as an emerging economy, has experienced spurts of growth along with corporate resurgence and rising consumerism. These developments have resulted in certain problems and issues, which if not taken care of, will have alarming consequences in the time to come.

Ecological economists are cautious about propagating consumerism because they consider it a significant and unnecessary source of environmental degradation (Cogoy, 1999) that causes pollution and resource depletion in such markets (Mann, 2006). They do not, however, advocate putting fetters on the growing consumerism and industrialization or government enforcing regulations to check both. But consumers need to exercise self regulation in order to minimize, if not eliminate altogether, the negative impact of consumption and production on the environment. Sustainable development is characterized by the promotion of sustainable consumption and production for achieving long term economic growth that is consistent with environmental and social needs (OECD Publications, 2008).

Global warming today has emerged as one of the important issues confronting us. People are becoming aware that even their day-to-day activities can cause changes in the earth's atmosphere that in turn can significantly alter the planet's heat and radiation balance. In developing countries, because of lower incomes, extra earnings and jobs are given greater weightage in comparison to health and less pollution. The relative costs of monitoring and enforcing pollution standards are higher in developing countries, given the scarcity of trained personnel, the difficulty of acquiring sophisticated equipment and the high marginal costs of undertaking such a new governmental activity (when the policy focus is usually on reducing fiscal burdens). Also, growth in developing countries results in a shift from agriculture to manufacturing with rapid urban growth and substantive investments in urban infrastructure, all of which raise the pollution intensity. In developed countries, however, growth is associated with a shift from manufacturing to services, leading to a decrease of the pollution intensity.

The role of personal consumption is seen as crucial for controlling the deterioration of our environment. Initiatives are being taken worldwide to promote sustainable consumption. In the near future, with the level of consumption increasing with each passing day, especially among emerging economies like India, consumers will have to make their choices in a more responsible manner. They will have to base their acquisition, usage, and disposal of products in such a way that will minimize or eliminate harmful effects, and will maximize the long term beneficial impact on society. Citizens of the world thus have to go in for "Ethical Consumption" in order to contribute to Environmental Protection.

What the Law Has To Say About Waste Disposal

Some incidents like the finding of dead fish in Pavana River and the clogging of storm drains and gutters on some very busy roads of Pune have made it imperative to see what the Indian Law has to say about the use of plastic bags and the disposal of garbage. The Maharashtra Non-Bio-degradable Garbage (Control) Act of 2006 clearly states that no garbage should be thrown into open drains, roads, wetlands, water bodies, waste lands, or places open to public view. It empowers the State Government to restrict or prohibit the use of certain non-bio-degradable material or any material harmful to environment. It gives Government the authority to impose specifications on the manufacture of such commodities in terms of size, thickness, labelling and composition of packaging with reference to its use and disposal. The same law also stipulates that every generator of waste will provide for a minimum of two receptacles for collection of non-biodegradable and bio-degradable waste generated in their premises. This law also prohibits the throwing of construction waste in drains and sewers.

The Maharashtra Plastic Carry Bags (Manufacture & Usage) Rules 2006 restrict the thickness of the plastic bag, and makes it mandatory for the manufacturer to seek registration with MPCB (Maharashtra Pollution Control Boards). It also stipulates that the recycling of plastics be done in accordance with the Bureau of Indian Standards Specifications IS 14534:1998. This law was made in response to the 26th July 2005 Mumbai floods that claimed quite a few lives and were stated to have been the result of clogged drains due to plastic bags. India does not have regulations directly related to e-waste unlike the European Parliament that passed the Waste Electrical and Electronic Equipment Regulations and which came into effect from 13th August 2005 due to the growing concern about the impact of e-waste.

However, in the Rules on Hazardous Waste Management and Handling, steps have been taken to prevent the import and export of E-waste at primary as well as secondary levels. The Hazardous Waste (Management and Handling) Amended Rules, 2003 defines hazardous waste as that waste "which by reason of any of its physical, chemical, reactive, toxic, flammable, explosive, or corrosive characteristics causes danger or is likely to cause danger to health or environment, whether alone or when on contact with other wastes or substances." These same rules list waste

generated from the electronic industry as hazardous waste. They also spell out the waste of various electronic and electrical assemblies or scrap containing compounds like accumulators, batteries, mercury switches, glass from cathode ray tubes and other activated glass and PCB capacitors, or contaminated with some specified constituents. The Municipal Solid Waste (Management and Handling) Rules 2000 provides for scientific management of municipal solid waste, and ensures the proper collection, segregation, transportation, processing, and disposal of solid wastes. It also provides for the up gradation of facilities to stop contamination of soil and ground water. The Bio-Medical (Management and Handling) Rules modified in 2003 provides for the segregation, packaging, transportation, storage, treatment, and disposal, of wastes generated by hospitals, clinics, and laboratories.

The compliance, monitoring and enforcement of all these laws is done by State Pollution Control Boards (SPCBs). These bodies with the approval of Central Pollution Control Board (PCB) can impose fines for violation of any of these rules. Maharashtra State has imposed fines for unauthorized storage of hazardous waste. The Supreme Court of India and the High Courts of some States have aided the enforcement of environment laws through citizen led public litigation (PIL). For this they relaxed procedural requirements in order to enable citizens to file suits by a simple letter without the aid of an advocate's services, and to appear before "green benches". Such PIL have been instrumental in some landmark legislations taking place especially those concerning hazardous waste disposal. In Pune, the compliance to all the waste management rules is not satisfactory, and needs to be improved. Incentives, recognitions, and penalties can be used for achieving compliance of these rules. Citizens can also participate in this enforcement of environment rules by making use of the Maharashtra Right to Information (MRIT) Act of 2002 besides filing a PIL.

The Government has the power to enforce environment friendly practices. The State Pollution Control Boards (SPCB) are empowered to cut water and electricity connections if any company is found to be noncompliant. India on account of its fast developing economy is also faced with enormous environmental degradation. As an emerging economy, India's growth in the next twenty years is estimated to be at 163%, concomitant with which is a 475% increase in pollution (Kathuria and Gundimeda 2002). The reasons for these problems are rapid industrialization,

excessive attention focussed on economic growth, and the failure of environmental regulation to stop the fast paced environmental deterioration. Companies will now have to come up with innovative measures to improve environmental performance.

Measures Taken by Countries to Conserve Energy and Combat Global Warming

Individual behaviour is seen as one of the main causes of environmental degradation (Uzzell & Rathzel, 2008). Consequently the role of personal consumption is seen as crucial for controlling the deterioration of our environment. Initiatives are being taken worldwide to promote sustainable consumption

Norway: Sustainable consumption has been defined by the Norwegian Ministry of Environment, 1994 as "the use of services and related products which respond to basic needs and bring a better quality of life while minimizing the use of natural resources and toxic materials as well as emissions of wastes and pollutants over the life cycle of the service or product so as not to jeopardize the needs of future generations".

United States of America: The documentary film, *An Inconvenient Truth*, shares the story of former US Vice President, Al Gore, and his efforts to educate the public about the severity of the climate crisis is one of the more recent, and well known of the efforts over the last four decades to alert the world about the impact of social and economic activity on the globe we inhabit. Starting in 2007, most of the United States and Canada observe DST from the second Sunday in March to the first Sunday in November, almost two-thirds of the year. The 2007 U.S. change was part of the Energy Policy Act of 2005.

Greenland: Greenland has been practising energy saving measures from the past 3 three years. The toilet in the Arctic Hotel in Ilulissat, shares Friedman, had two different flushing powers depending on – what exactly you're flushing! A two-gear toilet! If only other countries could be as energy efficient as Greenland!

Britain: Tim Yeo's Energy Saving (Daylight) Bill of 2006, in Britain proposed to move the clocks forward by one hour throughout the year. This meant that in the summer the time would be British Summer Time + 1 hour and in the winter it would be Greenwich Mean Time + 1 hour. Tim Yeo said, " According to the Royal Society for the Prevention of Accidents" , moving the

clocks forward in this way would save over one hundred lives every year by cutting the number of road accidents. The justification being that, since days are longer in the summer, by putting the clocks ahead one hour, an hour of daylight occurs in the summer evenings. This can be used for work or leisure, rather than possibly being wasted in the mornings while people may be still asleep. Extra evening daylight protects vulnerable road users like children, the elderly, cyclists and motorcyclists, making them more visible to motorists. There are more accidents in the afternoon rush hour during the week than in the morning. Motorists are more tired after a day at work and concentration levels are lower. Social trips are generally made in the afternoon/evening, often on the way home from school/work. This is generally opposed by those industries whose workers rise early and utilise morning light, for example some farmers, postal workers, those involved in the collection and delivery of milk and the building industry. Tourism, leisure and sporting organisations generally support a move to the shifting of clocks, welcoming the increased opportunities for activity presented by more daylight on weekday evenings.

DST's potential to save energy comes primarily from its effects on residential lighting, which consumes about 3.5% of electricity in the U.S. and Canada. Delaying the nominal time of sunset and sunrise reduces the use of artificial light in the evening and increases it in the morning.

France: The father of daylight saving was Benjamin Franklin. He calculated as far back as in 1784 that Parisians burned 127 million candles unnecessarily every year, because they did not change their clocks. He proposed a form of daylight saving for that city and suggested that there should be a tax, "on every window with shutters to keep out the light of the early morning sun".

Germany: Germany can be considered a leader in the promotion of product related green management measures. Already in 1978 the Federal Ministry for the Environment introduced the environmental label “Blauer Engel” to foster the marketing of environmentally friendly products. Waste disposal measures and take-back systems in Germany are regulated by the German Recycling and Waste Management Act, the Battery Ordinance, the Ordinance on End-of-Life Vehicles, and the Electrical and Electronic Appliance Act. Producers also finance the recycling

and disposal of packaging waste which is organized by the "Grüne Punkt" (Der Grüne Punkt, 2005).

India (Pune): Over the years, the Indian Government has been promoting the use of renewable energy by granting excise and customs duty and sales tax exemptions on a host of non conventional energy resources like wind turbines, etc. It is now necessary to discourage the use of polluting fuels and other environmentally destructive products and activities. Currently there is no clearly laid down environmental taxes legislation.

WHO (World Health Organization has ranked the Indian capital as the fourth most polluted city in the world in terms of suspended particulate matter(SPM). Ahmedabad, Mumbai and Chennai closely follow. Deaths due to pollution are also on the rise. In the case of Pune, only recently on 8th June 2011, the newspapers reported that hundreds of fish were found floating in the Pavana river near Ravet causing concern among the local residents. The Maharashtra Pollution Control Board (MPCB) took samples of the water and fish from four spots in the river and sent them for testing. In a statement issued the next day by the Assistant Commissioner, PCMC, the laboratory tests showed that the fish died due to lack of oxygen, The amount of dissolved oxygen in the river water had considerably depleted. The President of Pavana Sudhar Manch, said, "Many industries are located in the areas along the Pavana river, upstream of the Pimpri Chinchwad township. The MPCB should take action against the industries that do not treat effluents before discharging them into the river." He also pointed out that many people in Ravet and Punawale villages wash their clothes and vehicles near Ravet bund and people also defecate in the open near the bund; this leads to pollution of the river. This is a cause for concern especially since the Ravet bund is the source of drinking water for the twin township.

Likewise, the newspaper 'Mid-Day' on 23rd May 2011 conducted a pre-monsoon survey of Laxmi Road and the adjoining Kumthekar Road. It was found that the gutters were filled with muck, and that hoteliers and hawkers were dumping kitchen waste in them. The PMC had not taken any action against these shop keepers who were using storm water drains as garbage bins. These gutters and the connecting storm water drains flow into the river. Mid-Day also found that at the Swargate Junction where Shankarshet Road begins, all the 15 storm water chambers were full of garbage, waste paper, tobacco and Guthka packets, and plastic cups and bottles. A

resident of the area revealed that sweepers take the easy way out by sweeping all the garbage into the drains rather than disposing it off properly.

Going 'Green' in the Corporate World

The world wide campaign to go green should not be restricted to a few citizens. A few companies have realized that it is a win-win proposition to implement green business practices and to conduct corporate social activities.

Bank of America, according to their corporate website has reduced by 32% the use of paper from 2000 to 2005 even though its customer base has increased by 24%.

Dupont, which had faced the ire of green advocates, has now drastically controlled its emissions (by 63%) of airborne carcinogens and greenhouse gases, and thereby remained ahead of the timetable set forth in the controversial Kyoto Protocol.

Coca-Cola has kept three environmental goals namely, water management, eco friendly, sustainable packaging, and climate and energy protection through community recycling programmes and overhauling their packaging designs.

Toyota has contributed to Green Business by coming up with an eco friendly model namely, Prius, the world's first mass-market hybrid vehicle. The Environmental Protection Agency has crowned the Prius and its 48MPG as the most fuel-efficient car available for purchase in the U.S. The UK Department of Transport has also ranked Prius as the third least carbon emitting auto in the country. Keen to cement its position as one of the world's greenest multinationals, Toyota has announced it is to fund a major research project designed to identify the most energy efficient best practices that firms should be embracing.

Air India, India's national carrier Air India has targeted to become the first green airline within a year's time. The company's corporate environment policy seeks to reduce carbon emission, noise and other forms of pollution as well as reduce consumption of fuel and other natural resources. It plans to introduce a documentation management system, and aims to go electronic with an e-filing system to cut down on our use of paper. The company claims to have achieved carbon dioxide emission savings to the tune of about 38 crore kilograms through various green measures. The air-carrier has already implemented the Fuel Gap Analysis along with International Air Transport Association (IATA) two years ago. Besides, it has also introduced various measures to reduce fuel consumption and carbon emission.

Tata Motors: Through conservation, recycling, and reuse of industrial oils, Tata Motors is reducing its oil consumption. By reclaiming the oil with EMS system, it managed to reduce its oil consumption year on year. The cumulative oil saved, on this account from 2000 to 2010, would amount to a total greenhouse gas reduction of approximately 913 tonnes of CO_2 equivalent. True to its core value of 'Passion for Engineering', the company is a pioneer in the use of new technology in designing new processes. Its Engineering Research Centre has developed High Capacity Low Floor Green Fuel vehicles (CNG), BS III/BS IV vehicles in line with CMVR regulations requirements and design of Low Floor/Semi Low Floor Diesel buses, fuel efficient Super-milo range of buses and LPT 3118 truck with lift axles etc. Tata Motors was the first to introduce radial tyres for enhancing fuel efficiency. In the newer plants it uses insulated cladding and roofing to reduce heat gains resulting in reduced requirements for cooling. New technology in the manufacturing process such as the New IBF Factory, Tata Marcopolo Motors Limited and Eastern Complex facilities has improved productivity as well as quality which indirectly means less consumption of resources or less
carbon footprint.

Direct green management measures such as certified environmental management systems (EMS) or tools like life cycle assessment activities are considered to improve corporate environmental performance by compelling companies to introduce environmental goals and management structures as well as programs to achieve them (Coglianese and Nash, 2001); These same measures indirectly induce organizational learning and provide critical environmental information (Melnyk *etal.*2003). Green management measures such as certified EMS, environmental labelling of products, life-cycle assessment activities, or waste disposal measures require investments of a lot of money and personnel. Establishments with environmental capabilities will readily undertake them. Companies which already have realized environmental product or process innovations in the past are more likely to possess such capabilities as they have earlier overcome management barriers such as lack of finance or know-how. The companies cited above as also Indian giants like Bajaj, Wipro, etc have separate departments that handle these aspects of the company.

Research Methodology

After an exhaustive review of pertinent literature and in view of the increase of the above mentioned incidences of pollution, the authors planned to conduct a survey on the citizens of Pune to find out whether the educated in the city at least try to make their consumption choices of various resources and their disposal in a manner that will either eliminate or minimize global warming and eroding of the environment. The major objective of the research was to ascertain whether Indians are aware of the dangers of ignoring environmental sustainability issues, and if they are aware, how they are helping to sustain a "green environment". The survey was administered on stratified random sampling basis to 500 citizens of Pune in service and in management education as also software professionals. The authors intend to back up this survey with secondary sources to prove that environmental sustenance awareness among citizens along with consumption and disposal behaviours that are environment friendly will go a long way in environment protection. The paper also sought to study the government regulations regarding pollution by companies. The research is more of an exploratory nature, and tries to get a picture of environment awareness among the people of Pune, and what are the ways in which these people come to know of the need for as also the ways of green environment.

Findings about Consumption Patterns among Educated Puneites

The survey conducted among the educated citizens of Pune revealed that majority of them were aware of sustainability and global warming. The source of this information was mostly social networking sites rather than through family. The second source of knowledge was peers. This is also depicted in Figure 1 below.

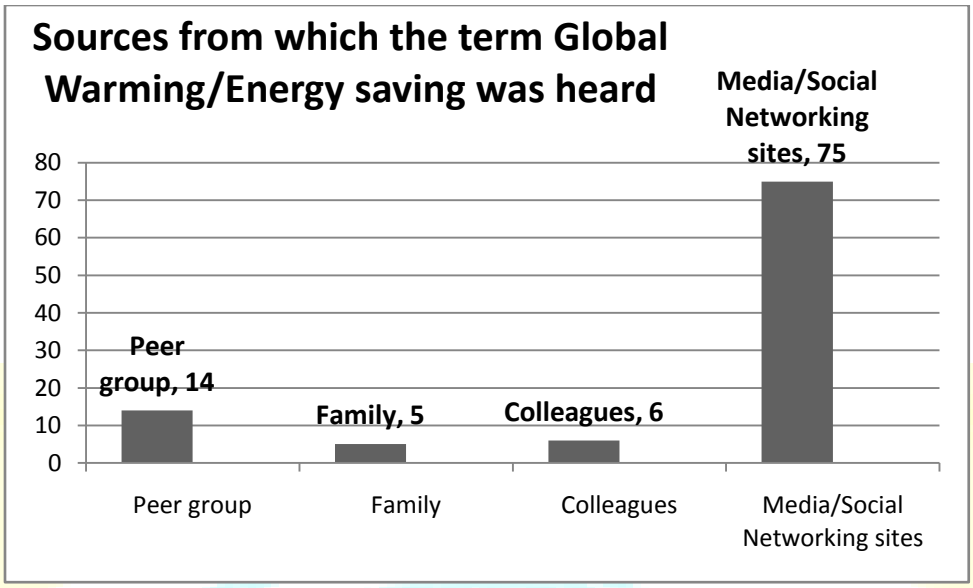


Fig 1: **Sources from which the term Global Warming/Energy saving was heard**

It also showed that most people keep an eye on their electricity bills. But a majority seemed not to closely monitor the consumption of water unless there was a scarcity. Most Puneites go in for CFL bulbs that result in a saving of both electricity and money. Very few of them use solar panels. In fact, if the common man refurbished his home with the latest energy saving devices, it can lead to a reduction of 45 % to 70% energy consumption The majority rely on electricity consumption followed by use of gas .In terms of adoption of strategies to save environment, Puneites seem to believe strongly in saving energy in order to protect environment followed by recycling. They also favour the use of mobile phones as against landline connection. In the unstructured interview, they all said that mobile phones were far more convenient than landline connections and that it was possible to contact any one even if one was away from either home or the work station.

None of the five hundred persons who answered the questionnaire stated that they ate nonvegetarian food on all seven days of the week. Through responses in the unstructured interviews they either cited health or religious reasons for not eating non-vegetarian food on all days. Pune, being the cultural capital of Maharashtra, is witness to the observance of many

festivals like Gauri, Ganpati, Mahashivratri, Krishna Janma, Ashadi and Kartiki Ekadashi, and many others. The months of Shravan and Marghasheeh are also observed as periods of abstinence from non-vegetarian food. Consumption of non-vegetarian food has been established to increase eco-footprint of human beings. Human beings are also the only species on Earth to kill other living creatures for reasons other than satiation of hunger. Figure 2 below expresses these findings diagrammatically.

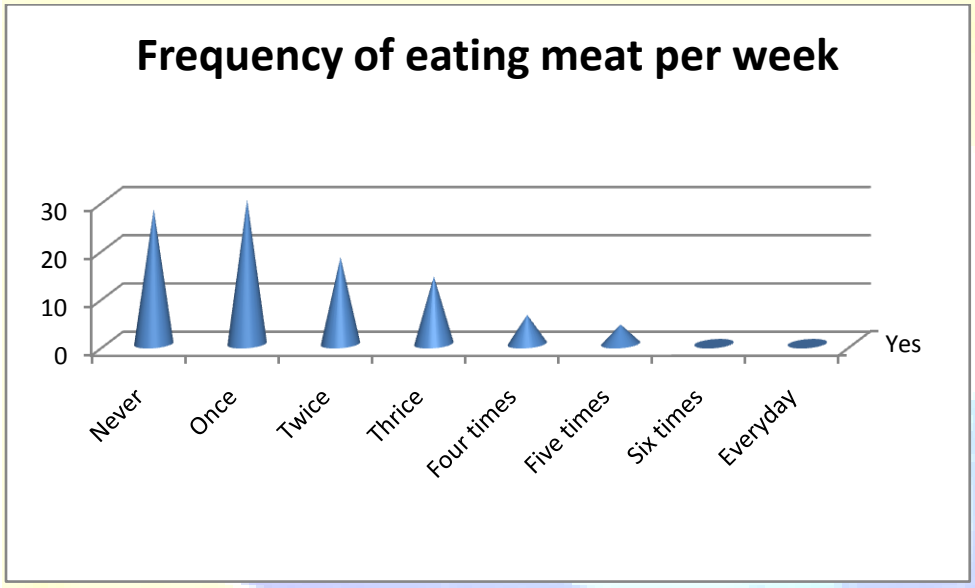
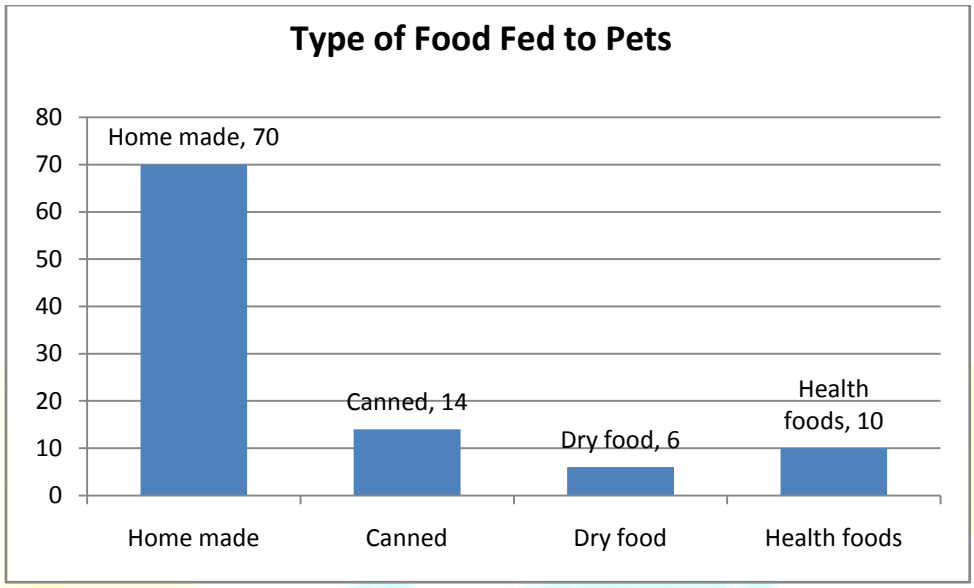


Fig 2: Frequency of eating meat per week

The survey also showed that most pet owners in Pune (70%) fed homemade food to their pets while only 14% fed canned food to them. A select few (10%) added health food to the diet of their pets. This indicates that a majority of Puneites go in for controlled and green consumption for their pets.



When questioned on the use of plastic bags, majority of the respondents were found to favour the use of paper bags though forty percent admitted to receiving around 4 plastic bags per week while 30 percent said that they receive around two plastic bags per week. When asked through an unstructured interview, very few said that they refused the plastic bags given in shops or carried their own cloth or paper bags., Majority of the Puneites were found to donate their clothes though seventy percent of the persons who answered the questionnaire never bought second hand items.

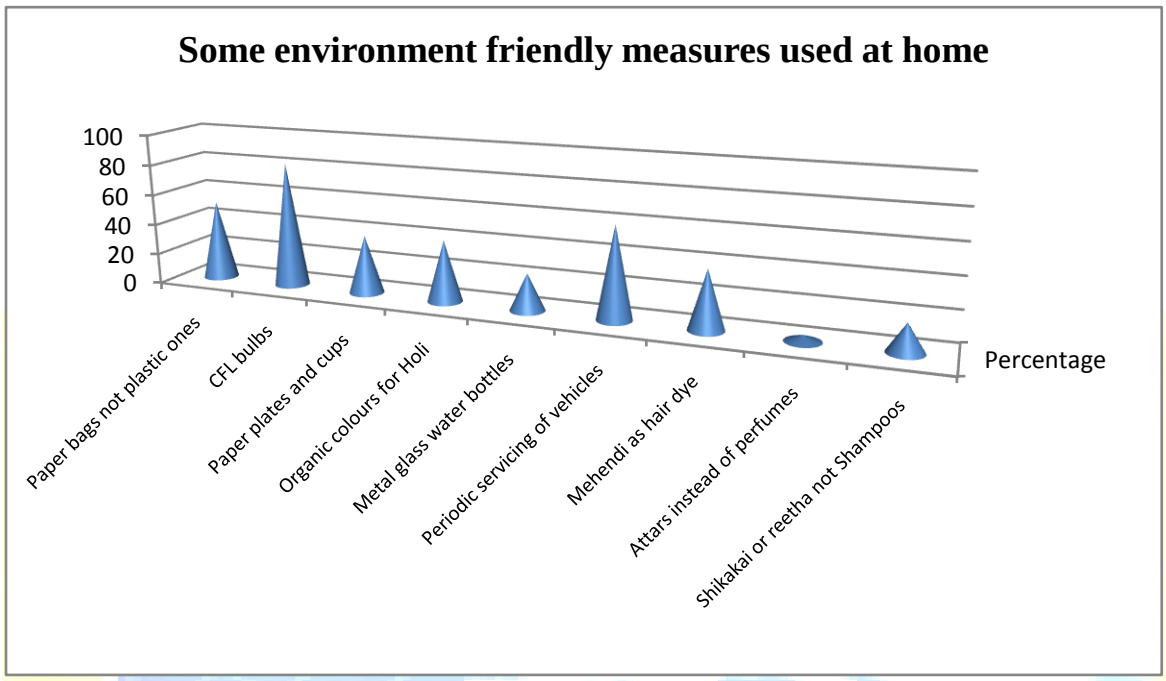


Fig 3: Diagrammatical Representation of environmental friendly measures used at home

The figure above shows some of the environmental friendly measures used by the respondents in their homes.

It is important to mention here that all the respondents were educated persons who also knew how to read and write English as the entire questionnaire was in English. They ranged from the lower middle class to the upper class. This is significant as India's middle class constitutes a sizable proportion of its population. So their behaviours significantly impact the environment. Again, these same persons significantly influence debates about environmental issues. There is growing environmental consciousness amongst them which in turn presents possibilities and challenges in India's environmental issues and politics. The survey findings reflect the environmental values of urban middle to upper class citizens of Pune. It is therefore pertinent to remember that the economically lower class or even the uneducated citizens or citizens not conversant with the English language are not covered in this survey.

Conclusion

The survey proved that the educated middle and upper class people of Pune are aware of the need to conserve natural resources. Majority have started paying heed to the wasteful consumption of water and electricity. Awareness of the phenomenon of global warming and the various means to conserve and protect natural resources was evident among the respondents. Controlled consumption of animal products, and plastic carry bags as also recycling of paper and clothes proves that Puneites are becoming eco friendly. The city is witnessing a sharp increase in the number of environment-conscious builders as well as individuals.

Yet, sustainability is still a long way off. Individuals still need to practice more environmental friendly practices at home and at work. Car pools still do not seem to have gained popularity in Pune albeit the rising fuel prices. Solar energy needs to be harnessed to a greater extent in the form of solar panels for bath water and lighting during summers. In fact, India, being a tropical country, has no dearth of sunlight throughout the year. A proper understanding of this technology is required to utiize solar energy for various purposes.

Since a majority of the respondents were aware of green environment issues through social media and networking sites, these can be utilized for translating awareness of environment issues into controlled environment friendly consumption and disposal behaviour patterns among the consumers.

Recommendations:

Companies should have a comprehensive and well thought out plan for achieving sustainability and green objectives. They can incorporate sustainability goals into their vision statements. Top management of companies should communicate and demonstrate their support for green initiatives. They should undertake a life cycle assessment of their existing products, and see how they can introduce green products or services after taking into account evolving customer needs. While this would initially result in cost issues for green products and technologies, ultimately a clear roadmap of prioritised activities will help them achieve their objectives.

Any move to sustainability and sustainable lifestyles will be a gradual process, but must be seen in the context of an holistic move towards new lifestyles, incorporating purchase related and habitual elements that can cross conventional behavioural boundaries. The challenges for policy makers wishing to engage in this move relate to both a realigning of the language of consumption, away from 'green' and towards 'sustainable', If policy makers can use this approach, which can be utilised to target specific groups, then the move to sustainable lifestyles will be achieved with greater efficacy.

In the near future, with the level of consumption increasing with each passing day, especially among emerging economies like India, consumers will have to make their choices in a more responsible manner. They will have to base their acquisition, usage, and disposal of products in such a way that will minimize or eliminate harmful effects, and will maximize the long term beneficial impact on society. Citizens of the world thus have to go in for "Ethical Consumption" in order to contribute to Environmental Protection. A renewable energy calculator should be installed at work places for saving energy. A behaviour change and an awareness campaign are required for long term savings. Employees need to be educated on environment friendly behaviours.

Future Scope for Research:

The paper has not included within its scope whether Puneites will prefer to patronize business establishments especially eateries which adhere to Civic Regulations of waste disposal and which follow green business practices if they have to pay a lot more than those establishments that do not incorporate green business practices or follow Civic Rules of waste disposal. The research may also be extended to properties both residential /business *wherein* it may be studied whether buyers are willing to pay for a very large cost difference if the construction of those properties has involved expensive green technologies. Although the

influence of religious traditions on environmental attitudes was not specifically examined here, future empirical explorations in this direction will contribute to the largely theoretical current debate and provide greater understanding regarding environment friendliness and green practices. Most important, future research may also seek to find out how aware the economically lower and the uneducated class is of global warming and whether they opt in their own limited capacity for green measures.

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