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A WORD ON TRADITIONAL SCIENCE

Money is considered by many people as a great leveler of men. Georg Simmel in 'The Metropolis and the Mental Life', calls money the "most frightful leveler" for being the equivalent to all the manifold things in one and the same way. I, on the other hand, consider science as the greatest leveler. Like money, science in the hands of the right people can achieve a lot. It is the reason behind all developments in the world. Right from the invention of the wheel, science and a scientific approach have steered mankind by each breakthrough to revolutionize our way of life. Science has propelled several deprived nations to become industrial hubs with unparalleled technological excellence. So I wouldn't be completely wrong in saying that science is the greatest leveler of men or rather mankind.

When we look at the history and evolution of science, we can see that its origin lies in traditional knowledge and science. Traditional knowledge is interpreted as a cumulative body of knowledge, practices and representations which evolved by adaptive processes and has been handed down through generations by cultural transmission. Many indigenous populations have relied for centuries or even millennia on their direct environment for subsistence and autonomy. Over time, they have developed a way in which to manage and use their resources that ensures their conservation into the future. Such traditional societies are interested more in preserving their own social, cultural and environmental stability and integrity than in maximizing production.

The Director General of United Nations Educational, Scientific and Cultural Organization (Mayor, 1994) defines traditional knowledge thus. The indigenous people of the world possess an immense knowledge of their environments, based on centuries of living close to nature. Living in and from the richness and variety of complex ecosystems, they have an understanding of the properties of plants and animals, the functioning of ecosystems and the techniques for using and managing them that is particular and often detailed. In rural communities in developing countries, locally occurring species are relied on for - foods, medicines, fuel, building materials and other products. Equally, people's knowledge and perceptions of the environment, and their relationships with it, are often important elements of cultural identity.

The definition of traditional knowledge used by the World Intellectual Property Office (WIPO) includes indigenous knowledge relating to categories such as agricultural knowledge, medicinal knowledge, biodiversity related knowledge, and expressions of folklore in the form of music, dance, song, handicraft, designs, stories and artwork. The process leading to the creation of traditional knowledge and science may not be formally documented in the way that much scientific and technological information is recorded. The apparent non-systematic manner of creation of traditional knowledge does not diminish its cultural value, or its value from the point of view of technical benefit.

The development of new technology and the new use of traditional knowledge based products today is a major threat to the survival of many communities which eke out an existence from traditional knowledge. The modern cultural industries as well as the manufacturing industries now commercially exploit the traditional knowledge-based products using new technology without the permission of the communities or sharing of profits with them. It is possible today to bring out new products or find out new use of existing products based on traditional science/knowledge utilizing the technological developments in the field of biotechnology. This is particularly applicable in the field of medicines, agriculture etc. The development of new products or new use of existing products enables the industries to get protection for these products through the formal intellectual property laws. But the end sufferer could be the communities who have nurtured and in their own style popularized the traditional science/knowledge.

I call upon the science communicators to engross on this area of science and provide their full-hearted support to those communities who have for centuries preserved it for the good of humanity. It is the task of science communicators not only to disseminate the need for sustainable preservation of scientific wisdom accrued through the ages among the communities, but also to empower them to fight for and protect the wisdom gifted by their ancestors. Ways and means have to be found out to empower them to utilize this age-old legacy for the community, humanity and our mother earth.



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SCIENCE COMMUNICATION FOR SUSTAINABLE DEVELOPMENT

Kiran Prasad

The rapid advance in science has delivered mankind from the age of science to the age of technology. It was not long ago that schools offered courses of study in the various sciences. Present day scientific knowledge has become so specialized that experts experience difficulties in following each other even in closely related areas. Science is no doubt a boon to humankind. But one is also aware of destructive potential of science and technology. We come across media headlines screaming at us that doom is upon us and that, because of nuclear proliferation, pollution, ecological imbalance and other horrifying facts of modernity, our world is coming to an end, or at least that it is on the brink of disaster. This necessitates the understanding of the implications of scientific progress by people all over the world.

Mass media have an important role to play in educating the people about the rapid advance in science, serving as vehicles of information from the experimental laboratories of scientists to the common man. There are many developmental complexities that confront developing countries like India. People must be made aware of what effective and innovative technologies are being developed to solve the challenges for sustainable development. Science communication for sustainable development must focus on key challenges such as food security, water conservation, health care, biodiversity and safe environment, and livelihoods before India can embark on the path of sustainable development.

Development Complexities and Challenges

In spite of the progress in science and technology, the problems that plagued India during the colonial period still persist even after sixty years of independence. Even more surprising is that independent India does not reflect the advance in science and technology in the life-styles of the vast majority of the people who still

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live in abject poverty with no access to even basic amenities. Development paradigms continue to rely heavily on top-down approaches with information, knowledge and expertise flowing from scientists, development planners, policy makers and bureaucrats who advocated from the lab to land approach symbolized by the green revolution in India. As Vandana Shiva puts it:

The so-called green revolution was neither green, nor revolutionary. It has dispossessed small peasants, pushed our rich agro biodiversity to extinction, mined our aquifers, desertified our soils and undermined our nutrition and health... It was supposed to create prosperity, but it left farmers steeped in debt. Both in financial and ecological terms, industrial agriculture and chemical farming is based on a negative economy – it uses more inputs than it produces. The consequence is impoverished eco-systems and impoverished and indebted farmers (Shiva, 2009: 25).

The commercialized approach to agriculture is being approached alternatively by farmers, tribal groups and women, previously viewed at the fringes of this top-down approach. They have emerged as innovative farmers who challenge many mainstream notions of commercial agriculture. Agricultural innovation has entered a new phase with organic farming and a reverse strategy from the land to the lab where agricultural scientists go to the field and often return to the lab to understand the regenerative power of nature and knowledge inherent in communities. Science communication must be oriented and focussed for the understanding of diverse social groups including school and college students to create widespread awareness and social action on development issues.

Food Security

Economic growth and development has adversely impacted the environment in some regions whereas environmental degradation has adversely affected economic growth and development in some regions. The former trend is clear in the developing countries of Asia while the later trend is visible in Africa. The United Nations Human Development Report (2010) has calculated that South Asia is home to half of the world's multi-dimensionally poor population of 844 million people. Eight States of India are home to 421 million multi-dimensionally poor people which is more than 410 million in 26 poorest African countries.

Despite over half a century of independence, India has over 250 million below the poverty line and lags behind in providing access to food and drinking water to all the people, the most basic goals of development. Amongst children in the age group below 5 years, 6000 children die every day due to malnourishment or lack of nutrition in their food. It is estimated that India has nearly 5.7 crore of malnourished children. Finally, if we also include people who are above the officially defined poverty line but are vulnerable, deprived of adequate clothing, shelter and livelihood, not being adequately insured against rising prices, unemployment, illiteracy, declining incomes, old age and disease, we get a huge majority who include subsistence farmers, casual labourers, widows, the elderly or child labourers.

The coexistence of surplus grain and extensive endemic hunger in India is a cold reminder that despite our top position in agricultural production, farmers continue to commit suicide and people continue to die of hunger (Prasad, 2004: 7). It is widely reported that agricultural production is on an all-time high and India has food stocks needed to ensure food security for all. In spite of such a huge surplus it is estimated that 20% of rural Indians do not get even a single meal a day and 14% of Indians get less than the minimum calorie intake required to survive. According to the World Health Organization (WHO), about 25% of the Indian children are severely stunted. It is also estimated that 200 million people go to bed hungry daily. In such a scenario food security should be the topmost goal of sustainable development and adequate communication must be promoted to address this situation. In Tirupati, Dr. V. Rajagopal, Retired Director, CPCRI Kasaragod, Kerala, has initiated the HEY (Hunger and You) movement to educate and spread awareness about the scale of poverty around us and curb food wastage in order to serve to those needy of it around us.

Food security was of great concern since time immemorial in the country when communities stored produce for use when needed. The traditions, customs and rituals developed by local communities have been developed into practices, over time, into innovative technologies of agricultural production, methods of environmental protection and knowledge of medicinal properties of trees (Banwari, 1992). It is estimated that about ten percent of the indigenous tribal population (*adivasis*) in India continues to practice shifting cultivation. A total area of about 50 lakh hectares over 15 states, are covered by

shifting cultivation in India. The land is not ploughed in this type of farming and neither is there any need for domesticating animals. The cultivators have total confidence in the generative power of the earth and see no need to resort to eco-destructive methods. At the end of summer, the hill-sides are prepared for cultivation by trimming the undergrowth of bushes and shrubs. These are then burnt and the ashes provide the manure. Before the monsoon set in, the shrubs and bushes are set on fire again. As soon as the rains come, the seeds are broadcast and the earth is activated to produce a rich harvest and this method of farming continues to be practiced in several States of India (Vadakumchery, 1993). Such agricultural traditions of indigenous communities are gaining credence through organic farming and organic products against mainstream commercial agriculture that had pushed ecological concerns to the background in the competition for rapid economic growth and mass production.

Drinking Water

The resource degradation in the past increases today's poverty, while today's poverty makes it difficult to care for the future. While it is evident that environmental problems vary depending on the degree of development and the structure of the economy, development and the environment, are global issues. Some resources may be shared globally, but there are varying levels of resource consumption patterns and economic policies in different countries. This has led to a situation where environmental problems existing in some countries may be linked to the practices and policies in others. For instance, in a global economy the benefits of resources, knowledge and environment policies in developing countries often accrue to developed countries and at the same time technologies needed by developing countries often lie with the developed countries.

The unprecedented growth in world consumption has led to large-scale exploitation and fast depletion of several non-renewable resources to meet the demands for rapid economic growth, mass production, and a rich lifestyle. Deforestation has a direct bearing on the daily lives of people; they find it harder to find domestic fuel, water and fodder in rural areas as well as other products used within the household for subsistence needs. The 2011 Census reveals that less than a third of the population have access to clean drinking water. The supply of water is often not adequate to meet the daily requirements. In most cities the water supply to homes does not

average more than four hours a day and there is acute water shortage in urban slums. Women are the water providers for families and the disappearance of water sources present consequential burdens and drudgery. Women in several parts of India spend four to six hours per day walking long distance for procuring water (see UNICEF, 1991; GOI, 1989; CSE, 1985), the increasing time spent on it has direct effect on their health and opportunities for other fruitful activity (Prasad 2004: 21-22).

There are many parts of the country which have abundant rainfall and still experience water scarcity. This shows a lack of awareness of water conservation techniques. Though rainwater-harvesting technology is being encouraged as a solution to water scarcity it has yet to pick momentum with our planners. The Tamil Nadu government is credited with the enforcement of rainwater harvesting technology in all its contemporary construction plans and also campaigning for its widespread awareness and acceptance among the people. The *johads* (tanks) of Rajasthan, a desert region, reflects the collective efforts of common people to conserve water and ensure timely supply of water. Rather than promoting collective water conservation methods, there has been great commercial stress to sink deep borewells which overexploit ground water. Open dry borewells have also become dangerous traps leading to innumerable deaths of children in the country. It is only recently that media campaigns have intensified to create awareness about its dangers. Unless science communication intensifies its campaigns on water conservation and water harvesting India stares at the spectre of droughts that increase in intensity with every passing year.

Biodiversity as a Way of Life

One of the outstanding indigenous biodiversity movements stressing the importance of eco-religion in environmental conservation is that of the Bishnois of Rajasthan, a north-western State in India which has vast tracts of deserts. This is an unusual community, for whom the protection of trees and animals is a religious obligation (Sharma, 1999). The faith that all living things (including animals) have a right to survive and share all resources underlines the basic philosophy of the Bishnoi ecoreligion.

They follow a set of 29 rules, which include eight tenets that have been prescribed to preserve biodiversity and encourage good

animal husbandry. These include a ban on killing of all animals and felling of green trees and providing protection to all life forms. The community has even been directed to make sure that firewood is free of small insects before it is used as fuel. Wearing blue clothes is prohibited because the dye for colouring them is obtained from particular shrubs which have to be cut for extracting the dye.

The Bishnois are presently spread over the western region of Rajasthan and parts of Haryana and Punjab. They are more prosperous than other communities living in the Thar deserts, probably because of their eco-friendly life. Their villages are easily distinguishable because of plenty of trees and other vegetation and herds of antelopes roaming freely near their homes. The fields are ploughed with simple ploughs using bullocks or camels. This causes minimal damage to the fragile desert eco-system. Only one crop of *bajra* (millet) is grown during the monsoon season. The bushes which grow in the fields protect the loose sand from wind-erosion and provide the much needed fodder for animals during a famine. The Bishnois keep only cows and buffaloes, as rearing of sheep and goats which devour desert vegetation, is taboo. Though they are Hindus, they do not burn their dead but bury them to save precious wood and trees. They store water round the year in underground tanks by collecting rain water as it is precious in this dry desert area.

Even today, the Bishnois aggressively protect the khejri trees and the antelopes, particularly the blackbuck and chinkara. They consider protecting a tree from the axe, even if it be at the cost of one's head, a good deed. They not only protect antelopes but also share their food and water with them. They keep strict vigil against poachers (a popular actor who was accused of hunting a deer in a Bishnoi village had to face the ire of the local population and was even prosecuted according to the law of the State). It is this environmental awareness and commitment to environmental conservation and protection that makes the Bishnois stand apart from other sects and communities in India (Sharma, 1999). The eco-religious cultural practices of the Bishnois have inspired many women's groups and local communities to take on powerful lobbies that support development based on unbridled exploitation of natural resources and neglect of the environment.

Sustainable Livelihoods

Science communication must be able to drive home the message that 'There Are Many Alternatives' as against the global refrain that 'There is no Alternative' (TINA) to promote sustainable development that takes care of the basic needs of the vast majority of the population. Linking the Narmada Bachao Andolan with hundreds of peasant, tribal, dalit, women and labour movements throughout India, Medha Patkar is Convener of the National Alliance of People's Movements - a non-electoral, secular political alliance opposed to globalization - liberalization based economic policy and for alternative development paradigm and plans. Medha Patkar says:

If the vast majority of our population is to be fed and clothed, then a balanced vision with our own priorities in place of the Western models is a must. There is no other way but to redefine 'modernity' and the goals of development, to widen it to a sustainable, just society based on harmonious, non-exploitative relationships between human beings, and between people and nature (*The Hindu*, 2004).

Many of the uprooted families of large development projects such as big dams are tribal people and forest dwellers who are among the most underprivileged and vulnerable people of India. The viability of big dams which submerges adjoining villages was intensely questioned in 2006 with the Tehri dam completely submerging the historic Tehri town in Uttarakhand. Besides, there are rational, cost-effective and environmentally more benign alternatives to the Sardar Sarovar Project (Bidwai, 1998). Check dams, rain water collection tanks, and mini water projects, with the active involvement of the local people in several states, have evinced greater support and participation rather than large dams involving massive funds with heavy costs of submergence, environmental impact, rehabilitation and resettlement of the affected people. Science communicators need to make a serious effort to popularize science and technology movements thereby vitalizing and sustaining development efforts.

Strengthening Science Communication

Many national newspapers such as *The Hindu* and *The New Indian Express* bring out science supplements. The large science and technology institutions like ISRO and its Development and Educational Communication Unit (DECU) regularly communicate their scientific efforts through various newspapers. The CSIR also brings

out publications regularly for specific target group of readers. The radio broadcasts news on science and technology, features, discussions, documentaries and other programs frequently. Doordarshan regularly telecasts UGC Science programmes for college students. India also has many Educational Media Resource Centres (EMRCs) and Audio-Visual Research Centres (AVRCs) which are involved in the production of science programmes on audio and video tapes for educational purposes.

There are also many schools of journalism and communication departments in Indian universities but very few offer courses in science communication with a definite bias towards development. Prof. J.V. Vilanilam rightly observes in his book on *Science Communication and Development*, science and technology communication faces serious challenges in India as there is a dearth of well-trained communicators who understand the special need for development related science communication and have a new awareness of poor-oriented development concept with basic needs fulfillment as its goal.

Most of the science articles in our national newspapers focus on the research and scientific activity of highly advanced countries. Many features and articles are also reproduced from foreign science journals, newspapers and feature syndicates with their permission. There is a need for features on the life of people and their contribution to sustainable development with a specific focus on the solution of development issues.

There is also a glaring absence of information on the R&D efforts of Indian Scientific Organizations towards the solution of basic problems confronting the nation – the scarcity due to adulteration and other problems, malnutrition, combating natural disasters, accidents, inadequate housing facilities and a host of such other issues. Science communicators need to explore and present the whole realm of sophisticated as well as easily accessible technologies to bring about radical human transformation. All avenues of scientific knowledge should be reported continuously to effect a change in the lives of the vast and poor majority.

Science and technology institutions receive huge grants but the work of these institutions are unknown to the majority of people. There is a need to oversee the work done as in many cases the result of such research brings benefits to a very small section. The need is

greater in developing countries where resources are scarce and need to be used judiciously. Science communicators could play a vital role in placing before the people the work of scientists and its social value.

There is very limited direct contact between science and technology institutions and the press. Media relations between the press and Science and Technology institutions could be strengthened by having trained Public Relations Officers in the institutions to communicate effectively. Scientists also feel a need for journalists who would help them in discharging their social obligation by sharing their findings with the people. The press in turn has a social responsibility in performing the fundamental duty of science communication.

Apart from covering progressive applications in science and technology, newspapers also need to promote a scientific temper among the people. In 1987, newspapers reported the burning of Roop Kanwar, a twenty-one year old Rajasthani widow, who was forced to commit *Sati*. Many orthodox and fanatic religious leaders glorified this act. There was also a report of a widow who was asked to revive a dead child as she was believed by people to be a witch. These incidents in India, a country with the best scientific mind in a large number, deserve the immediate attention of our science communicators as well as scientists.

Television programmes feature daily horoscopes and give undue coverage to astrology, faith-healing, magic cures, fortune telling, haunted houses, prophecies and the like, misleading the gullible masses. This fosters an unscientific attitude among them encouraging their exploitation by unscrupulous elements. These pose serious threats in the propagation of a scientific temper essential for social transformation and development. The partnership of scientists and journalists is potent in combating such false and misleading information perpetrated by 'quacks'.

Social Responsibility in Science Journalism

Present day newspapermen have been discharging their duties honestly and doing a creditable job to a large extent. But reporters of science news need to review their social responsibilities to their readers and the whole of humanity at large. The concept of social responsibility of the newspapers regarding science journalism covers a whole gamut of parameters, like the dos and the don'ts for

scientific writers, ethical considerations, the humanizing touch and the exercising of editorial caution in the publication of science news.

M.J Frazer and Kornhauser have listed three main reasons for communicating issues of social responsibility in science.

1. Many decisions are made today both in the developing and developed countries which involve certain science and technology considerations. These decisions affect people and involve making judgment in order to balance positive (socially desirable) and negative (socially undesirable) effects.
2. A sound knowledge and understanding of the social and ethical issues of science and technology can generate a powerful public opinion among the people.
3. There is a danger of society becoming split into a minority who are knowledgeable and understand the social issues of science and the majority who are unable to comprehend the complexities of science and thus distance themselves from such sources which they feel are purely exploitative in nature. This may crystallize into hostility towards science and further creates fear precipitating, irrational behaviour. This observation has been proven true by social psychologists.

Science writers can help dispel suspicion and unfounded fears by their clear and precise opinion articles. They can also help the general population in the decision-making process to arrive at sound judgments and use this knowledge to their advantage.

Dr. Edwin E. Solosson, first director of Science Service, a news agency dealing only in scientific news in USA compiled a list of *Don'ts for the Public Press*. They emphasize the newspapers responsibility:

1. Don't overestimate the readers' knowledge and don't underestimate the readers' intelligence. He may not know as much you about this particular thing – but it is possible he may be as bright as you are.
2. Don't try to tell all you know in 500 words. Leave some over for another time. The clear plate rule does not apply here.
3. Don't think that because a thing is old to you it is known to the

public. Many of your readers are still in the 19th century, some of them in the eighteenth. Anything new to your readers is 'news' to them if hung on a timely peg.

4. Don't forget that your reader is interrupting you every ten lines to ask, 'why?', 'what for?' or 'well, what of it?' and if you don't answer his tactit questions he will soon stop reading.
5. Don't say 'this discovery is interesting' unless you can prove that it is, and if you can prove it, you don't have to say it.
6. Don't define a hard word by a harder word. If you want to say 'calories', say it, but don't make it worse by explaining it as 'the quantity of heat necessary to effect a rise of temperature of 1 gm of water by 1 degree centigrade'. If you think you must define the calories say casually, that 100 calories of energy can be derived from three cubes of sugar or from a small pact of butter, or explain that a man needs to expend 100 calories an hour to keep his body running and 160 calories if he is working hard.
7. Don't think you must leave out all the technical terms. Use them whenever necessary without apology, and if possible without formal definition. People are not so easily scared by strange words as you may think. They rather like them.

Science writers can aid the process of dissemination of information by encouraging various groups to explain the work that is being done by them and its likely consequences. Science writers can assess technological innovations and articulate the nature of exercising such options. They can also classify the possible benefits and burdens inherent in the implementation of it in a manner such that people can understand the nature and impact of each option under consideration. This necessitates the presentation of the pros and cons of an option objectively. They should not exaggerate the significance of a scientific contribution by announcing them as 'major breakthrough' or major advance' or 'a key to life'.

Apart from reporting professional achievements of scientists, science reporters should focus on their contribution to the maintenance of peace. Scientists often constitute popular movements against destructive forces such as the danger of a nuclear holocaust. Reporting of these peace movements should be an essential feature of science journalism. Science reporting should have as one of its

goal the drawing of women into science movements. It is essential to change the stereo-typed ideological perception where science is seen as a man's world and slant articles for women's emancipation and development.

Conclusion

The mass media should concentrate on communicating science and technology news that promotes sustainable development and leads to the propagation of a scientific temper among the people. Scientific experts and journalism educators should come together and provide training to science writers. We need a band of dedicated science communicators who have as their goal the social, economic, political and cultural transformation of our people. Aristides Bastidas from Venezuela, winner of the UNESCO Kalinga Prize in 1980 said "... science must be like the light of the sun, it must shine for everyone". Science communicators should work to bring a universal understanding of science and aid the process of sustainable human development.

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PUBLIC SERVICE BROADCASTING BY RADIO : CHALLENGES AHEAD

Abhijit Bora

Abstract

At a time when commercial and entertainment broadcasting both in Radio and TV has been overwhelmingly keeping the masses captivated across the world, the significance of Public Service Broadcasting (PSB) is also increasing every passing day because of so many reasons. However, with a multiplicity of entertainment channels nowadays based on advertising revenues, it is a major challenge for the PSB to keep up with ever-increasing demands for messages with public welfare as the ultimate aim. This is because of the competition from commercial broadcasting vying for attention of the masses. This paper examines the challenges faced by this particular kind of broadcasting in terms of contents and more so in financing and possible solutions to these challenges. Because, for developing countries like India, PSB still holds immense relevance which must never be allowed to be undermined by the growing onslaught from entertainment broadcasting at all.

Introduction

“The Press is the best instrument for enlightening the mind of man, and improving him as a rational, moral and social being,” Thomas Jefferson, President of the USA. (Folkerts & Lacy, 2005).

In this era of information explosion, the role of media in the developmental process is even greater. The new era of media, with the massive distribution of news and information, requires leadership and guidance for the betterment of individuals based on values, compassion, concern for others and above all spirituality.

Now, Radio is the first technology-based entertainment mass medium to enthrall millions of people at a time. It is also the oldest of the electronic media with a history of public service broadcasting (PSB) stretching for more than 80 years now. But, at a time of considerable

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growth and development of media in general Radio's importance is being tended to be undervalued by the people concerned.

Progressively, however, the specialist character of radio audiences has come to be recognized. And the services which they need have been seen to require successful public service and community Radio systems as well as commercial Radio.

PSB - the Concept

Freedom of speech and expression are generally taken for granted and need not be expressly recognized by law. It is only by imposing restrictions and regulations that the law draws attention to the concept. The extent to which such restrictions and controls are to be found is perhaps a good yardstick to determine how free a society is. A liberal democratic society introduces as few curbs as possible on freedom of speech and expression. And those that have been imposed can and ought to be justified in the larger interests of the society.

The need to inform and educate the masses stands out as the imperative need over and above the entertainment aspect.

On the other hand broadcasting products are produced, distributed and financed by these three types of institution —

- ♦ Markets – As markets apply decentralized and horizontal decision-making (voluntary decisions between suppliers and customers), they create high incentives to provide exactly those goods demanded by the customers – people who are able as well as willing to pay for them. Also, because of the markets' objectives to maximize profits, they are efficient and they support freedom and self-responsibility for both the customers and suppliers.
- ♦ Governments – Governments do not apply decentralized and horizontal decision-making practices of markets, but central and vertical rules (orders). They can provide goods with market failures – goods which are monopolistic or not cost-effective.
- ♦ Non-government non-profit organizations – These organizations function between the markets' decentralized and horizontal rules and the government's central and vertical rules. Such organizations are engaged in broadcasting activities

neither for money (as in commercial firms) nor as a result of governmental directives, but mainly to satisfy intrinsic motivations like cultural, artistic, educational, religious or charitable objectives ((Banerjee & Seneviratne, 2005).

This is a 'third way' solution to provide goods – some people refer to it as the 'third sector' or the 'autonomous sector'. Also the term 'civil society' expresses the way of organizing societies and economies.

Considering all pros and cons of these three systems we can say that a Public Service Broadcaster (PSB) should possess these characteristics —

- ◆ It should be non governmental. This means that decisions about its tasks, contents, organization, financing should be made publicly, yet should not be made by the existing political (governmental) public institution, but by a separate non governmental public institution. In order to ensure that no ruling establishments misuse its wide reach for furthering narrow party goals it should be governed only by a politically-independent board which should be represented by people from viewers, listeners and others concerned who feel responsible for the various implications of the programmes broadcast.
- ◆ A PSB should be non-commercial. This is because as in general, or at least some specific types of programmes of these bodies have market failures, the decisions about tasks, contents, organization, findings can't be made by market criteria which are suitable and effective for commercial goods only. For the same reasons the benefits of public broadcasters' programmes can't be evaluated by the criteria that are suitable for the evaluation of commercial broadcasting programmes.

Commercial broadcasting on PSB should be restricted for two reasons-

- ◆ A PSB should articulate a wide, pluralistic spectrum of issues and views considerably exceeding the range that is relevant from a purely commercial point of view. For example, it should include cultural and religious issues which are of fundamental importance for citizens and for society also. But being non-marketable goods, these issues do not interest commercial broadcasters and hence are not provided by them.

- ◆ Commercial broadcasting on PSB involves the risk of commercial and political interests merging and the danger of commercial power being used to steer political power in a non-transparent and anti-democratic way.

A broadcaster must essentially satisfy three conditions for qualifying to be called a PSB as

First of all its purpose and mission must be different from those channels in the market.

Secondly its mission must be to inform, educate and to entertain which must apply across various genres of programmes, and,

Finally – it must be free at the point of use for everyone.

So we can say that purpose, mission and universal access form the three pillars on which the foundations of a PSB is built upon.

It should reflect both mainstream and minority tastes, helping create social cohesion and a sense of belonging for minorities. It must also reflect national culture and promote national identity through its programming mix.

Further, the 'Council of Europe 2000' defined the other culturally-related missions of PSB as-

- ◆ to develop pluralistic, innovative and varied programming which meets high ethical and quality standards and not to sacrifice the pursuit of quality to market forces,
- ◆ to develop and structure programme schedules and services of interests to a wider public while being attentive to the needs of minority groups at the same time,
- ◆ to ensure that the programmes offered contain a certain significant proportion of original productions, specially feature films, drama and other creative works, and to have regard to the need to use independent producers and cooperate with the cinema sector,
- ◆ to extend the choice available to viewers and listeners by also offering programme services which are not normally provided by commercial broadcasters

- ◆ PSB should reflect the different philosophical ideas and religious beliefs in society with the aim of strengthening mutual understanding and tolerance and promoting community relations in pluriethnic and multicultural societies,
- ◆ it should also contribute actively to a greater appreciation and dissemination of the diversity of national and European cultural heritage (Nissen, 2006)

The UNESCO definition of a PSB is somewhat like this — “PSB is broadcasting made for the public and financed and controlled by the public. It is neither commercial nor state-owned. It is free from political interference and pressure from commercial forces. Through PSB, citizens are informed, educated and also entertained. When guaranteed with pluralism, programming diversity, editorial independence, appropriate funding, accountability and transparency, PSB can serve as a cornerstone of democracy” (Banerjee & Seneviratne, 2005).

Financing of a PSB 1

As it is quite difficult to devise a system for financing a PSB system which is perfect we can see attempts by various countries and nations trying several models of PSB financing. The budgets of the financing pattern of the PSBs are one of the major indicators of the significance assigned to them by the respective national governments. A study by the financial consultancy firm McKinsey identified four types of funding systems-

- ◆ Those financed purely or almost purely by revenue collected from licence fees - the systems exist in - Japan, Norway, Sweden, Australia, the UK, Denmark etc. These countries can also be termed as purely PSB providers,
- ◆ The mixed financing pattern dominated by licence fees- Germany, Turkey, Belgium, Netherlands, France, Czech republic, Italy etc.
- ◆ For the third group licence fee is important though not dominant- France, Poland, Denmark, South Africa etc. For them, either government grants or commercial revenues are the main sources of revenue. These are considered as ‘commercial broadcasters’ with ‘public service elements’ or as government broadcasters with PS elements.

- ◆ Those who do not receive any licence fee but funded by government grants and / or advertisements only – Portugal, Spain, New Zealand. These can be termed as ‘purely commercial’ broadcasters with minor public service elements (Banerjee & Seneviratne, 2006).

It needs to be borne in mind that good quality programmes are a universal support for formal and non formal education. Quality programmes are always popular. At the same time PSBs have to be accountable to the public and the latter in turn has to accept that PSB is a credible entity even to support education (Nissen, 2006)

“Neither commercial nor state-controlled, public broadcasting’s only raison d’etre is public service. It is the public’s broadcasting organization, it speaks to everyone as a citizen. Public broadcasters encourage access to and participation in public life. They develop knowledge, broaden horizons, and enable people to better understand themselves by a better understanding of the world and others” World Radio & Television Council, 2002 (Nissen, 2006).

As PSBs all over the world are increasingly facing funds crisis there was a move by the MIB and PB for introducing a licence fee which had to be shelved in the face of public protest. Thus PSB is also facing the challenge of striking the right balance between public funding and garnering advertising revenue for its operation.

Like any other enterprise, PSBs require income in order to provide their services. Initial decisions on establishing PSBs and choices of how to provide funding were made in widely-differing settings at different points of time in the 20th century. Thus, there exists no single and similar funding pattern for them all.

PSBs established in the early years of the century were founded in an environment in which governments monopolized the audio broadcasting space. And those introduced late in the century were launched in an environment in which coexistence of public service and commercial broadcasting were common across Europe.

Those instituted late in the century developed in post-industrial and transnational economies in which labour and class divisions played important roles. And in which there was greater concurrence among parties on fundamental social policy principles than had existed when broadcasting first emerged. So is the difference in policies and funding patterns which is reflected in their functioning.

Another major factor in this difference in funding and operational patterns of these PSBs all over Europe has been the wide differences in history, culture and politics among the nations. because the fundings had to accommodate varying social, cultural and political realities. Nevertheless, certain funding principles are considered as ideal today.

They are considered ideal if they include provisions of sufficient resources to allow PSBs to effectively compete with commercial channels, predictable income that permits planning and reinvestment, regular funding increases at or above inflation, and independence from damaging government or commercial pressures.

In some cases, as the potential for broadcasting to be used for manipulating public opinion was properly recognized, financing through licence fees was seen in many nations as a means for diminishing the potential for government interference with content if funding came from tax receipts. As a result, licence fees are seen as having these distinct advantages—

First, it assigns the cost for broadcasting directly to the consumers,

Secondly, this tends to create a mutual and reciprocal sense of responsibility between the broadcasters and the audiences, which in turn frees the broadcasters from control and influence by governments (as might be the case where direct government support exists) or advertisers (as might be the case in commercial systems).

It needs to be mentioned here that advertising is the second most important source of funding for PSB, particularly in TV. Competition from advertising sales is high and public service firms compete directly with commercial firms to obtain funds and must provide access to desirable audiences in order to receive it.

The increasing reliance of many PSBs on advertising for income is strategically problematic because it is recognized as an uncertain form of revenue on which dependence can be damaging. It is separate from issues associated with the types of content advertisers are most willing to fund.

The BBC Model 2

The principles of British Broadcasting Corporation (BBC) – the model PSB - have been identified as such –

- ◆ universal geographical accessibility,
- ◆ universal appeal in general tastes and interests,
- ◆ paying particular attention to minorities,
- ◆ contributing to a sense of national identity and community,
- ◆ keeping a distance from vested interests,
- ◆ direct funding and universality of payment,
- ◆ competition in good programming rather than for numbers,
- ◆ guidelines that liberate rather than restrict programme makers,

John Reith, the first Director General of BBC identified the four cornerstones of a PSB thus -

- ◆ offering a public service rather than commercial programming,
- ◆ national coverage,
- ◆ a high quality of standards of programming,
- ◆ centralized operations of the corporation,

This model prevailed in the UK till about the 1960s and influenced quite a few other countries (Banerjee & Seneviratne, 2005).

Tongue (1996) argued that democratic societies required shared information or common knowledge in order to function effectively and democratically. She also warns that when differentiation and fragmentation arise within the society, common knowledge is lost. This is a fact which should strengthen the case for public information and PSBs because diversity and access are the key principles of PSB (Banerjee & Seneviratne, 2005).

She also argued, "PSB has been built on the principle that it is free at the point of use. There is no reason why this principle should be abandoned. The new world of TV with multiple channels and the fragmentation of audiences increases the case for PSB being available to all and by all means via all technologies. This was stated in her report to the EU's Committee on Culture, Youth, Education and the Media.

In the information age, PSBs can play a critical role in informing and educating citizens in an accurate and unbiased manner, keeping in mind the public interests and the citizens' right to know. For the past two decades or more, PSB has been facing stiff competition from its commercial counterpart.

In case of funding of the PSBs though the different nations of EU have different structures, yet broadly two distinct systems can be witnessed. Such as i) - public revenue in which they are funded by licence fees or directly by the state. This however, does not constitute the only source of revenue for PSBs and ii) - commercial revenue ones in which advertising, sale of programmes, books, discs and in recent years Pay TV income etc. are included (Banerjee & Seneviratne, 2005). In most of them, a mixed pattern is actually seen by which the PSBs do actually function.

The idea of a PSB media not only represents a societal extension of the individuals' right to communicate but is also legitimized by its close relationship with the representative democracy. This is very much reflected finely in the observations and conceptualizations of the political sociologist Jeremy Bentham when he said that representative democracy was the only form of government that would serve the public interests and not misuse power.

PSBs' obligations

The PSB broadcasters have several important obligations such as –

- to expose the audiences to creative artistic achievements in all areas;
- to raise the audience's cultural competence (spread of knowledge, understanding and appreciation of the arts);
- to promote artistic creation, such as by investing into audio-visual production.

A genuine PSB can't be expected to serve the public interest while at the same time competing with commercial broadcasters for advertising revenue and profitability. Financial independence has always been one of the best ways to ensure the success and stability of PSB institutions. So, many of the PSBs are supported by public funding either in the form of parliamentary allocations or licence fees.

As against this, many of the PSBs are being forced to rely upon commercial and advertising revenue sources which distract them from their primary goals and aims and objectives. This is definitely going to be a major problem for the PSBs in the new century worldwide.

Significantly enough, when the hundreds of electronic media or broadcasting channels are forcing the media to get involved in the mad scramble for earning money ignoring genuine concern for the peoples' needs, the need for a PSB is far greater today than anytime earlier.

Since a PSB is funded by public money it should, as an obligation, reflect the aspirations of the public in its truest sense. Similarly, the concept 'public' should always define the logical boundary of any PSB. Or it should become basically a broadcasting by the people, for the people and of the people.

The problem becomes acute when we find that despite being the most ideal advertising vehicle, advertisers in general do not utilize it as it has to air quite a lot of programmes on educative, informative and socially-relevant issues and themes which do not earn revenue.

We talk of 'PSB' also when we are referring to their activities in the new field of interactive 'point to point' communication, although it has nothing to do with broadcasting in its strict technical meaning. Incidentally, this ambiguity may very well develop into a controversial policy issue if PSBs are restricted to broadcasting its narrow sense, merely because legal use of the term has not kept up with the times.

Since the early beginnings, education has been one of the main obligations of PSBs. The inclusive power of nationwide broadcasting made it a tool for reaching out to all corners of the society, introducing culture and citizenship to a mass audience.

The Challenges

The emergence of commercial broadcasting and the introduction of advertising funding has challenged the social and cultural role of PSBs which must alter its ways to be consistent with its mission. Digital technology with more bandwidth capacity and new interactive services are opening up for us a whole range of new possibilities – both in education and in the public access of public services. Hence public service media is at the beginning of a new era with new obligations as well as means to serve them.

Again, in view of the newer challenges and developments, the strategic dilemmas facing PSBs in the digital age can be tackled with the aid of clear production and distribution strategies optimizing audience reach through cross platform delivery and cross media formats. The *raison d'être* of public service media still remains intact.

Traditionally, the broadcasting sector has demonstrated classic characteristics of a public good. This has positioned broadcasting among a select group of goods and services which are seen to require or benefit from public intervention in the form of regulation. In the Radio and TV sectors one of the main consequences

of intervention has been in the form of PSBs with statutory obligations to ensure that public policy objectives set for the sector are achieved. The developments in the last two decades have profound consequences for public policy in relation to the role of the public sector in Radio and TV.

The PSBs must be used regularly by the citizens as a prerequisite for living up to their cultural, social and political obligations. On the other hand they have to do so by serving the audiences with a range of contents and services not found in the general media market. These two sets of more or less conflicting requirements are analyzed and discussed leading to a tentative answer to the central question – is public broadcasting by its contents offer making a difference or has it by the forces of market competition been tempted or forced to join the mainstream.

Challenges from globalization :

However, in the age of globalization and cultural diversity, the challenges are -

- ◆ to become a multicultural and multilingual public broadcaster,
- ◆ to serve minorities and immigrant communities,
- ◆ create a sense of affinity and understanding with the people of other countries in the region, promote intercultural and inter-religion dialogue at home and internationally,
- ◆ promote acceptance of, and respect for, cultural diversity, while at the same time introducing the audiences to the cultures of other people around the world.

Every nation's commitment to public service media and its broadcasting structures flow from its unique, natural, historical, political and economic features. In New Zealand's context, it started out with government control in a parallel line with the private sector Radio and TV stations. Later on, when the government ushered in the welfare state concept private operators were acquired by the government for running a commercial as well as 'non commercial' Radio both at the same time.

The basic mission of a PSB is to serve the cultural, social and political needs of their audiences, to provide a common universal service that helps foster national identity.

BBC - often cited as a model PSB for any nation all over the world – at first started as a private initiative. It was granted a licence to operate in 1923 and it intended to secure financing by two means – an annual licence fee collected through the post offices to be routed to BBC, and a fee paid by purchasers of radio receivers.

A major threat developed to bring BBC under the government control in 1926 which ultimately prompted the government to promulgate a Charter in 1927 by which BBC was transformed into a 'corporation'. Its Board of Governors were entrusted with the duty and responsibility that the institution reflected the diverse societal groups and their interests. At the same time its independence from state or political influence was aimed at. As it was supposed to be a social service, collection of licence fee was sort of justified by the government (Banerjee & Seneviratne, 2005).

In the meantime at the dawn of the World War II, majority of the national governments in Europe mostly abolished licence fee and exercised severe censorship. Interestingly, UK was different as she was not that badly affected by the WW II like the other nations of the continent. And state or public-controlled monopolies became the rule. In the post war period several of the state broadcasters were remodeled on the BBC style.

This was attached with provisions – in varying degrees – like the duty to be independent, objective, unbiased and fair provision of information. And the possibilities of the state to influence decisions or coverage were restricted also by organizational and financial safeguards. The securing of diversity was considered the paramount objective of media policy. For the post-Communist countries the transition from national state broadcasting to public (service) broadcasting took place in the early 1990s. This process was implemented with a lot of difficulties on the way. And many of the state-controlled broadcasters with a supposedly public service mandate have been allowed commercial broadcasting almost on an equal footing with public service programmes.

The European PSB crisis

The European PSB model which is directly under government control is terminally in crisis with its credibility lost, and with a chronic

economic deficit. It seems pretty clear that when public funding of these media is used as the answer to their economic losses, their autonomy is an illusion.

As the PSB media is supposed to transcend governments in any country and reflect a whole range of political opinions, any newly-proposed or newly-structured corporation must be placed under the control of the Parliament directly, as it represents the interests of the State and consequently the interests of the citizens (Folkerts et al, 2005). If we wish to give the upcoming PSBs a future, we have to create an efficient public service with no other objective than to move public broadcasting towards plurality and autonomy. An autonomy moreover that includes economic self-sufficiency which is an essential element for its independence.

Broadcasting is an extremely efficient technology for transmitting large amounts of information to large numbers of people simultaneously. But it has its limits – viewers and listeners unless they store content locally, are constrained to the programming schedule, and choice is restricted.

Significantly enough, the new content distribution possibilities opened up by internet technologies come at a time when the fundamental model of PSB is being undermined. The means by which European PSBs deliver ‘merit goods’ such as culture and education to citizens have altered dramatically during the past decade.

In the past the PSBs did command a captive audience who had few alternative choices of broadcast entertainment, and schedulers were able to some extent to choose content deemed beneficial on behalf of the consumers.

More recently, increased channel choice and use empowerment has led to a decline in the effectiveness of PSBs in terms of their abilities to ‘make the good popular, and the popular good.’ In this context, some of the traditional economic arguments for public provision have been questioned. On the other hand these same new technologies which have fragmented and empowered their traditional captive mass audience have also enabled the PSBs to engage in new kinds of public service. In the context of expanding access to broadband, PSBs attempt to realize the broad civic and cultural goals of the PSB on new platforms, including the internet. For example – by ‘on demand’ services.

In the olden days, PSBs' success could be explained largely as the result of superior production values, enabled by subsidies that were both direct and indirect. And PSBs also had a privileged position in relation to audiences – they could use the lack of choice and consumer control as a means to ensure that cultural and educational content was delivered to a captive audience. This model is breaking down and PSBs are attempting to find a role in a new space - the extremely consumer-driven online and on demand space. The UNESCO Universal Declaration on Cultural Diversity also went on the same lines to call for “encouraging the production, safeguarding and dissemination of diversified contents in the media and global information networks and, to that end, promoting the role of public Radio and television services in the development of audiovisual productions of good quality, in particular by fostering the establishment of cooperative mechanisms to facilitate their distribution”.

On the other hand the UNESCO Convention on Protection and Promotion of Diversity of Cultural Expressions has also recognized the PSB as one of the important means of achieving the enhanced goal of diversity of the media (Banerjee & Seneviratne, 2005).

It is an accepted and well-established fact that a PSB, if it is healthy and well-financed can be a strong shaper of the broadcasting ecology. In this instance, it can set an example for commercial broadcasters to follow by demonstrating the public need for, and the success of, cultural programming. This can be justified from the UNESCO declaration that ‘the public and private sectors and the civil society at local, national, regional and international levels should work to provide the necessary resources. And also take necessary measures to alleviate language barriers and promote human interaction on the internet by encouraging the creation and processing of, and access to, educational, cultural and scientific contents in digital form. This is to ensure that all cultures can express themselves and have access to cyberspace in all languages, including indigenous ones.’

So it is obvious that PSB carries the major responsibility of serving cultural, ethnic and linguistic minorities, often in its regional services. “European PSBs are essential institutions in the service of culture and democracy. European integration, the emergence of a huge international media market and the new possibilities offered by

digital technologies have only made this more evident. PSBs act as guardians of national cultural unity. You will hardly find anyone else in the audio-visual world that would consistently preserve and foster the languages, literature, theatre, music and history of the many European nations," Amsterdam Protocol. In the present day circumstances, more than ever in the new digital environment their mission will involve a permanent reconciliation of creative requirements and market pressures with attaining socially-desirable goals.

When left solely to the market forces, the electronic media will inevitably begin to slide to the level of a mere commercial venture. The rules of business dictate that content should be produced with as little money and effort as possible with regard to maximizing profit. Even if it meant just buying 'cheap' entertainment in both senses of the word. This trend runs contrary to the essential interests of any society in preserving its cultural identity and media pluralism, which are and will remain invaluable.

In a modern state the citizens must have a guaranteed right to quality contents regardless of their social position, economic status and access to technical platforms. The public broadcasters' relative independence from commercial pressures enables them to set the criteria of quality and mark out an arena in which other channels must be willing to step in and confront the PSBs if they want to be successful and maintain their credit.

Conclusion

The PSB is indispensable in helping resolve the cultural dilemmas and meeting the cultural needs of today and tomorrow. This is not just a cliché. The world is changing – and the direction of change is not always very encouraging. So it is better to keep the PSB in the traditional cultural role and it may be prevented from the challenges which we are facing at present. All these call for a programme of action designed both to bolster the culture role of PSB and to adapt it to new circumstances.

The concept of PSB establishes that not only an area should be reserved on Radio and TV for a wide range of quality of programmes. But this space should be of significant size and scope to engage the public based on programming that not only entertains, but educates and informs.

In Europe, it was not 'by chance' that access to public service was assured to all the citizens and that the public took it upon itself, albeit at considerable cost, to guarantee signal delivery throughout the nation, including scarcely populated regions. PSB was vested with the responsibility of cultural promotion and dissemination function that fits into the paradigm elaborated by John Reith as mentioned earlier.

The increasingly competitive and complex scenario of the new means of communication unquestionably risks blurring the PSB media and making them less 'recognizable'. Nonetheless, the reasons underlying its existence in the European industry are still strong. And they continue to rest on its original vocation to 'inform and educate' the audience in its entirety, with the aim of not depriving anybody of the possibility of cultural growth and social emancipation.

The new mission of public service broadcasting, thanks to tools and skills available, shall thus be to contribute to the growth of a homogenous social system in which traditional welfare mechanisms are integrated by promoting opportunities for all individuals alike.

We conclude with an optimistic note and hope that PSB would revive itself again against all odds and thereby keep providing the masses with optimum benefit through welfare-oriented messages in the days to come.

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ENVIRONMENT REPORTING IN INDIA: IN SEARCH OF A DEFINING PHILOSOPHY

Silajith Guha

During the 1970s, philosophers joined the debate of stopping the erosion of common property resources known otherwise as common property resources and a new branch of ethics was born, environmental philosophy. Up till now, barring the scribbling of a few maverick writers, it was taken as read that we were concerned about caring for the Earth for self-interested purposes. What's bad for the earth was bad for us too. But by 1970, some philosophers were calling for other values in nature to be recognized. Yes, they said, a healthy planet is good for humans, but wildlife has its own value too – a value that exists independently of its value to humans. This ethical conundrum surfaces with almost every environmental decision we face. Do we protect nature for our sake or for its sake?

Agenda based reporting or advocacy reporting has a history not more than 50 years in India. Environmental reporting started hitting headlines in India with the beginning of Chipko movement and some years later, Save Narmada (Narmada Bachao) Movement. Even twenty years down the line Indian media have kept on reporting on environment as and when it come basis. It has been argued by Downs (1972) in the context of environmental reporting that there is a spasmodic occurrence of interest. Stories fade in and fade out as the interest in the crisis wanes. While it has been the case across the globe, reporting of environment in developed societies involves a larger spectrum, it has been able to integrate different shades of western environmental philosophy. While western environmental philosophical thoughts like Deep Ecology, Radical Ecology or Eco-Feminism have been able to make their way into the mediated discourse on environment, there has been a conspicuous absence of any knowledge about the tenets of Indian environmentalism in media discourse of our country.

Guha and Gadgil(1995) maintained that destruction of environment in the western world has had primarily an adverse impact

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on health and natural habitats valued primarily for science, leisure and aesthetics. But in the Third World, the destruction has threatened the chances of survival of millions of rural people. This explains why western environmental movements have hardly ever challenged socio economic basis and ran parallel to the consumer society, whereas the environmental conflict in the third world because of its close links to the questions of subsistence and survival has fiercely criticized the agenda of development promoted by both government and private parties bringing into sharp focus the fact that there is a clear distinction between the environmental agenda of the Rich and the Poor.

Indian Environmentalism

Broadly speaking Indian environmental movement can be divided into three categories. It has material, political and ideological contexts. The material context has been provided by the ongoing struggle over natural resources which have got in opposition the social groups who have largely profited from the indiscriminate use of land, water and other earth resources, and groups of people, like fishermen, landless poor, pastoral nomads, small peasants whose livelihood depend on the logical use of these resources. Indian experiences show that the problem lies at the root of developmental process initiated in India. While natural resources like water and forests were being used to produce energy and commodities (Gadgil and Guha,1995) for the well to do, the poorer section was left to bear the economic, social and environmental cost of economic development whether in the form of the declining availability of resources of physical displacement, (ibid).

The political contexts of Indian environmental movement have tried to act against these material problems. Their modus operandi has comprised three distinct yet interconnected set of initiatives.

Firstly, they tried to stop ecologically destructive practices by organizing socially and materially deprived groups. Secondly, they tried to develop public consciousness through media and especially by organizing walking groups and eco- development camps and thirdly they have tried to go for ecological rehabilitation by planting trees, rain water conservation and soil conservation to restore degraded village ecosystems and thereby enhancing availability of life indicators of the deprived villagers.

Ideologically speaking, Indian environmental movement is a multicoloured umbrella. There are three distinct different ideological

shades governing environmental movement in India since independence.

First among them are the Gandhians who have made it a point to view ecological degradation and social conflicts as, above all a moral problem (ibid). These crusading Gandhians believe that uniqueness of Indian value system lies in its ability to wear a badge of indifference in the face of economic and material opportunities. Therefore they talk about returning to a pre material and pre colonial village life style where humans would be again in the lap of nature, where money would be the least important denomination of human exchange and nature would be given back its predominant position. They talk about Gandhi's "Ramrajya" (ibid) and taking it literally instead of metaphorically, try to inspire people by rejecting material world view as it encourages wasteful life styles. In this regard, crusading Gandhians frequently cite Hindu scriptures as exemplifying a traditional reverence for nature and life forms.

The crusading Gandhians propagate a traditional and non-modern ways of life and are scathing in their attack on Indian intelligentsia who they found to be in the grip of rational thought and economic growth syndrome. They believe environmental degradation is a direct outcome of the fact that we are going away from nature and only a complete rejection of consumerist life style can save us from wasteful exploitation of natural resources.

On the other end of the ideological spectrum stand the ecological Marxists. They believe it is the unjust economic process and denial of equal access to resources that are largely at the root of exploitation of natural resources. The rich exploit the common property resources for their profit while the poor do so to survive. For them the problem is more at political and economic levels rather than a question of values and therefore the creation of an economically just society is a logical precondition of social and ecological harmony. When they put their ideological orientation to practice, they organise poor for collective action in an effort to restore the pattern of equal distribution of wealth, including ecological one, while including various Naxalite and radical Christian groupings. Ecological Marxists in the Indian context are perhaps most closely identified with People's Science Movements (PSMs)- the best known of which is the KSSP- whose initial concern with taking science to the people has been widened to include environmental protection, Ram Chandra Guha (1995) feels

that Ecological Marxists can be distinguished from Gandhians in two significant respects, their unremitting hostility to tradition (and corresponding faith in modernity and modern science) and in their relatively greater emphasis on confrontational movements.

Between these two extreme shreds of polarity, one can find the Appropriate Technology Group (ibid). This is the set of environmentalists who, though ideologically closer to crusading Gandhians, are in favour of using appropriate technology to sustain both development and environment. 'Less strident than the crusading Gandhians in its opposition to industrial society, this strand of environmental movement strives for a working synthesis of agriculture and industry, big and small units, and western and eastern technological traditions. In its political emphasis on constructive work, it is closer to Gandhians' tradition and has done pioneering work on generation & diffusion of resource conserving, labour intensive and socially liberating technologies while in its ambivalent attitude towards religion and criticism of traditional social hierarchies it is quite close to western socialism'.

These three set of ideologies of environmentalism have at one point or the other been used in certain movements and they are not used as stationary and inherently contradictory concepts by the ideologues. But the followers of these three distinctly different perspectives have used different patterns of putting their ideas into practice. While Appropriate Technologists have prepared to work on a micro scale—a group of contiguous villages at best- to demonstrate the viability of an alternative model of economic development, on the other hand Gandhians have a tendency to think globally and act globally. The Marxist groups have tended to keep the activities limited to an intermediate range, may be a district or sometimes a state.

Their ideological differences have influenced their areas of activism too. While Gandhians' dislike of industry and urban centres have forced them to opt for rural society, Appropriate Technologists, while accepting that some degree of industrialization was inevitable, in reality tried to find some technologies appropriate for the village folk. It is only the Ecological Marxists who have tried to focus on the industries and talked about industrial pollution and safety of the worker.

While these three ideologies have more or less dominated the scene, there are two more important functional ideologies operating

in tandem so far as eco-activism in India is concerned. Foremost among them is the strand called Wilderness Protection which steadfastly has been talking about the erosion of not only wild lands, but also wild animals, especially Big Cats. Earlier they were thoroughly pre-occupied with Big Cats, but now over the years they have started talking about 'species equality' in pursuit of more extensive systems of parks and sanctuaries and a total ban on human activity in protected areas.

The next and final strand in environment movement is Scientific Conservation, *a la*, land and water degradation.

Though neither wilderness protection nor scientific conservation have been popular movements, both have been influential in persuading the Government to go for Wildlife Protection Act 1972 (modified in 1991), the Forest Conservation Act of 1980 and Environment Protection Act 1986. Since they have less to do with radical approaches in relation with basic subsistence methods, they have been labeled as elitists but their contribution to protection of environment in India cannot be overlooked.

Media Projections: When we see a moving visual, we tend to forget that what we see as a macro expression is essentially a collection of many frames, or the micro picture. In the similar vein, journalism as a silent chronicler of history carries in the pages of a newspaper a host of micro pictures which, when connected, reveals traits of a bigger picture, bit by bit. This investigation into the trends of environmental reporting in major newspapers of India has tried to take a look into the emerging and existing pattern of coverage of one of human kind's biggest concern, i.e. environment, around the world and is also an attempt to deconstruct the larger picture by connecting threads, both within the realm of environmental reporting and in terms of pattern of journalism existing in the country at the moment outside of that immediate realm of environmental reporting.

There are some other important areas relating to ideological spectrum of environment movement which have never been brought into focus by these newspapers, either through hard news items or features in recent times. Though there have been many a shades in the movement for environment in terms of its ideological and political orientation, the newspapers content do not appear to have anything to do with the different shades of philosophy that guide environmental movements worldwide.

There has been an understanding that newspapers in India are quite alive to the problems of environment and they give quite considerable space to the issue in an effort to address the issue with due diligence. In fact, everywhere in the world, the movement to save environment has always been amply aided by media. Every time there is a movement on some environmental issues, the activists have quite openly asked for help from media and this has happened in India also in eighties and nineties during Narmada Bachao Andolan. But this was a different decade, a decade of living in a globalised world for the Indian media. And any expectation about the active and serious engagement of Indian media with the cause of environment has been shattered at the end of the study.

The news items merely report on what is happening around the world in general, and India in particular, but any attempt to monitor or to ascertain the underlying philosophical threads that guide all these news items through is a futile attempt. The currents and cross currents of environmental ideology have failed to make any significant entry into the news items of the major newspapers in India. There are some traces of wildlife conservation guided by Deep Ecology philosophy but these are only sporadic arguments about the rights of animals over the forests or the need to curve population around the place. So far as the tenets of Indian Environmentalism are concerned, the ideas propagated by Appropriate Technology school has got some oblique reference in the news items because English newspapers in India appeared to have a combined philosophy of supporting development and yet sensitive enough to advocate the use of proper technology to be in sync with the times. This abject failure to grant space to different dimensions of environmental philosophy has happened principally due to the inability of these newspapers to recognize different shades for want of 'domain knowledge', (Jay Mazoomdar, 2006). This aversion for developing a knowledge base is also one of the reasons of following the policy of printing news on environment on *as it come* basis.

Environmental issues are largely political in nature and are stories with a deep ideological overtone in the most developed nations. They are sometimes treated as *life style* issues no doubt, but at the same time, concerted efforts by media and environmental activists have forced every governmental agency to take into consideration the environmental cost factor before any developmental project is undertaken. Every time, a developmental issue is mooted,

environmental dimension becomes part of the discourse and when it comes to Indian newspapers, especially the agenda setting newspapers, environmental news is played up in the front page mostly when it is discussed in the context of international politics and refers to the comments of world leaders made in some forums.

This apathy of treating environment as a phenomenon with a serious interpretation for national polity, to translate the debate of using the country as a dumping ground by the west, to link the issue of fishing trawlers in the deep sea with the question of sea-resource depletion or food security are some factors that speak of a greater malady associated with Indian environmental journalism.

The first decade of 21st century has been a witness to many changes regarding the way of looking at environment in India. This is the decade when environmental laws in the country have been made stricter, aborigines have been given right over the jungle lands that they have lived on so far and enough noise has been made over the vanishing act of big cats as well as forest land. And surely, for an average media watcher, media has been found to have played a proactive role in terms of environment. But the fact is that there are certain issues about which media have always maintained a proactive stance and wild life conservation has been one of those issues in India. Long back, the Maharaja of the princely state of Junagadh in nineteenth century was famous for tiger hunting and later on he was forced to stop that and in fact became one of the proponents of tiger conservation after being criticised in pages of newspapers and now Junagadh forest is one of the most thickly populated tiger reserves in the country. Thus what are the differences now and then, in view of the fact that whole state of affairs of media has undergone a metaphorical change and environment or wild life has become one of the most talked about issues.

Trumbo (1994) focused on Inter media agenda setting relating to news coverage of any issue. In Indian context, it becomes relevant as has happened with tiger poaching and conservation issue where both print medium and electronic medium, respectively *The Indian Express* and *NDTV* taken the drum beating to a higher note and it harks back to the philosophy of wildlife conservation philosophy mentioned by Guha and Gadgil (1994). But the inherent problem in this kind of reporting for wildlife conservation happens to be the easiest for the image happy media (Boorstin, 1992) to align with.

Vandana Shiva (1994) attacks the success of globalization of western models of development and advanced capitalism in colonialism and patriarchy. For her, development was thus reduced to a continuation of the process of colonization; it became an extension of the project of wealth creation in modern western patriarchy's economic vision, which was based on the exploitation or exclusion of women (of the west and the non-west), on the exploitation and deregulation of nature, and on the exploitation and erosion of other cultures. Across the globe, there is now a serious discussion about the impact of environmental degradation on women. Women in poor households constitute a significant contributor to maintenance and drawing resources from common property resources. Women and children have been found to be the worst victims of environmental degradation in terms of health and maintenance of family life. The impact of even green house gases on the mortality of children or on the bearing ability of women as well as shortening of their life span because of being forced to travel miles to bring water are some of the facts best overlooked by Indian newspapers.

There has been another knowledge gap in the reporting of environment in the newspapers under discussion and it is their inability to accept the existence of *new politics*. The politics of environment calls for a participative action at the decision making level. It talks globally about a new brand of decision making process which involves a sympathetic consideration of the views of non-urban, impoverished non-elite majority who would be worst affected by so called development projects because they are the stake holders in displacement. The empathetic action on the part of the newspapers to understand the dilemmas of development, or mindless transformation of wild lands into national park displacing and depriving aborigines of their rightful share of the eco-produce is the call of the day in terms of interpretative journalism. Apart from that, the newspapers also fail in their responsibility to serve as chronicler of time because an elitist approach to history has now been rejected in favour of a more inclusive history taking within its ambit the voices of the *oppressed*. The approach of these news items is thoroughly elitist from the viewpoints of a social historian, an exclusive history which records the process of destruction without any reference to the *destroyed*.

Another serious flaw involved in the process and actually it has already been hinted at that the brand of environmental reporting has been thoroughly city based, except in a few cases. There was a

time when newspersons had reached out to the people fighting in remote villages of Gujarat or Madhya Pradesh to spread the messages of Narmada Bachao Andolan, but has now become a rarest of rare phenomenon. This near absolute rejection of rural landscape has also made it imperative for the newspapers to depend on agency reports when it comes to relate consumption pattern to climate change. The dynamics of hunger and displacement as consequent fallout of depletion of common property resources (CPR) and development projects is nearly absent in the newspapers under discussion.

On the whole, these newspapers fail to understand that environment is an interconnected web. A disruption in the eco-system of Himalayas may effect a serious lapse in the food chain of south of Godavari basin, or a reduction in underground water level in Punjab is perhaps an indication of the country going dry. There are reports on almost every aspects of environmental crisis, but the attempt to convert these stories into a representative picture of the crisis that looms large ahead of us is terribly under-represented in the agenda setting newspapers and that leaves enough room for speculation about the maladies affecting environmental journalism in the country.

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AN EMPIRICAL STUDY ON EFFECTS OF ADVERTISEMENT ON YOUNGER GENERATION IN INDIA

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Abstract

In this era of globalisation, multinational companies are pushing their consumerist agenda in the name of promoting their brands. Advertisements are more aimed at adulterating the local culture and values with projection of women as sexual objects. To examine the impact of such advertisements, an empirical study has been undertaken with a few printed stimuli to analyze the effects of advertisement on younger generation in India. Slow but alarming changes in the culture and value system have been noticed especially among the young females.

Key words

Global culture; local culture and values; consumerist agenda; advertisement; women; younger generation

Introduction

As Blore (see Bagdikian, 2000) pointed out, advertising is the art of arresting the human intelligence just long enough to get money from it. But this objective of money making may lead to many other objectives, which may surpass the initial one. Sometimes, this outstripping causes problems for the society across generations. Arresting of human intelligence may be undertaken by the advertisers to slowly change the value system of the people, changing thereby the ethical norms, attitude towards commodification of women and socialization of violence. Consider, for example, the advertisement of Dolce & Gabbana. This advertisement is considered to be distasteful as it portrays a scene evoking a gang rape and stinking of violence against the weaker sex. It is difficult to believe that a stylized gang rape will invite women to purchase clothes. Probably, the seller and

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the designers of the advertisement think it will get them publicity. And for publicity they don't hesitate to publish such a provoking advertisement. One may refer to the case of *Dfrnt*, which in their way to market cell phone ring tones published an offensive advertisement that was indexical to sexual invitation. Maker's Mark was no exception to this trend. They tried to belittle women when they projected them as one with alcoholic drinks, with a statement from a male enjoyer - I wish maker's mark, the same could be said for my girl friend. Even for a simple cosmetic product, girls are portrayed as sexual objects as may be seen from the advertisement of Dior, where the body text reads, "New! Dior Addict Lipstick to Die For...in 30 killer shades...Get hooked now." Dior proudly makes use of this theme of addiction, under the impression that it has a wide appeal to younger women. Following Blair (1994) we may point out that the feminine seduction of advertising is nothing but the selling of the self of women in the society.

The problems referred above, if examined in the context of globalisation and emerging attitude of the Multi National Companies (MNCs), will get multiplied by an alarming proportion and invite an urgent look for dwarfing the giants before the giants dwarf the rest. For Bagdikian (2000), mass advertising is concerned with, but not a mere way of introducing and distributing consumer goods. It is an emerging instrument in the hands of a relatively small number of colossal corporations to hold the controlling power over the economy. These corporations definitely make use of newspapers, magazines, and broadcasting to sell their goods. But they more often use these machineries to maintain their economic and political influence. And the problem becomes acute in the context of globalization.

To Grossberg, Whitney, Wise (2006), globalisation is about flexibility and mobility of production and marketing and the complete immersion of the population within worlds of media images, commodification and consumption. The post World Trade Organization era has witnessed that most countries of the globe are signatories and participants in the process of globalisation. As a result, MNCs are making naked attempts to culturally integrate diverse consumer-groups through mass media to enjoy the economic benefits arising out of mass production of standardized goods and services. This has many negative types of fallout. Hardly a medium is a neutral agent of the merchants. It has become an essential part of the machinery of corporate gigantism. And progressively more media are not only used but are owned by the corporate giants.

These mass media have an impact on the socio-cultural fabric of the nation. Stern (1999) has examined the gender and multicultural issues in advertising. Mass media have become an increasingly important vehicle for communication that can easily reach large number of people of varied cultural base and act as cultural forces, which do not reflect but indirectly shape the culture of the society. Waters (2001) feels, there is an increasing importance of symbolic exchanges (culture like media) over material (economic) or power (political). Standardized media contents are being made available by the media conglomerates. This standardization has forced the public to assimilate social and cultural behaviors, which are very different from existing social and cultural norms. Hall (2000) opines, global culture follows a concept of homogeneity in exchanges and hence all consumers are expected to have same tastes and no cultural diversities. In this process, MNCs are dominating the global media scope and advancing capitalist–consumerist agenda as they are interested in promoting consumption to increase their profits infinitely.

When advertisements portray unconventional or deviant contents or themes, they may not go down well with the existing social norms and practices. LaTour and Henthorne (1993) have elaborated on this theme with special reference to female nudity and attitudes toward the advertisement and the brand, and implications for advertising strategy. However repeated exposure to such content makes people at least habituated enough not to react negatively to these themes, if not appreciate them. In this process, as Williams (1977) feels, global culture constantly changes to accommodate the emergent alternative and oppositional meanings values and practices. In this context, Patel (1998) says, mass media, particularly print and broadcasting media (TV and Radio), provide space for construction of new meanings and images. And this requires a careful study on degradation of values and cultural norms.

Multi National Companies (MNCs) and Global Culture

To have uniformity in their modes of operation, MNCs prefer to bring about cultural changes by making use of their economic power. In this process there may be some positive and some negative impacts on unique and very distinctive cultures of different regions.

The Indian subcontinent is no exception to it. India has a rich and varied cultural heritage. According to Thakur (2002), Indian culture

embraces various religious thoughts, social customs, political principles, languages and literature, social relations. The western culture that is experienced today is synonymous with capitalistic culture, as the capitalism has developed in the west. Capitalist culture changes and moulds any society, which accepts capitalism. Roy (2003) feels that, Western culture is just a metaphor of the capitalist culture and is now sweepingly expanding in India under the World Trade Centre regime. According to Keegan (1995) this Western culture denies regional cultural difference and instead propounds a uniform global culture in which the global-form MNCs are interested in. And it is by gaining dominance over the cultural tradition of a country that the forces of globalization space for them to operate freely, Kutty (2003). They are in fact doing away with indigenous cultural features by putting forward enticing concepts such as global village, cultural proximity and universalism. Any careful study of the global-form MNCs will uphold this view.

This so called global culture is trying to be universalistic by negating the rich uniqueness of individual cultures. It brings together elements of modern capitalism and sets identical anticipation and reaction for the public. Western values open new vistas of choices and any individual is free to take decision as per one's aspirations. Decisions are taken for individual benefits and not for the purpose of interdependence. Dumont (1980), modern Western society is deeply affected by the norm of individual. For a quicker hold over the market, MNCs are trying to spread the same in other parts of the globe. The so-called global village is being taught to appreciate individual privacy and self-respect at the expense of others around.

Global culture and its impact on Indian values

The image of consumerism is transmitted with global cultural contents through international mass media. India is no exception to it. Sultan (2005) opines that the use of mobile phones, automobiles and lavishly decorated houses depicted in the soaps have a direct impact on the viewers to aspire for those things. This encouragement of the so-called consumerist culture benefits the agendas of the MNCs and also some local manufactures, to some extent. Earlier, Athyal (2007) raised an alarm that the urban Indians have changed a lot of their cultural values as a result of impact of TV and industrialization.

To what extent consumerism has permeated and changed the fabric of contemporary Indian society is therefore the subject of our study. This is of importance because Desrechers (1997) commented that the cultural imperialism has two major goals – one economic and other political- to capture markets for its cultural commodities and to establish hegemony by shaping the popular consciousness. Cultural domination is an integral dimension of any sustained system of global exploitation. Gonsalves (1998) teenagers are the most global market of all. Media influences and inspires youth to follow the trends set in media contents. Youth as a group become target of media for long-term commercial benefit. Athyal (2007) feels, youth are target of media campaigns. Media uses youth more than any other groups as impact is high and long term.

The study is therefore aimed at examining the impact of advertisement on younger generation. It is important to examine whether the unhealthy competition with sole aim for material benefits is gaining popularity among the Indian young and sacrifice for greater good is becoming an unheard concept nowadays. However, there is no way out to directly examine the impact of western values and culture on young in India. We therefore propose to empirically examine the impact of western culture on Indian minds through a survey work.

Research Methodology

We would like to examine whether the Indians are living in two contrasted forms of society and experience. Apparently, what they have accepted is the modern western style of living, modern technology, institutions etc. But whether they hesitate to accept wholeheartedly the modern western values and their social relevance is a subject of importance. We aim to test whether the Indian family structures and set roles within families are being readily diluted by western influence e.g. role of woman as nurturers caregiver and prioritizing family are no more important issues. Since print media is still a major vehicle for the MNCs to spread the culture of commercialization and commodification in the Indian society, we have decided to study the likings and dislikings of younger generation about some advertisements, published in the past in the print media. We have already pointed out that it is the younger generation, which is more vulnerable to global advertisements. If molded, they can be used to act as future agents of change and hence our respondents are from younger generation only.

To accommodate the concept of control group, advertisements were mixed projecting positive and negative aspects of western values with advertisements based on traditional and neotraditional Indian values. In this process, we project all the alternatives for recording the preferences and reactions of the respondents.

Population and sampling design. For our empirical study we have defined the population as the set of younger generation. To facilitate the identification and enumeration work, these youths are considered to be university and college going students as well as upper class students of schools. Since we are covering a wide range of students there may be heterogeneity in the population due to age and exposure-wise variations. For an in-depth analysis, we propose to treat school going, college going and university going students as members of three different strata, each stratum being further subdivided according to gender. Thus, altogether there will be six strata or groups. In this process, we will be able to examine whether the level of education or gender has any commonality of thought in respect of culture and values.

Since the population is huge in number, our selection of respondent is based on three-stage cluster sampling in the sense that first we have selected two districts in West Bengal, the region being a proper representative of the Indian culture. We have next selected schools, colleges and university-departments within the selected districts. In the last stage, students were selected from the overall enrollment lists.

Choice of stimuli: We have followed the structured questionnaire method for collection of data and propose to collect information on five advertisements as our basic stimuli. Advertisement of Director's Special has been selected from page 23 of India Today, February 09, 2004; advertisement of Samsung has been selected from page 3 of India Today June 09, 2003; advertisement of HDFC has been selected from page 38 of India Today May 30, 2005; advertisement of Platinum has been selected from page 38 of Outlook September 20, 2004; and advertisement of Visa has been selected from page 23 of India Today, January 26, 2004. These advertisements are given in the annexure.

These stimuli, as indicated earlier, are projecting different cultures and values. Choice of these advertisements as stimuli is solely based on our semiotic and psychological interpretation. But these interpretations have never been disclosed to the young respondents. Out of these five stimuli, one stimulus has been considered as the key object of our study because of its markedly different cultural projection. Following Reichert *et al* (2000) we may call it a seductive branding where one may notice sexualizing of women to sell brands. The aggressive woman, as depicted in the advertisement of Director's Special, is unlike the traditional Indian women in respect of her style, stance and product preference. She is not feeding a baby or making love; she is but carrying a weapon. Her flying-hair-image appears to be an index (see Beasley and Danesi, 2002) of consumerist agenda, portrayed against the backdrop of clouds and thunder to indicate a major shift in cultural paradigm envisaged by the Director's Special, a breweries company. The text of the appeal reminds us about the killer instinct of an uncommon woman to whom fine men do surrender. She invites men for becoming one with the Black for hard drinks. And thereby, the pleasure of alcoholic consumption is becoming synonymous with the lady, the source of pleasure.

A psychoanalytic study reveals that the key picture under study attempts to open up the id, the unconscious mind of a fine man, which is not so fine when goes unscreened by the ego and super ego. Clouds are the suppressed desires that centre around the opposite sex. It assures the dwarfing of the big other, in Lacanian sense (see Hill, 1997), under intoxication and physical pleasure as a solution for mental non-rapport. These clearly establish the nontraditional nature of this advertisement, under consideration as the key stimulus, and a probable attempt by the advertiser to do away with the Indian culture and values that respect every self as an icon of God.

We have mixed up this advertisement with the rest four stimuli with the idea that respondents can give their independent views and do not get influenced by our choice. For the rest four advertisements our choice relies on the fact that most Indians living in urban areas are used to modern life but live life simultaneously in two spheres of experience - public and private. Most people have accepted western living but not so readily the western social values and aberrations. In

those four advertisements woman is depicted as a caring mother (HDFC), self-absorbed lady (Platinum), an innocent dreamer (Samsung), and a typical housewife or a working girl (VISA Power). It's not that those ladies are outdated. They are modern but embodiment Indian culture. They don't kill but care. They build up a house (and a family) and not dismantle. They are beautiful but not seductive. They are not black but platinum white. They accept any role of dignity but don't de-dignify the dignified. With these brief remarks on the choice of advertisements, we now introduce the next part of the research design for final analysis of viewers' views.

Statistical design: The researchers propose to examine the association between the level of education and the choice of advertisement and between the choice of advertisement and the age of the viewer. Thereafter we like to see whether the key stimulus is of equal priority among the male and female viewers.

To test for presence (or, equivalently absence) of association one may adopt the nonparametric test in the line of chi-square test for goodness of fit. Symbolically, if a population is classified according to two attributes, A and B, into k and l classes, respectively, say,

A1,A2,.....,Ak

and

B1,B2,.....,Bl.

and if P_{ij} is the proportion of members of the population belonging simultaneously to the j th class of A and i th class of B, then the proportions P_{ij} 's define the joint distribution of A and B. The marginal totals

$P_{i0} = \sum_{j=1}^l P_{ij}$ give the marginal distribution of A; the other marginal totals,

$P_{0j} = \sum_{i=1}^k P_{ij}$ give the marginal distribution of B.

If we enquire whether A and B are not associated, we have to test the hypothesis

$H_0: P_{ij} = P_{i0} P_{0j}$ (for all and)

For this, let a random sample of size n be drawn from the population, the drawings being mutually independent. If we denote by the number of members of the sample that belong to the t th class of A and to the th class of B, then, under the above hypothesis,

$$\chi^2 = \sum_{i=1}^k \sum_{j=1}^l \frac{(f_{ij} - nP_{i0}P_{0j})^2}{nP_{i0}P_{0j}} \quad (1)$$

will be distributed as approximately a chi-square variate with $df=k-1$ (see Rao, 1989).

In case P_{i0}, P_{0j} 's are not given, we may compute

$$\chi^2 = \sum_i \sum_j \frac{\left(f_{ij} - \frac{f_{i0}f_{0j}}{n} \right)^2}{\frac{f_{i0}f_{0j}}{n}} = n \sum_i \sum_j \frac{f_{ij}^2}{f_{i0}f_{0j}} - n \quad (2)$$

which will be distributed as approximately a with $(k-1)-(k-1)-(-1)=(k-1)(-1)$ degrees of freedom under H_0 .

We next propose to statistically test whether the difference in male and female viewers' choice markedly vary for the Director's Special advertisement by considering the same as a test for equality of proportions of two binomial distributions. With θ_1 and θ_2 as the respective population proportions of male and female viewers liking the Director's Special advertisement most, we may state the null hypothesis and alternative hypothesis as

$$H_0: \theta_1 = \theta_2$$

$$H_1: \theta_1 < \theta_2$$

and carry out large sample test for equality of proportions. The test statistic will be given by

$$Z = \frac{\hat{\theta}_1 - \hat{\theta}_2}{\sqrt{\frac{\hat{\theta}_1(1-\hat{\theta}_1)}{n_1} + \frac{\hat{\theta}_2(1-\hat{\theta}_2)}{n_2}}} \quad (3)$$

where $\hat{\theta}_1$ and $\hat{\theta}_2$ are the sample proportions, i.e., the estimated values of θ_1 and θ_2 based on n_1 and n_2 observations respectively. It is easy to note that Z will follow standard normal distribution under the null hypothesis and the statistical decision rule will be to reject the null hypothesis in favour of the alternative in case the observed value of Z is less than $-z_{\alpha}$, being the upper point of the normal

deviate. Test for a single proportion against a presumed value can be similarly carried out

$$Z = \frac{\hat{\theta} - \theta_0}{\sqrt{\frac{\theta_0(1-\theta_0)}{n}}} \quad (4)$$

where $\hat{\theta}$ is the sample proportions, i.e., the estimated value of θ , the proportion under study, based on n observations. It is easy to note that Z will follow standard normal distribution under the null hypothesis that $\theta = \theta_0$ and the statistical decision rule will be similar as above depending on the nature of the alternative hypothesis.

Data Analysis and Inference

In all total, 389 respondents were covered by our survey, out of which 152 are school going, 114 are college going and 123 are university-going students. Responses were collected using a structured but brief questionnaire (see annexure II). Respondents, when classified according to sex, give rise to gender ratio as 170/219 in favor of females. For a greater insight, we have summarized the raw responses into bivariate cross-classified tables in respect of educational level and choice of the advertisement. These tables (see annexure I) have been discretely reported for males and females so as to know how young males are looking at the ladies of the advertisements and how young females are liking or disliking the projection of the ladies in those selected advertisements. Table 1 describes the choice of advertisement for young males studied according to the educational level. We have carried out a test for lack of association between the educational level and choice of the advertisement, the test statistic being given by display number (2). It may be observed from the suggested inference procedure that the observed value of the χ^2 statistic is 27.34884 against the critical value as 15.507 at 5% level of significance for 8 degrees of freedom. Hence, we reject null hypothesis in favor of the alternative hypothesis that the choice of the advertisement depends on the educational level.

A similar study on young females has been reported under Table 2. Here again, we have tested for absence of association between the educational level and choice of the advertisement. The concerned test statistic is given by (2). It may be noted that the observed value of the χ^2 statistic is 10.04084 against the critical value

as 15.5 at 5% level of significance for 8 degrees of freedom. The critical value is 13.4 at 10% level of significance for the same degrees of freedom. Hence, we accept the null hypothesis confirming that there is a possibility that for young females opinion gets formed from high school level itself. This is in line with the views of psychologists' that there is a lag between female maturity and male maturity. However, the other possibility is that the female viewers are heterogeneous in nature. We therefore like to carry out a similar study with respect to age, in place of educational level.

Table 3 describes the choice of advertisement for young males cross-tabulated according to age groups 13-17, 18-20 and 21 and above. We have carried out a test for lack of association between the age group and choice of the advertisement, the test statistic being given by (2). The observed value of the χ^2 statistic is 15.107 against the critical value as 15.5 at 5% level of significance for 8 degrees of freedom. So, at 5% level of significance, we accept the null hypothesis. But at 10% level of significance the critical value is 13.4 and hence we reject the null hypothesis in favor of the alternative hypothesis that the choice of the advertisement depends on the age of the viewer.

For a similar study on young females, let us refer Table 4 where the choice of advertisement for young females has been cross-tabulated according to same age groups as in the case of males. We have tested for absence of association between the age and choice of the advertisement using the test statistic given by (2). The observed value of the χ^2 statistic comes out as 13.28569 against the critical values as 15.5 at 5% level of significance and 13.4 at 10% level of significance for 8 degrees of freedom. Hence, we accept the null hypothesis that for young female viewers choice of advertisement is independent of age. These indicate that male and female viewers are markedly different in respect of their choice of advertisement.

In particular, we next like to test for the difference in opinion, if any, among the female and male viewers in respect of Director's Special advertisement. It may be noted from Table 1 that n_1 is equal to 219 with $\hat{\theta}_1 = 12/219 = 0.05479$. Similarly, it may be noted from Table 2 that n_2 is equal to 170 with $\hat{\theta}_2 = 19/170 = 0.11176$. Using the statistic Z , as given at display number (4), we have obtained the observed value of Z as -153.28526 . When compared with the critical value $-Z_{\alpha} = -1.6449$ at 5% level of significance, we can conclude that the null hypothesis that the proportions of male and female viewers

liking the Director's Special advertisement are equal should be rejected in favor of the alternative that the proportion of female viewers liking the Director's Special advertisement is more than the proportion of male viewers liking the Director's Special advertisement. This conclusion indicates that the female figure and or the headline and the body text have a greater appeal to young girls, which is indexical of a change in the value system among the young Indian girls. This change should not be viewed as a minor change because when these girls will become mothers they will imbed their values in the virgin minds of their children and that will continue in the form of a vicious cycle.

We next like to analyze in details the responses on the Director's Special advertisement. For this we have considered two aspects mainly –striking quality of the lady, and the purpose of the gun. We have asked the respondents to indicate the most striking quality of the lady, which can be her boldness, aggressiveness, attractiveness, classical beauty or none of these. We have also enquired about the indexing of the gun, she is so prominently holding near her bosom. It may be meant for killing someone, for a mere fun, for making men surrender or for showing woman in an unfamiliar role. Based on the responses tables have been formed to examine these two issues, both marginally and jointly. Responses received from male respondents are presented in Table 5 in a three-way classified structure, level of education being an important consideration. The same obtained from female respondents are summarized and presented in Table 6 in a two-way classified manner, level of education being of little effect.

Degree of association. It may be noted from Table 5 that according to male viewers, the degree of association between the striking feature of the lady in the visual and the indexing of her gun is feeble irrespective of the level of education. The observed values of the χ^2 statistic are given below, which may be compared with the critical value 16.919, for 9 degrees of freedom at 5% level of significance, to arrive at the conclusion on the extent of association:

Study for males	Level of education		
	School going	College going	University going
Observed values of the χ^2 statistic	11.17637	16.07763	10.10793
Inferential comments	Accept H ₀ ; feeble association	Accept H ₀ ; lack of association	Accept H ₀ ; feeble association

If we carry out a similar study, based on the responses received from the female students, we may observe that the degree of association between the striking feature of the lady in the visual and the indexing of her gun is insignificant

Study for females	Combined Level of education
Observed Values of the χ^2 statistic	14.51988
Critical comments	Accept H ₀ ; insignificant association

Let us now examine the seductive role of the female figure of the advertisement under study, as perceived by the male and female respondents. It may be observed from table 5 that out of 219 male respondents 110 respondents believe that the female figure of the advertisement wants men to surrender to her, the proportion being 0.50228, which is marginally greater than 0.5. A large sample test for the null hypothesis that the corresponding population proportion is equal to 0.5 against the alternative that the same is less than 0.5 results in observed value of the Z-statistic as 0.06748, following display (4). Thus, we accept the null hypothesis at 5% level of significance. In a similar study, it may be observed from table 6 that out of 170 female respondents 95 respondents are of the opinion that the female figure of the advertisement wants men to surrender to her. The corresponding, the proportion is 0.55882, which is reasonably greater than 0.5. A large sample test for the null hypothesis that the corresponding population proportion is equal to 0.5 against the alternative that the same is less than 0.5 gives rise to the observed value of the Z-statistic as 1.53384, following display (4). Here again we accept the null hypothesis at 5% level of significance, the p-value in this case being much higher. Thus, in terms of p-value of the large sample test for proportion, female respondents could more often see the seductive nature of the female figure than their male counterparts, but the difference may not be significant. A formal large sample test for equality of proportion upholds the above view because the corresponding Z-statistic, following display (3), is observed to be of value 1.10788, which is less than the critical value of Z at 5% level of significance.

Let this difference be studied in more details. The seductive role may be a display of boldness, attractiveness, aggressiveness or classical beauty. We are interested to identify which of these four characteristics is more present in making the men surrender. Female respondents could more often see the boldness behind the seductive nature of the female figure, the proportion being as high as 0.51579 (49 out of 95). Their male counterparts do differ in their opinion, the corresponding figure being 0.35454 only (39 out of 110). A formal large sample test for equality of proportion upholds the above view because the corresponding Z-statistic, suggested in display (3), is observed to be of value 2.31691, whereas the tabulated value of Z at 5% level of significance under one sided test is 1.6449. Thus, proportion of female respondents is significantly more than the proportion of male respondents in attributing boldness to the seductive role of the lady of the Director's Special.

Concluding remarks

From the statistical analysis of advertisement we have found that for male respondents the choice of the advertisement depends on the educational level. Though preference for Director's Special advertisement is not significant there is indication university-going male respondents are getting inclined towards such type advertisements. For young females opinion gets formed from high school level itself as there is no variation in choice according to educational level. This appears to be in line with the views of psychologists that there is a lag between female maturity and male maturity. A similar study, carried out with respect to age, in place of educational level has also confirmed that the choice of advertisement remains nearly same for female respondents after certain age and hence they can be considered as a homogeneous group. Females' Preference for Director's Special advertisement is also not be significant. Nevertheless, their proportion of choice for this nontraditional advertisement is more compared to the same for male respondents.

In line with the higher degree of maturity amongst the female respondents, it has further been observed that the female figures and or the headlines and the body texts have a greater appeal to young girls. Compared to males, a markedly higher proportion of females have expressed their likings for a nontraditional advertisement, which is indexical of a change in the value system among the young Indian

girls. We have observed from our analysis that female respondents could more often see the seductive nature of the female figure than their male counterparts, Female respondents could more often see the boldness behind the seductive nature of the female figure, the proportion being reasonably high. This has a serious implication. As school, college and university going female students are mixing up boldness and seductive role one can foresee decay in the traditional Indian value system that considers boldness and seduction as polar opposite. This change in values should not be viewed as a minor change because when these girls will become mothers they will imbue their values in the virgin minds of their children and that will continue in the form of a vicious cycle. We may therefore conclude that since girls are more matured compared to boys of the same age and have a more significant position in the society in shaping the future value system there may be quicker crumbling of moral standard in India in the near future. Especially when nontraditional advertisements appear in print medium, the vehicle of interest in this work, the problem becomes more acute. It can be viewed as and when needed, can be carried from one place to another and can be kept on the reader's desk without any degradation. Its effect is more, especially on the teenagers' culture and values.

It is well known that the central theme of culture is value. Values are generally things children pick up unconsciously at a young age from their close environment. Youth of any culture are vulnerable to the influence from outside as they are impressionable and open to new thoughts. Peer groups play a very deep role in the life of youth. Craving for freedom, search for individual identity and sexual interest are universal characteristics of youth. It is a period of searching, questioning, doubting, and weighing down with its success as well as failures. Exploration, curiosity and adventure can sometimes cross socially acceptable limits. If wrongly designed advertisements with profit motive are allowed to appear in the name of business strategy, it will make a slow but significant negative impact on the culture and value system of the country.

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Annexure I

Choice of Ad ►	Frame of reference				Director's special	Total
Level of Education ▼	Samsung	HDFC	Platinum	VISA		
School going	32	31	19	15	5	102
College going	8	18	5	17	1	49
University going	7	36	10	9	6	68
Total	47	85	34	41	12	219

Choice of Ad ►	Frame of reference				Director's special	Total
Level of Education ▼	Samsung	HDFC	Platinum	VISA		
School going	7	14	24	4	1	50
College going	5	24	24	4	8	65
University going	4	18	19	4	10	55
Total	16	56	67	12	19	170

Choice of Ad ►	Frame of reference				Director's special	Total
Age groups (in years) ▼	Samsung	HDFC	Platinum	VISA		
13-17	32	32	19	16	5	104
18-20	5	11	2	5	1	24
21 and above	10	42	13	20	6	91
Total	47	85	34	41	12	219

Table 4. Choice of Ad by young females classified according to age groups.						
Choice of Ad ►	Frame of reference				Director's special	Total
	Age groups (in years) ▼	Samsung	HDFC	Platinum		
13-17	5	16	24	4	1	50
18-20	5	19	16	3	3	46
21 and above	6	21	27	5	15	74
Total	16	56	67	12	19	170

Table 5. Views of male respondents on the lady of Director's Special Ad, classified according to level of education.						
	Level of education	Killer	Fun maker	Seducer	Unfamiliar role player	Total
Bold	University	0	2	20	5	27
	College	0	2	10	3	15
	School	1	1	9	21	32
Attractive	University	1	3	6	4	14
	College					
	School	0	6	12	16	34
Aggressive	University	1	0	7	5	13
	College	1	0	7	0	8
	School	0	4	19	6	20
Classical beauty	University	0	1	10	3	14
	College	1	2	0	1	4
	School	0	2	7	7	16
Total	University	2	6	43	17	68
	College	3	6	29	11	49
	School	1	13	36	50	102

Table 6. Views of female respondents on the lady of Director's Special Ad.					
	Killer	Fun maker	Seducer	Unfamiliar role player	Total
Bold	0	2	49	26	77
Attractive	0	3	20	25	48
Aggressive	0	0	15	8	23
Classical beauty	1	1	11	9	22
Total	1	6	95	68	170

AND THUS I BECAME A SCIENCE JOURNALIST

Kumar Chellappan

Dr. Anil Kumar Vadavathoor, the editor of Science Communicator, whom I have known since 1985, always asks me how I ended up reporting science related issues. He is quite justified in asking so. Dr. Vadavathoor knows very well that I do not have the intelligence or clarity of mind for being a science reporter. My becoming a science reporter was quite accidental. One particular day, there was nobody in the news bureau to attend a media conference called by the Department of Atomic Energy. Usually it was attended by one of the reporters who claims to be the star reporter of the team. But since he was under the impression that there was nothing sensational to write about DAE, he opted for another press meet happening at the same time elsewhere where the organizers had promised sumptuous lunch.

The Atomic Energy Commission's press meet was to announce the completion of the civil works of the raft on which the country's first Fast Breeder Reactor of 500 MW capacity would be built. The challenges before me were multifarious in nature. I myself do not know what a raft was, not to speak about FBR!

Prabhat Kumar, the project manager of the FBR explained to me in common man's language that the raft was the plot of land or a platform which would house the reactor. He said it would be as big as an international football stadium. He also explained that to withstand the stress and strain which would be caused by the reactor when it becomes operational, the raft has been filled with high strength concrete mix which was a non-stop affair. "The concreting took seven days as a dozen concrete mixers worked round the clock to pump the mix under high pressure and that too under fixed temperature," said Prabhat.

He also explained that the FBR was like driving a car which generates more petrol than what it is consuming. "It is like starting a

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journey from Chennai in a car with full tank petrol. There is no need for you to fill the petrol en-route to Cochin. And when you reach Kochi, your petrol tank would be full of petrol generated by the car's engine," described Prabhat.

Those were the most important points on which I wrote the report. One of the important factors we always forget while reporting science is our readers, who are our topmost customers. Almost 95 per cent of our readers are not versed with Science. Hence it is the responsibility of the reporter to go to their level and explain things in a style which they could comprehend.

An ideal example of science reporting going haywire is the latest development from CERN in Geneva where physicists went gaga over the discovery of the so-called God's Particle. How many of us understood the significance of this invention? The most tough subject in this universe could be physics because it is very difficult to explain terms like mass, velocity, anti - matter, black hole etc. When a senior scientist from CERN visited IIT Madras sometime in 2009, for a lecture, I too was deputed for this coverage. The IIT auditorium was filled to capacity. I could get a seat only because of my press pass. But within five minutes of the scientist starting his speech, half of the audience started sleeping. A young professor, sitting near to me was snoring and I had to wake him up a couple of times to save him as well as the organizers from embarrassment.

Later, one among the audience asked the scientist whether he could explain in a layman's language what was happening at the Large Hadron Collider and in what way it is going to affect the common man's life. A beautiful question indeed! Even I was planning to ask a question like that. But the scientist's reply was disappointing. "Well, I am afraid, the common man may have to wait for some more years to understand what is happening at LHC," he said. That was not science and he was unfit to be a scientist. I rang up Prof BM Hegde, former Vice-Chancellor of Manipal University, and told him of my predicament. He just laughed it off. "My dear son, don't get upset. If that scientist could not explain in a common man's language what his research work is, then he is no scientist and the work he is doing is not science," said Prof Hegde, described as a walking encyclopaedia and well known for his photographic memory.

The responsibility of a science journalist is to explain to the readers the nuances of science and technology in a layman's language. No newspaper reader is interested in understanding the complex nature of science and technology. He is passionate to know how the development is going to help him in making his tough life easier to some extent. He is interested to know that whether the God's Particles will bring down his monthly energy bill or the three-hour long load shedding could be withdrawn because of these particles. A reporter should be able to tell his readers how each and every scientific achievement made by our scientists will be of help in making his life different in some way or the other.

The tragedy with most of our scientists is that they think all others could follow what they speak and write. They fail to understand that science and technology are like a game of cricket or a Kathakali performance which could be understood only by connoisseurs. The mission of the reporters is to reproduce the version of the scientists in a common man's language sans any scientific terms. All you require is a little bit of patience and perseverance. And consider yourself in the reader's position while you write the report.

Another instance which comes to my mind happened in 2005. A well-known medical college cum hospital in Tamil Nadu held a press meet featuring the Secretary to the Department of Bio-technology, Government of India. The Secretary, himself a Biotechnologist spoke at length about stem cell technology. There were some eight or nine reporters including me. Ten minutes into the press meet, I saw half of the scribes sleeping and the other half including me looking skywards as if praying to God Almighty to help us understand what was being spoken by the VIP as well as the college director. At the end of their verbal attack, the scientists announced that the floor was open to questions if any! Well, I waited for minutes and requested the Director and the Secretary to the Government of India to explain what they spoke in a common man's language.

The director, a Keralite who spoke with an American accent, told me that it was a highly unfair question. "Don't you know that he reports directly to the Prime Minister? You should not have asked him this kind of question," said the Keralite director whose mannerisms indicated that he hailed from Central Travancore. I told him politely that the secretary maybe reporting to the PM. "But doctor, we report to the people of the country. For us they are more important. It is your

responsibility to explain things clearly," I told him. Well, the doctor was bent upon belittling the journalists. "I will only blame your editor. He should have sent people with science background to report this event," he said. We cannot blame the doctor either. He is living in an ivory tower!

This could be one of the reasons why most of our "eminent scientists" end up as morons and mediocre. There are exceptions. Dr G Madhavan Nair, former ISRO chairman and the master brain behind the country's launch vehicle programmes, was a reporter's delight. He could link each and every innovations made by the Space scientists to the common man's life. I remember the press meet addressed by Dr Nair immediately after the launch of India's remote sensing satellite CARTOSAT in 2007. "This satellite will help us to draw the routes through which we can construct canals linking the major Indian rivers. The advanced camera installed in this satellite will send us 3D pictures of the topography of the country and we can understand the elevation, contours and other parameters needed to take the flood waters from North Indian rivers to water starved southern India," he explained. That was one of the qualities which made him a darling of the media.

We remember some of the teachers who taught us in schools and colleges. There are an equal number whom we love to forget! Not because of any personal reasons but due to their inefficiency in explaining things in a style which will help us to comprehend things. It is like watching movies directed by Adoor Gopalakrishnan and Sathyan Anthikkadu. Adoor makes movies for an elite audience while Sathyan's films tell stories in a style which could be understood by one and all. That's why all Sathyan movies are grand success!

The great Sir CV Raman was a wonderful personality. He could simplify things and explain them in a common man's language. He was asked by a paternal aunt about the Raman Effect for which the scientist was honoured with the Nobel Prize. Sir CV Raman explained the details to his aunt who is reported to have told the scientist; "My God! These Europeans should be crazy to award you with the Nobel Prize for such a small work,". The credit goes to Sir CV for making his path breaking invention understood even by an illiterate person! How many of us can explain the scientific achievement of Nobel laureate Venkataraman Ramakrishnan?

A science scribe does not require any qualification in science. In fact it will end up as a major drawback while reporting science and technology. One need not be a graduate to become a journalist. And you don't need to be a post graduate in mass communication to be a journalist! We have had some wonderful journalists who were school and college drop outs! But they wrote with the common man in their mind and that was the reason for their success.

The common man or the Aam Aadmi should be able to comprehend what you write. And listen, nobody is interested to know about your expertise and knowledge of science, technology and the English language. When you write each and every word, think well whether that Aam Aadmi could follow what you write... This should be the major motto of our work!

INTERPERSONAL COMMUNICATION AND WORK-PLACE EFFICIENCY

Suresh Kumar G.

Efficiency at the work-place is a direct contributor to higher productivity. This efficiency relates to both machines as well as men at the work-place. Managers all over the world are constantly looking for ways and means to improve efficiency of personnel at the work-place, in their unceasing endeavour to increase productivity, with the intention to reduce production costs. The use of modern technology in manufacturing processes, although quite expensive in the form of a capital expenditure, can lead to substantial reduction in production costs. This is in addition to the enhancement of work-place efficiency. Peter Drucker, the world-renowned management guru, criticized the assembly line on economic and human grounds. He believed “the assembly line was *inefficient* because the line moved only as fast as the slowest worker, no one produced a finished product and the monotony was counter-productive. A manager motivates people by making ‘people decisions’ on compensation, promotion and placement. He also fosters team spirit by constant *communication* with subordinates, colleagues and superiors”, Robert Heller (2000).

Communication is the collaborative process of meaning-making that constructs human worlds of meaning. This process is continuous and complex with ethical and cultural aspects. All human communicating involves identity management and negotiation. Conversation is the most typical communication event. Even taken at the simplest and most obvious levels, the importance of communication in organizations is obvious. Organizations can themselves be regarded as communication structures. The entire task of management can be reformulated in terms of communication; the primary task of management is to point to, and to communicate the significance of aspects of organizational life. Organizations cannot exist without communication, their existence lies in the interaction that takes place between organization members, and as a result of the communication between them.

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Corporate communication

Corporate communication focuses on the organization as a whole and the important task of how an organization is presented to all of its key shareholders, both internal and external. According to Van Riel (1997), it "is an instrument of management by means of which all consciously used forms of internal and external communications are harmonized as effectively and efficiently as possible with the overall objective of creating a favorable basis for relationships with groups upon which the company is dependant". In other words, it brings under a single umbrella all communication activities done by different areas such as marketing, public relations, operations, etc. directed at good image building and developing human capital.

Communication Flows and Directions

The different flows of communication can be 1) *vertical* and *horizontal* or 2) *downward*, *upward* and *lateral*. While *vertical communication* flow denotes the upward and downward flow of communication along the chain of command in the organization, *horizontal flow* represents the flow of communication among the employees across functions and / or within a group and with the customers, suppliers, etc. *Downward communication* follows the chain of command top to bottom, and one of its major functions is to inform. Lower level personnel need to know what higher levels are doing and to be regularly reminded of key policies, strategies, objectives, and technical developments. Of special importance is feedback and information on performance results. Sharing such information helps minimize the spread of rumors and inaccuracies regarding higher level intentions. It also helps create a sense of security and involvement among receivers, who feel they know the whole story. Unfortunately, a lack of adequate downward communication is often cited as a management failure.

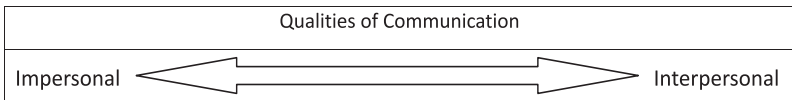
The flow of messages from lower to higher levels is *upward communication*, which serves several purposes. Upward communication keeps higher levels informed about what lower level workers are doing, what their problems are, what suggestions they have for improvements, and how they feel about the organization and their jobs. But, status effects can potentially interfere with the effectiveness of upward communication.

The importance of *lateral communication* in the workplace has to be specifically mentioned. Today's customer-sensitive organizations need timely and accurate feedback and product information. To serve customer needs they must get the right information—and get it fast enough—into the hands of workers. Furthermore, inside the organization, people must be willing and able to communicate across departmental or functional boundaries and to listen to one another's needs as “internal customers.” New organization designs are emphasizing lateral communication in the form of cross-departmental committees, teams, or task forces and the matrix organization. Among the developments is growing attention to *organizational ecology*—the study of how building design may influence communication and productivity by improving lateral communications.

Interpersonal vs Impersonal communication

Interpersonal communication is in contrast with impersonal communication. Interpersonal communication assumes significance when we realize that the quality of communication is directly connected to the quality of life.

The main characteristic of interpersonal communication is that the people involved are contacting each other as persons. One way to describe the various events that make up your communication day is to place them on a continuum or sliding scale that runs from impersonal at one end and Interpersonal on the other. The sliding scale looks like this.



The left side of the continuum, the impersonal side, is characterized by communication that is based on social roles and exchanges that minimize the presence of the communicators' personal identities. Impersonal communication is the label used to describe the typical communication at the bank, convenience store, fast food restaurant and in front of the television. The main difference between impersonal and interpersonal communication is that the former suggests a lack of personal contact and the latter implies contact between persons.

Interpersonal Communication Defined

Interpersonal communication can be defined as the type of communication that happens when the people involved talk and listen in ways that maximize the presence of the personal.

It involves interchanging ideas with others using an assortment of methods, such as words, gestures, voice tone, facial expression and body posture. Interpersonal skills are the lifeblood of organizations because effective communication dictates operational efficiency and facilitates teamwork. It underlies the efficiency of key business functions such as managing, training, selling and resolving conflicts within an organization.

Martin Buber (1965) suggests that there are five qualities that distinguish people across many cultures: uniqueness, measurability, reflectiveness, responsiveness and addressability. These five qualities also distinguish between impersonal and interpersonal communicating which originates from the mind. It has empathy as a basic underlying quality and should not be confused with public relations.

Both employees and customers can become confused or irritated by managers' poor interpersonal skills which include communication skills. Interpersonal skills are important to managers charged with building workplace trust and cooperation from staff members who are collectively accountable for furthering business goals. Imprecise and rash interpersonal communication frequently results in wasted time because of the need to revisit matters that were not properly communicated.

Although some researchers define interpersonal communication as involving face-to-face interaction, the interactions mediated by telephone, email, and other technology are also considered part of interpersonal communication as well (Knapp & Daly, 2002). While there is much discussion regarding the various definitions of interpersonal communication, it is clear that through interaction individuals acquire and integrate knowledge about what communication is and what it can be used to accomplish (Edwards & Shepherd, 2004). Accordingly there are three types of communication logic that can be applied within the organization: Expressive, Conventional, and Rhetorical.

They are defined as follows:

1. Expressive design is based on the expression of thoughts and feelings.
2. Conventional design is based on playing the game cooperatively, according to socially conventional rules and procedures.
3. Rhetorical design is the creation and negotiation of social selves and situations.

These various communication types can be applied to the interpersonal communication structure of the manager-subordinate relationship. Most individuals tend to fall within the Conventional design category, where they are not likely to 'rock the boat' within the organization or with their manager. If the individual is not free to communicate, then this breeds an organizational environment where it suppresses the empowerment of the employee within the workplace. It is central to the belief that a worker's lack of empowerment to meaningful participation within an organization, results in the weakening of commitment between the worker and the workplace (Haskins, 1996). In times like these, individuals are afraid of losing their jobs, not finding work, or not receiving sufficient wage increases, motivating factors for the employee become paramount (Hubbell & Chory-Assad, 2005). Trust in management and the organization are two examples of motivating factors that encourage individuals to stay in an organization, even if they are fearful of downsizing or not receiving an annual wage increase (Hubbell & Chory-Assad, 2005).

In a study conducted on interpersonal and organizational dialectical tensions, it is assumed that relational partners experience contradictory needs and examines the strategies used to manage the tension (Jameson, 2004). As a result of this study, scholars have noted that organizational members experience inherent contradictions that are similar to the dialectical tensions studied at the interpersonal level. Jameson noted that those individuals that maintained positive working relationships and contribute to a collaborative climate are consistent with politeness strategies. In contrast, Jameson also discovered that interactions leading to conflict and relational deterioration are preceded by antagonistic communication that emphasizes autonomy over connection in the workplace, resulting in negative long-term affects.

Additional studies relating to workplace interpersonal communication were found to be associated with tolerance and aggression. Over the years, researchers have explored the affects of verbal aggressiveness and its relationship with numerous interpersonal dynamics. This research has demonstrated the damaging affects of verbal aggressiveness on interpersonal relationships, including spousal abuse, physical aggression, marital satisfaction, and subordinate job satisfaction (Rogan & LaFrance, 2003). Most instances of workplace aggression has been found to be more passive in nature, such as talking behind someone's back, spreading rumors, or giving someone the silent treatment (Coombs & Holladay, 2004). Although these studies have encompassed various aspects of interpersonal communication within the workplace, a comprehensive study relating specifically to the manager-subordinate relationship is yet to be seen.

The five features that distinguish persons across many cultures: uniqueness, measurability, reflectiveness, responsiveness and addressability define 'the personal'. These five and their opposites can be used to distinguish impersonal from interpersonal communication (John Stewart et.al. 2006)

Qualities of Communication

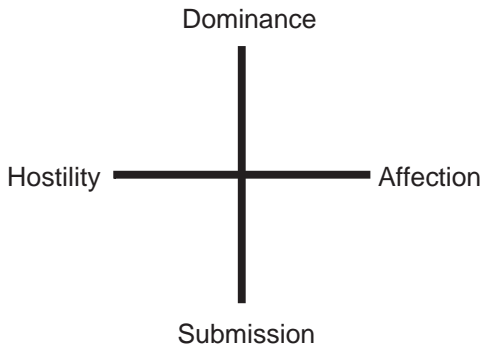


...communication means life or death to persons....Both the individual and society derive their basic meaning from the relations that exist between [persons]. It is through dialogue that [humans] accomplish the miracle of personhood and community. (Howe, 1963)

If humans really are social beings, *then communication is where humanness happens*. In other words, although communication is definitely a way to express ideas, get things done, and entertain, convince, and persuade others, it's also more than that. It's the process that defines who we are. *If we experience mainly impersonal communicating, we're liable to miss developing interpersonally, and*

if we experience mainly interpersonal communication, we're likely to develop more of our human potential. This is how the quality of our communication affects the quality of our life.

Timothy Leary, a clinical psychologist, has tried to explain interpersonal behaviour through "Interpersonal Reflex". Here, he classified interpersonal behaviour into two axes: dominance-submission (on vertical axis) and hostility-affection (on horizontal axis) with the centre point representing emotional neutrality. As a person moves to a distance from the centre, his behaviour becomes emotionally intensive. He may be either too affectionate or too hostile, or he may be too submissive or too dominating.



The Interpersonal Reflex Model by Timothy Leary

According to Leary, each interpersonal act is a 'bid' for a complementary act. Along the vertical axis an act of one kind tends to evoke an opposite act, whereas on horizontal axis act of given kind tends to evoke the same kind of act. For example, submissive behaviour (on vertical axis) of one person is a bid for dominance by the other and vice versa, whereas act of hostility (on horizontal axis) provokes hostility and act of affection accelerates affection. It also has to be mentioned that one person's bid may not be fully reciprocated by the other. The interpersonal reflex has the implication that human behaviour is neither consciously thought nor deliberately executed, but happens reflexively. A person can consciously choose from a broad range of responses, once he is aware of his behaviour reflected on the two-dimensional model. This choice of responses always contributes in improving the interpersonal relations and communication.

Communication has been strikingly linked with health by medical doctors. "...study after study reveals that human dialogue not only affects our hearts significantly but can even alter the biochemistry of individual tissues at the farthest extremities of the body. Since blood flows through every human tissue, the entire body is influenced by dialogue", Lynch (1985). In other words, the quality of our communication affects the quality of our life.

Conclusion

There is a definite and positive relationship between interpersonal communication and workplace efficiency. Interpersonal communication is an essential and inseparable part of Industrial relations. Top-end management should accept this fact and take steps to maintain open channels of communication. Enhanced employee morale and health are bonuses that can be reaped together with higher productivity and efficiency when such steps are taken.

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