

CONSUMER RIGHTS & CONSUMER PROTECTION

A CASE STUDY ON MOBILE PHONE SIGNALS

*Varnika Chawla & Vishwajeet Singh**

ABSTRACT

This paper discusses the role of empirical research in the discipline of Consumer Protection, a social science as it deals with the welfare of society in general and consumers in particular. The researchers conducted an empirical survey to arrive at the present levels of consumer awareness with respect to harmful effects of mobile phone signals. The same has been elucidated upon. Problems faced in conducting the survey, the role of technology and the importance of empirical studies in such upcoming social sciences have also been highlighted.

INTRODUCTION

“The customer is the most important visitor on our premises. He is not dependent on us. We are dependent on him. He is not an interruption on our work. He is the purpose of it. He is not an outsider on our business. He is part of it. We are not doing him a favour by serving him. He is doing us a favour by giving us an opportunity to do so.”

- Mahatma Gandhi

With the evolution of the United Nations Consumer Protection Guidelines in 1985 consumers came to be regarded as an important aspect of society. Moreover, after the enactment of the Consumer Protection Act, 1986 in India, light has been thrown upon how consumers need to be made aware of their rights and duties. In the aftermath of the global economic slowdown in 2008, consumer protection has become a widely discussed issue. Proactive consumer protection policies are coming up along with several economic and fiscal policies all over the world.

* The authors are currently in their 3rd year, pursuing B.A. LL.B. (Hons.) at the National Law School of India University, Bengaluru, India.

In this paper, the researchers have focussed on a niche area in consumer law, i.e. awareness with respect to harmful effects of mobile phone signals in India and steps that can be taken to improve the same.

The authors have used several sources of empirical research such as the Inter-Ministerial Committee Report on Electro-Magnetic Fields' ('EMF') Radiation, the Report by the Cellular Operators Association of India along with a variety of medical studies, like reports by the World Health Organisation among others, so as to research on the harmful effects of EMF radiation.

1.1 HARMFUL EFFECTS OF MOBILE PHONE USAGE: A COMPILATION OF STUDIES

There are a total of 5.4 lakh mobile phone towers in India catering to over 700 million mobile phones. With reports of the harmful effects of mobile phones coming in at an increasingly tremendous pace, it has become a burning issue in the international arena. In light of inconclusive scientific evidence regarding the harmful health effects of mobile phone usage, there are two clear-cut and opposing stands pitted against each other- that of the mobile phone manufacturers and service providers, against the activists and consumers. The former are of the view that the present prescribed levels are fine and reducing levels further as a measure of precaution would hamper their services, while the latter are concerned with the ever increasing radiation levels and argue that in the case of inconclusive evidence it is better to be on the precautionary side.

1.2 MOBILE PHONE SIGNALS- ARE THEY HARMFUL?

Electromagnetic Fields (EMF) have been known to occur in nature and hence have always been present on earth. Their occurrence can be attributed to both natural as well as man-made sources.¹ Mobile phone signals too constitute a part of EMF, and there has been a recent increase in the level

1 Cellular Operators Association of India, "*Position Paper on Mobile RF Radiations and Alleged Health Hazards*"2011.

of radio signals being emitted due to the soaring popularity of smart phones as well as the rapid development of technology.²

The Radio Frequency sources in India are shown in the table³ below:

SL. NO.	R. F. SOURCE	OPERATING FREQUENCY	TRANSMISSION POWER	NUMBERS
1.	AM/FM Tower	540KHz-108MHz	1 KW-300 KW	380
2.	TV Tower	48MHz-814MHz	10–500 Watt	1201
3.	Wi-Fi	2.4-2.5 GHz	10-100 mW	--
4	Cell Towers	800,900,1800, 2450 MHz	20 W	5.4 Lacs
5.	Mobile Phones	GSM-1800/CDMA GSM-900	1 W 2 W	700 + Million

These Radio Frequency signals have accelerated the development of the world and have proven to be advantageous in several ways. However, they have also led to the increase in EMF drastically, which can be harmful to health as well as the environment. Mobile phone handsets as well as towers emit electro-magnetic waves. The EMF's they produce are generally at a relatively lower end of the electro-magnetic spectrum and hence, they are unable to break the chemical bonds of molecules. Therefore, they are non-ionizing radiations.⁴ These radiations can be classified into two types:

- a. Radiation from Base Transceiver Stations (BTSS)- these are GSM, CDMA, 2G and 3G radiations which are used for Wireless Broadband Access as well as to provide networks for mobile communication.
- b. Radiation from Mobile Handsets- these are radiations emitted from the handset when it is held in close contact with the user.⁵

2 Ministry of Communications & Information Technology, Department of Telecommunications, Government of India, *Report of the Inter- Ministerial Committee on EMF Radiation* (2011), available at http://www.dot.gov.in/sites/default/files/1.IMC%20Report_0.pdf (Last visited on December 3, 2012).

3 *Id.*

4 *Supra* note 2, at 6.

5 *Supra* note 2, at 6.

According to the Report of Inter-Ministerial Committee, several factors can be associated with the EMF radiations. These are:

- Frequency / wavelength of RF signal being transmitted;
- Operating power of transmitting stations;
- Radio Frequency Power radiated from the antenna;
- Time of Exposure of RF signal at a given distance from the antenna ;
- Exposure from other antennas located in the area;
- Over powering of amplifier for better reception quality, signal strength and more coverage;
- Duration/ frequency of recurrent exposure;
- Age, size and portion of the body and
- Temperature and humidity.⁶

With the rapid development of technology and increase in data demands, as well as the number of customers due to cheaper handsets and mobile network operators, there has been a tremendous increase in the number of mobile phone towers that have come up in towns and cities. This has led to an escalation of EMF, leading to increase in people's exposure to it. As a result, the harmful effects caused by mobile phone signals have increased dramatically, and form the basis of a pressing issue that needs to be addressed immediately.

1.3 HARMFUL EFFECTS OF MOBILE PHONE SIGNALS ON HUMAN HEALTH

Recently, a large number of studies are being conducted to develop a link between the use of cell phones and cancer. The three main reasons for this growing concern are:⁷

- a) The radio frequency energy emitted by cell phones is a form of non-ionizing radiation, which is absorbed by the tissues in the area to which the cell phone is closest, namely the head.

⁶ *Supra* note 2, at 6.

⁷ *Cell Phones and Cancer Risk* (June 18 2012), available at <http://www.cancer.gov/cancertopics/factsheet/Risk/cellphones> (Last visited on November 18 2012).

- b) There has been an immense increase in the number of cell phone users recently. The global cell phone subscription was estimated at 5 billion in 2010.
- c) *“Over time, the number of cell phone calls per day, the length of each call, and the amount of time people use cell phones have increased. Cell phone technology has also undergone substantial changes.”*

Therefore, studying the harmful effects of cell phones has become a major priority. Some of these effects are:

1. Thermal Effect: The effect caused due to the heat generated by EMF radiations is called thermal effect.⁸ When a person is using a cell phone, heat is generated near the temple, i.e. the head area of the body. However, the brain, due to presence of temperature regulators is able to regulate this increase in temperature, by increasing the local blood flow. But the cornea of the eye is unable to do so. Therefore, the temperature of the body increases by a fraction of a degree. Therefore, the thermal effect results in increase of the body temperature. Moreover, thermal effects can also be caused due to increased exposure to mobile phone towers which emit signals. People in close proximity to mobile towers can therefore be victims of cataracts, fatigue and reduced mental concentration.
2. According to doctors, *“constant exposure to high frequency EMFs leads to digestive disorders, fatigue, hypertension, insomnia, irritability, low blood pressure, infertility in males, cancer, neurological and cardiovascular problems.”*⁹
3. An extensive research undertaken by the Swedish Radiation Protection Institute demonstrated a *“1.7 times higher risk of leukaemia in adults and a 2.7 times higher risk for childhood leukaemia from exposure to*

8 *Supra* note 2, at 6.

9 Rajesh Chopra, *Cell Tower Radiations*, For Live India, available at <http://www.liveindia.com/news/radiation6.html> (Last visited on November 17 2012).

EMFs.”¹⁰ Moreover, according to *The Hindu*, excessive use of mobile phones can lead to brain cancer in humans.¹¹

4. Non-thermal effect: Effect caused by EMF radiations inside the biological cells of the body of an organism is called non-thermal effect.¹² In a survey carried out by the Inter-Ministerial Committee, the users of mobile phones reported symptoms such as “*burning and tingling sensation in the skin of the head, fatigue, sleep disturbance, dizziness, lack of concentration, ringing in the ears, reaction time, loss of memory, headache, disturbance indigestive system and heart palpitation etc.*”¹³
5. Moreover, the World Health Organisation has also stated several times that mobile phone signals can be cancer causing and hence, they should be used in a limited manner.¹⁴ However, according to a large number of studies, usage of mobile phones is not cancer causing and neither does it cause brain tumour, as has been the popular perception, as there is no evidence about it. “*It is generally accepted that damage to DNA is necessary for cancer to develop. However, radio frequency energy, unlike ionizing radiation, does not cause DNA damage in cells, and it has not been found to cause cancer in animals or to enhance the cancer-causing effects of known chemical carcinogens in animals.*”¹⁵

A few studies have shown a link between the use of mobile phones and cancer, however most studies have not found any such association. There can be several reasons for such discrepancies such as:¹⁶

- i. Lack of verifiable data and inaccurate reporting, as people may not remember which side they held the phone on, and the time regularly spent on the phone.

10 *Supra* note 1, at 6.

11 R. Prasad *Communication Towers: Expert Committee Report*, available at <http://www.thehindu.com/sci-tech/science/article3836318.ece> (Last visited on November 18 2012).

12 *Supra* note 2, at 6.

13 *Supra* note 2.

14 Samir Makwana, *Cell Towers and Mobile Phone Radiation Norms in India*, THE MOBILE INDIAN, MUMBAI, REUTERS May 31 2011.

15 Hirose H, Suhara T, Kaji N, et al. *Mobile phone base station radiation does not affect neoplastic transformation in BALB/3T3 cells*. BIOELECTROMAGNETICS 2008; 29(1):55–64.

16 *Supra* note 7.

- ii. *“Morbidity and mortality among study participants who have brain cancer.”*
- iii. Participation bias, which may occur when people suffering the effects of excessive mobile phone usage would be the ones to participate in such studies, while healthy people may not wish to participate in them.
- iv. Change in technology- with a rapid change in technology due to development, mobile phones now use digital frequencies which emit lower EMF. Therefore, the harmful effects of excessive mobile phone usage have decreased.

Research is still being carried on, as the use of mobile phones has increased tremendously only recently, over the past fifteen years and therefore no conclusive evidence is possible as yet. Nonetheless, a precautionary approach is advised.¹⁷

1.4 HARMFUL EFFECTS OF MOBILE PHONE SIGNALS ON THE ENVIRONMENT

The environment consists of all physical, chemical and biological factors in our surroundings. The electro-magnetic radiations invading the environment have unfortunately added another element to the list of pollutants as they cause electro-pollution. These radiations are not only harmful for humans, but are also a major reason for the vanishing of several species of birds, butterflies, bees and insects. Birds also lose their navigation abilities and hence there has been a change in migratory patterns.¹⁸

A committee has been constituted by the Ministry of Environment and Forests (Wild Life Division) to study and assess the level of possible impacts of mobile phone towers on the population of birds, bees and butterflies in urban, sub-urban as well as rural areas, and to suggest some mitigating measures to address this concern.

17 Polly Curtis, *Do Mobile Phones cause cancer*, available at <http://www.guardian.co.uk/politics/reality-check-with-polly-curtis/2012/apr/26/health-mobilephones> (Last visited on November 17 2012).

18 *Supra* note 2, at 6.

1.5 CONCLUSION

Therefore, the researchers concluded from the above study that although excessive usage of mobile phones does not cause cancer, however, it has several other harmful effects on the health of a consumer¹⁹ as well as on the environment. Thus, the need of the hour is to place stricter regulations on EMF Radiations permitted and ensure greater awareness among consumers about their rights of safety, and of information.

CONSUMER RIGHTS AND AWARENESS: THE INDIAN SCENARIO

2.1. EXISTING REGULATIONS REGARDING MOBILE PHONE SIGNALS

International safety guidelines for Radio Frequency exposure have been developed by the International Commission on Non-Ionizing Radiation Protection. These form the base of all national level safety standards and have been widely adopted in the United States of America, South Africa, Asia as well as Europe.²⁰ They apply to mobile phones as well as the mobile phone infrastructure, i.e. the mobile towers and include guidelines to protect against the harmful effects of mobile phones and their signals. The standards mentioned in these guidelines have been developed after intensive research and evaluation of biological effects the radiations may have on human health as well as the environment.

19 According to Sec. 2 (1) (d) of the Consumer Protection Act, 1986, a consumer is

- a) “any person who buys any goods for a consideration which has been paid or promised, or partly paid or partly promised, or under any system of deferred payment and includes any user of such goods other than the person who buys such goods for consideration paid or promised, or partly paid or partly promised, or under any system of deferred payment when such use is made with the approval of such person, but does not include a person who obtains such goods for resale or for any other commercial purpose; or
- b) any person who hires or avails of any services for a consideration which has been paid or promised, or partly paid or partly promised, or under any system of deferred payment and includes any beneficiary of such services other than the person who hires or avails of the services for consideration paid or promised, or partly paid or partly promised, or under any system of deferred payment, when such services are availed of with the approval of the first mentioned person, but does not include a person who avails of such services for any commercial purpose.” Therefore, in the given situation, the user of the mobile phone or of the services provided by the telecom service provider, not for any commercial purpose, shall be considered as a consumer.

20 *Supra* note 1, at 6.

India has adopted the ICNIRP Guidelines and included certain provisions in the national safety standards regarding usage of mobile phones. The following ICNIRP guidelines for mobile tower exposure limits have been adopted by India:²¹

TYPES OF EXPOSURE	FREQUENCY RANGE	ELECTRIC FIELD STRENGTH (V/M)	MAGNETIC FIELD STRENGTH (A/M)	POWER DENSITY (W/M)
General Public	400-2000 MHz	1.375f ^{1/2}	0.0037f ^{1/2}	f/200
	2-300 GHz	61	0.16	10

The following are the ICNIRP Guidelines adopted in India, with respect to exposure limits of mobile phones:²²

	WHOLE-BODY AVERAGE SAR (W/KG)	LOCALIZED SAR HEAD AND TRUNK (W/KG)	LOCALIZED SAR LIMBS (W/KG)
General Public	0.08	2	4

*Note: - SAR values are averaged over a 6 minutes period using 10 gram average mass.*²³

Moreover, India is also one of the first countries to adopt extremely stringent SAR (Specific Absorption Rate) guidelines for mobile phones which come into force from September 1 2012. Effective from this date, *Indian standards will be 10 times more stringent than 90% of the countries in the world.*²⁴ According to these new regulations, mobile phone EMF

21 *Supra* note 2, at 6.

22 *Supra* note 2, at 6.

23 *Supra* note 2, at 6.

24 Dhananjay Mali, *New Mobile Radiation Standards Come into Force, Handsets to comply with SAR Value of 1.6W/Kg*, available at <http://news.nwn.in/2012/08/31/new-mobile-radiation-standards-come-into-force-handsets-to-comply-with-sar-value-of-1-6wkg/> (Last visited on November 18 2012).

levels have been lowered to 1/10th of the existing limit mentioned in the ICNIRP Guidelines.²⁵

The Department of Telecom is also conducting surprise audit checks on cell phone providers to ensure that the guidelines are complied with. A minimum fine of Rs 5 lakhs has been imposed on the data providers who do not adhere to these new regulations. Moreover, it has now been made mandatory for all mobile handsets to carry the SAR label specifying radio frequencies and other vital information. *Mobile handsets with existing designs which are compliant with 2.0 W/kg averaged over 10 gram of human tissue, will continue to co-exist up to 31st August 2013. From 1st Sept. 2013, only the mobile handsets with revised SAR value of 1.6 W/kg would be permitted to be manufactured or imported in India.*²⁶ Random checks on mobile phones being imported to India will also be conducted to ensure that the specified safety rules and guidelines are met. Amendments are also being deliberated upon in the Indian Telegraph Rule under the Indian Telegraph Act 1885 to incorporate these standard safety rules and measures.

The Department of Telecom has released guidelines for consumers to increase awareness and ensure their safety. Some of these are:

- Keep distance – Hold the cell phone away from body to the extent possible.
- Use a headset (wired or Bluetooth) to keep the handset away from your head.
- Do not press the phone handset against your head. Radio Frequency (RF) energy is inversely proportional to the square of the distance from the source
- Limit the length of mobile calls.
- Use text as compared to voice wherever possible.
- Put the cell phone on speaker mode.

²⁵ *Id.*

²⁶ *Supra* note 24.

- When your phone is ON, don't carry it in chest/breast or pants pocket. When a mobile phone is ON, it automatically transmits at high power every one or two minutes to check (poll) the network.²⁷

A booklet regarding safe cell phone usage for customers has also been uploaded on the government website.

All these guidelines underline the efforts undertaken by the government to ensure safety of mobile phone users and increase awareness regarding harmful effects of mobile phones as well as initiate a reduction in their harmful effects.

2.2. CONSUMER RIGHTS WITH REGARD TO MOBILE PHONE USAGE: THE INDIAN SCENARIO AND PRACTICAL PROBLEMS

Section 6²⁸ of the Consumer Protection Act, 1986 enumerates, generally, the basic rights of a consumer. These rights have their basis in the United Nations Guidelines for Consumer Protection²⁹ [Hereinafter “UN Guidelines”], which were adopted in 1985 and later expanded in 1999, and consumer protection legislations in other parts of the world. These rights further the object of the Consumer Protection Act and help in protecting consumers from being exploited by unfair trade practices, hazardous goods and services. Amongst the above mentioned guidelines, those relating to

27 *Supra* note 2.

28 *The objects of the Central Council shall be to promote and protect the rights of the consumers such as,--*

- the right to be protected against the marketing of goods 1 [and services] which are hazardous to life and property;*
- the right to be informed about the quality, quantity, potency, purity, standard and price of goods 2 [or services, as the case may be] so as to protect the consumer against unfair trade practices;*
- the right to be assured, wherever possible, access to a variety of goods 3 [and services] at competitive prices;*
- the right to be heard and to be assured that consumer's interests will receive due consideration at appropriate Fora;*
- the right to seek redressal against unfair trade practices 4 [or restrictive trade practices] or unscrupulous exploitation of consumers; and*
- the right to consumer education.*

Sec. 6, Consumer Protection Act, 1986.

29 The UN Guidelines broadly deal with eight heads. UNDESA, *Resolution 248, A/RES/39/248* (1985).

hazardous goods and services, information about the quality, quantity, potency, purity, standard and price of goods and consumer education are of particular interest to the researchers while talking about the issue at hand. In order to further the understanding of the topic, the researchers would discuss the relevant UN Guidelines along with the rights laid down in the Indian legislation as the objects of both of them are the same.

2.3. PHYSICAL SAFETY

Section 6(a) of the Consumer Protection Act, 1986 lays down consumers' right to be protected against goods and services hazardous to life and property. Going by the object of the legislation and reading into the UN Guidelines, it can be inferred that this section is aimed at two stakeholders—the governments and the distributors.

The UN Guidelines prescribe governments to “*adopt or encourage the adoption of appropriate measures, including legal systems, safety regulations, national or international standards, voluntary standards and the maintenance of safety records to ensure that products are safe for either intended or normally foreseeable use.*”³⁰

The distributors³¹, according to UN Guidelines, should comply with policies and/or regulations in place so as to ensure that their products are safe for use. The guidelines also provide for the consumer to be instructed about the proper use of goods and the risks involved in the intended or normally foreseeable use. “*Vital safety information should be conveyed to consumers by internationally understandable symbols wherever possible.*”³²

Also, the government, manufacturers, distributors and consumer organisations are encouraged to prescribe standards for the regulation and verification of environmental claims and ensure the “*availability*

30 *Id.*

31 The term ‘distributors’ as used in the UN Guidelines refers to “*suppliers, exporters, importers, retailers and the like*”. *Supra* note 29.

32 *Supra* note 29.

*of facilities to test and certify the quality and performance of essential consumer goods”.*³³

Coming on to the present Indian scenario concerning the use of mobile phones and the resultant health hazards, there are a lot of issues which need to be addressed. The Indian government has recently revised regulations applicable for the use of mobile phones and those concerned with mobile phone towers. This revision was based on the recommendations made by the Inter Ministerial Committee, constituted by the Central Government, in its report.³⁴ The report heavily³⁵ relied on a number of foreign research studies³⁶ concerning the health hazards of mobile phones and towers. Many experts here argue that the parameters³⁷ to calculate radiation levels change with demographic factors and that the permissible levels of radiation and SAR limits prescribed by the International Commission on Non Ionising Radiation Protection, which are being followed by India, may have been calculated with assumptions and parameters which are not commensurate with Indian conditions.³⁸ They say, *“The hot tropical climate of the country, low body mass index (BMI), low fat content of an average Indian as compared to European countries and high environmental concentration of radio frequency radiation may place Indians under high risk of radio frequency radiation adverse effect and the level of susceptibility of an average Indian may be different.”*³⁹ What is needed in the view of the researchers is that the Government must scientifically calculate and enforce permissible levels of radiations by conducting a research study taking into consideration Indian demographic factors.

33 *Supra* note 29.

34 *Supra* note 2.

35 Though the report has cited some Indian studies, most of the conclusions are drawn upon foreign studies.

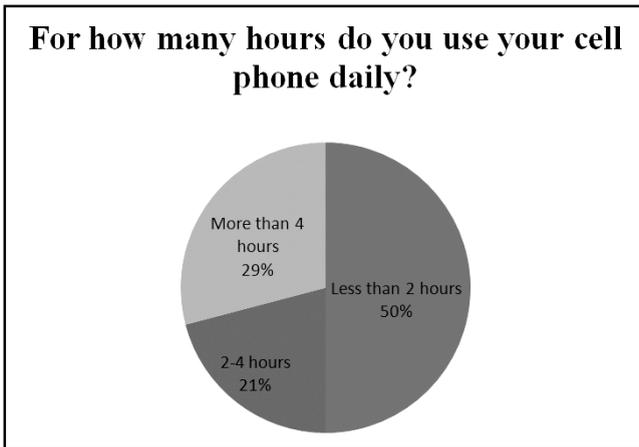
36 *Supra* note 2, at 47.

37 Parameters include the climate, population density, average Body Mass Index and the fat content of the population and other socio economic factors.

38 *Supra* note 2.

39 *Supra* note 2.

Looking at the present usage practices, cell phones are being used continuously for several hours by professionals as well as youngsters. The researchers conducted a survey and found that 1 out of 2 people use their cell phones for less than two hours, 2 out of 10 use it from 2-4 hours and 3 out of every 10 people use it for more than 4 hours.⁴⁰



Another problem is the mechanism of regulation and certification in place to ensure the safety of consumers. The officials of the TERM Cells, setup by the Department of Telecom throughout the country, many a times report the radiation levels wrongly and the costs for getting radiations levels checked at private level are as high as INR 35000 for one check.⁴¹ Also, sprouting up of illegal towers throughout the country without proper clearances from the SAFCA is another alarming thing which needs attention.⁴²

40 A survey comprising 9 questions was conducted by the researchers to know about present awareness among consumers regarding harmful effects of mobile phone usage.

41 NDTV, *Cellphone towers: India's safety check*, WE THE PEOPLE, September 16, 2012.

42 See *Civic corporations turn heat on illegal cell phone towers*, HINDUSTAN TIMES (November 16 2012), available at <http://www.hindustantimes.com/India-news/NewDelhi/Civic-corporations-turn-heat-on-illegal-cell-phone-towers/Article1-959791.aspx> (Last visited on December 4 2012). See also *1800 mobile towers in Mumbai illegal: BMC*, ONE INDIA NEWS (November 13 2012), available at <http://news.oneindia.in/2012/11/13/1800-mobile-towers-in-mumbai-illegal-bmc-1098274.html> (Last visited on December 4 2012).

Following this line of argumentation and looking at the results of the survey, the researchers conclude that there is a need to verify whether the existing regulations are suitable for Indian conditions and if they are not, then new regulations should be put into place. Also, keeping in view the present usage time, regulations should take into account long term exposure to radiation and hence lower the limits further.

The High Court of Rajasthan recently rejected petitions challenging the by-laws framed by the Government of Rajasthan regarding the placement of mobile phone towers and base stations; the requisite permissions and restrictions. It directed telecom operators to relocate mobile phone towers in close vicinity of schools, hospitals and play grounds within two months.⁴³

2.4. RIGHT TO BE INFORMED AND RIGHT TO CONSUMER EDUCATION

The right to be informed is mentioned in Section 6(b) of the Consumer Protection Act, 1986.⁴⁴ Reading into the UN Guidelines one can easily discern that the government is encouraged to “*participate in the free flow of accurate information about all aspects of consumer products*”⁴⁵ and disseminate information about the environmental impact of products through “*product profiles, environmental reports by [the] industry, information centres for consumers, voluntary and transparent eco- labelling programmes and product information hotlines*”⁴⁶. It is also the role of the government to “*formulate and promote the elaboration and implementation of standards at the national and international levels for the safety and quality of goods and give them appropriate publicity*”.⁴⁷ Timely revision of national standards, in order to keep them at pace with the international standards is also encouraged.

43 *No mobile towers near schools, hospitals, directs Rajasthan High Court*, DNA (November 27, 2012), available at http://www.dnaindia.com/india/report_no-mobile-towers-near-schools-hospitals-directs-rajasthan-high-court_1770422 (Last visited on December 4 2012).

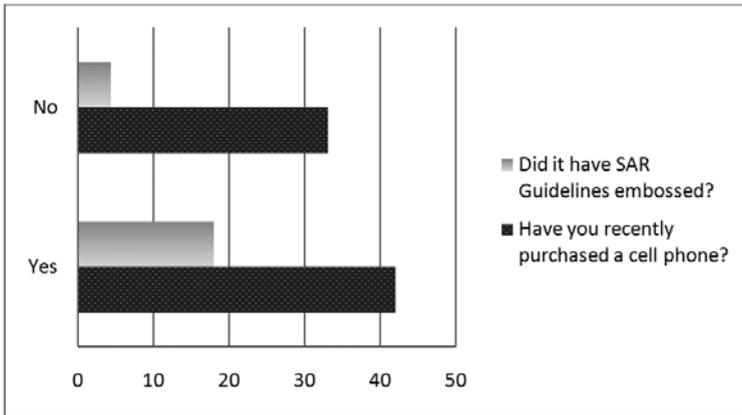
44 Sec. 6, Consumer Protection Act, 1986.

45 *Supra* note 29, at 23.

46 *Supra* note 29, at 24.

47 *Supra* note 29, at 28.

After the bringing in of new regulations,⁴⁸ it has become mandatory for manufacturers to emboss a SAR sticker specifying radio frequencies and other vital information. The Department of Telecom [Hereinafter“DoT”] has also uploaded a safety guide on its website. Not all new phones being sold after September 1, 2012 have the SAR sticker on the back⁴⁹ but this can be attributed to the fact that the new regulations came into effect very recently.



In a survey conducted by the researchers, it was also observed that only 36% people’s recently purchased cell phones had SAR Guidelines embossed on their back panels, although, according to new governmental regulations, all mobile phones purchased after September 1, 2012 should have the guidelines embossed.

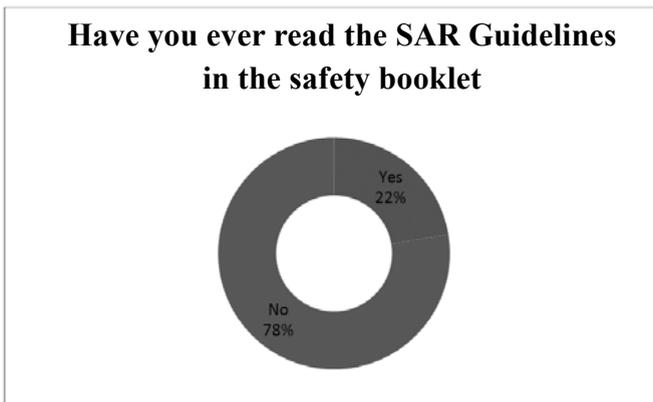
The SAR stickers, at present, on the back of phones specify the SAR value and say that it is below the level prescribed by the DoT. In a country like India where despite widespread illiteracy people use mobile phones, these values are meaningless. The DoT should therefore order the manufacturers to re-phrase the SAR sticker into something more comprehensible and preferably in the vernacular language of the area where the phone is being sold. Also, the DoT should publicise the safety guidelines and information

48 With effect from September 1 2012.

49 Only some mobile phone manufacturers (like Nokia) have these stickers on the back of only a few models. Not all manufacturers have them on all models.

about SAR values by using the mass media and awareness drives rather than just putting up the safety guidelines on its website.

Reverberating these opinions are two judgements- a recent Rajasthan High Court judgment and one San Francisco judgment. The Rajasthan High Court in its recent judgement directed that the radiation emission levels of mobile phones be made public as suggested by the DoT and that the consumers must be made aware of harmful effects of mobile phone radiation.⁵⁰ The other case⁵¹ happened in San Francisco wherein CTIA-the Wireless Association, an association of mobile phone manufacturers sued the City and County of San Francisco for bringing in a legislation-the Cell Phone Right to Know Bill, which required retailers to display the health hazards of mobile phones right next to them on the display. The District Court ruled in favour of San Francisco but after further appeals by the CTIA, the case is still *sub judice*.



It was observed that only 22% people were aware of and had read the SAR (Specific Absorption Rate) Guidelines available in the Safety Manual that comes along with each cell phone purchased. This goes to prove that there is a need for creating more awareness among the consumers about these guidelines, in order to promote safety.

50 *Supra* note 43.

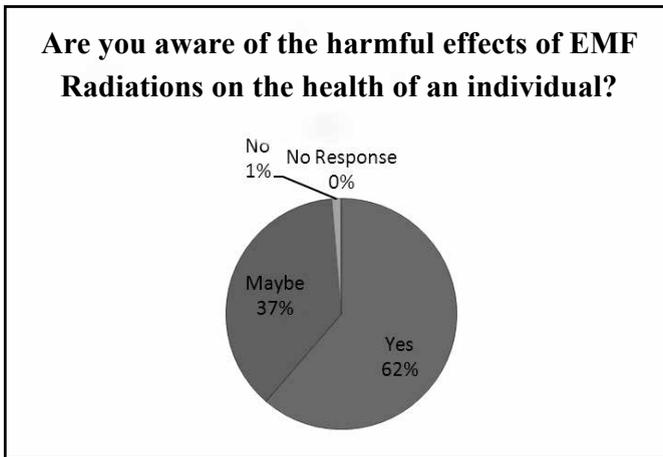
51 *CTIA- The Wireless Association v. The City and County of San Francisco, California*, 3:10 CV 03224, U.S. District Court, Northern District of California (San Francisco).

In the light of the findings of the survey and newspaper reports, it is imperative that proper regulations must be framed taking into consideration Indian demographic factors, their enforcement must be strengthened and consumer awareness must be furthered in this area in order to prevent mobile phone usage becoming harmful to human health.

THE ROAD AHEAD

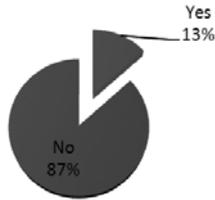
The authors believe that despite the new measures taken by the DoT, there is still a pressing need to create more awareness among consumers and perform contextualised studies in order to determine the perfect permitted levels of radiation in the Indian context.

As per a survey conducted by the researchers;



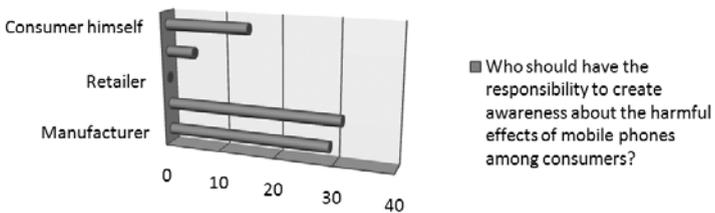
It was noted that 6 out of every 10 people were fully aware that mobile phone signals can cause fatigue, cataracts, brain tumour and cancer, whereas 3 were aware that mobile phones do cause harmful effects, but did not know the exact effects. However, only 1 person was unaware that mobile phones cause harmful effects on the health of an individual.

Do you know about the existing government regulations wrt EMF radiations?



94% of the people who took the survey said that the government should make more efforts to increase consumer awareness w.r.t. harmful effects of EMF radiations emitted by mobile phones. This is so as 87% of people were unaware of government regulations for EMF radiations. Hence, the government needs to take more steps to increase the knowledge of consumers about the harmful effects of excessive usage of mobile phones.

Who should have the responsibility to create awareness about the harmful effects of mobile phones among consumers?



An equal number of people felt that creating responsibility of spreading awareness about the harmful effects of mobile phones should lie on the government as well as the manufacturer. 7% felt that it is also the responsibility of the service provider whereas 15% felt that it is actually the responsibility of the consumer himself to be aware of the harmful effects of EMF radiations emitted by mobile phones.

It can hence be concluded that the government needs to take stringent measures to create awareness among consumers. Accordingly, the following measures are suggested, according to the Inter Ministerial Committee Report:⁵²

- i. Static continuous testing/measuring centres should be provided for online monitoring of radiation levels similar to what is being done by the Ministry of Environment and Forest to keep a tab on pollution levels.*
- ii. Analysis of radiation levels in prominent places and its display for the information of the general public.*
- iii. An online national database should be created which stores the emission information of all base station towers on a public domain, to enlighten the public of the same.*
- iv. SAR (Specific Absorption Rate) information should be made available to consumers at the time of sale. It should also be embossed on every handset.*
- v. Low power transmitters with in-building solutions, as are used in Western countries, which decrease the emissions in the environment should be used, especially in the cities.*
- vi. Seminars and programmes should be conducted to educate the public about the harmful effects of excessive use of cell phones and create awareness of the rights of consumers to be informed and of safety.*
- vii. Many countries have also adopted the best practice, wherein the ministry highlights the harmful effects of mobile phones as well as various do's and dont's in the form of a document which is made available to the general public on the government website as well as the particular website of the Department of Telecom. Moreover, the handset booklet provided by each mobile phone provider should also contain the relevant SAR information as well as methods for safer use such as use of hands-free or Bluetooth, making calls when signal strength is good etc.*

52 *Supra* note 2, at 6.

All these measures if taken into consideration can effectively help reduce the harmful effects of mobile phones on human health and increase awareness among consumers. Therefore, in order to lead a safe and healthy life, the above mentioned measures should be taken into account.