(2016) 04 AHC CK 0010

In the Allahabad High Court

Case No : Public Interest Litigation (Pil) No. 48084 of 2015

Smt. Asha Mishra — APPELLANT

Vs

State of U.P. And 7 Others — RESPONDENT

Date of Decision : 12-04-2016

Acts Referred:
Constitution of India, 1950 — Article 21, 226, 38
Uttar Pradesh Urban Planning and Development Act, 1973 — Section 57

Citation : (2016) 4 ADJ 389 : (2016) 4 AllWC 3427

Hon'ble Judges : Dr. Dhananjaya Yeshwant Chandrachud, Chief Justice;Yashwant Varma, J.

Bench : Division Bench

Advocate : C.S.C. A.S.G.I./2015/1786 Arvind Kumar, Goswami Nisheeth Yadav, Rahul Agrawal, Rakesh Mishra, S.P. Shukla and Shashi Nandan, Advocates, for the Respondent

Final Decision : Dismissed

Judgement

Yashwant Varma, J. - This batch of writ petitions has sought a restraint on the installation of mobile towers and 4G Base Transmitting Stations (BTS''s) being established in different districts of the State. The installations in question are part of a 4G network being laid in place by the seventh respondent. The primary ground of challenge raised in these proceedings is based upon the alleged and perceived ill effects of electromagnetic radiation generated by the BTS''s and mobile towers on human health. Placing reliance upon a report of one Prof. (Dr.) Girish Kumar, the petitioners sought to highlight the adverse impact and the serious health risk likely to occur on account of radiation from mobile towers and BTS''s. Referring to the report of Prof. (Dr.) Girish Kumar, it was contended that emissions from mobile towers and BTS''s have a serious and irreversible impact on the health and well being of individuals, resulting in neurological damage, impact on children and women, impact on fertility rates in human beings, lead to skin and ear damage and also effect vision. It was further contended that mobile towers as well as BTSs should not be permitted to be installed in densely

populated areas, residential areas or in and around areas where mobile towers and BTSs already existed. The petitioners place reliance upon a report drawn up by a Parliamentary Standing Committee to contend that emissions from mobile towers and BTSs have been recognised to have an adverse impact on public health and their installation should be banned. The petitioners have also highlighted the absence of an effective grievance redressal and regulatory mechanism to oversee the installation of these towers and prevent their mushrooming growth.

2. On 31 August 2015, the Court called upon both the Union and the State Governments to file a response in these proceedings setting out the regulatory mechanism that may have been put in place for monitoring the levels of radiation emitted by mobile towers. The order further directed the Union and the State Governments to disclose on Affidavit all particulars relating to the following important aspects:

(a) the process followed for grant of permissions or clearance for installation of mobile towers;

(b) the permissible distance between mobile towers;

(c) restrictions, if any, on setting up of mobile towers in residential areas; and

(d) the authority designated to carry out checks and verify levels of radiation emitted from such installation.

3. Pursuant to the aforesaid order both the State as well as the Union Governments have filed their responses in these proceedings. By a subsequent order dated 6 January 2016, this Court issued directions calling upon the Telecom Enforcement Resource and Monitoring Cell (TERM Cell) to submit a report with regard to the possible ramifications of the installation of the mobile towers and the BTSs by the seventh respondent. The Term Cell was required to submit a report after considering all relevant aspects including the location, distance from existing towers or cluster of towers and the extent of radiation from already existing towers. The Term Cell was called upon to conduct a site inspection of all places which formed the subject matter of this batch of writ petitions and file a report.

4. Pursuant to the aforesaid directions the Term Cell carried out a site inspection of the locations forming the subject matter of this batch of writ petitions and submitted its report on Affidavit. The Affidavit found that in various places the installations of the seventh respondent were yet to be completed and the towers were not energized or functional. It proceeded to record the radiation levels at the proposed sites bearing in mind the emissions from nearby towers or clusters of towers as the case may be. In all cases, the Term Cell reported that the radiation level measured at the locations was far below the safe limit prescribed by the Department of Telecommunication (DOT). It was on this state of the record that the petitions were set down for hearing.

5. Upon a review of the material placed before us and the submissions advanced we find that the following broad issues fall for our consideration: -

I. Whether the contention of the petitioners including those related to the deleterious effect of EMF radiation upon human health and safety is liable to be sustained;

II. Whether the seventh respondent is in compliance with the statutory and regulatory framework presently in vogue;

III. Whether the Court in exercise of its jurisdiction under Article 226 would be justified in granting the reliefs as sought; and

IV. Further directions if any.

Before we proceed to elaborate upon the broad issues which arise for determination it would be relevant to set out the backdrop against which the present controversy arises.

A. The Statutory Regime

6. The grant of licenses for establishment of a mobile network and connected aspects are administered and regulated by the DOT in the Union of India. The issue of fixation of standards, monitoring of compliance and other allied aspects emanating from radiation emissions by mobile towers and BTSs is laid down by DOT. The International Commission on Non-Ionizing Radiation Protection Guidelines (ICNIRP), were adopted by the Union Government in 2008. ICNIRP Guidelines mandated that the exposure limit to electromagnetic radiation from mobile towers and BTS''s should be limited to 0.08 W/kb. The guidelines referred to above had been recommended for adoption by the World Health Organization (WHO) and the International Telecommunication Union (ITU). Consequent to the adoption of these guidelines the licensing conditions of all telecom service providers in the country were amended and measures were put in place requiring them to comply with the radiation norms as prescribed by and under the ICNIRP guidelines. Subsequently and based upon the recommendations made by an Inter Ministerial Committee constituted by the Union Government which examined the issue of electromagnetic radiation a policy of abundant caution was adopted. On 30 December 2011, DOT enforced stricter norms providing for radiation from BTS''s being limited to 1/10th of the limits prescribed by the ICNIRP guidelines. These limits as they stand disclosed in the Affidavit filed before us are as follows:

Frequency in MHz

Power density limit

900

0.45 watt/m2

1800

0.9 watt/m2

2100 and above

1 watt/m2

7. To ensure compliance of the standards, DOT, on 8 April 2010 directed all licensees to comply with the reference limits/levels adopted by the Government of India in respect of EMF radiation norms by way of a self-certification procedure of their BTS''s. DOT is also stated to have thereafter constituted TERM Cells for different regions of the country and presently as per the statutory and regulatory framework in place, service providers can energize their BTSs commercially only after the self certification testing procedure is completed and a certificate in respect thereof has been duly submitted to the TERM Cell.

In August 2013, DOT issued the "Advisory Guidelines for State Governments for Issue of Clearance for Installation of Mobile Towers". These Guidelines dated 1 August 2013 have been issued by DOT in supersession of all earlier guidelines and circulars issued on the subject. Broadly, these guidelines envisage the service provider obtaining requisite permission for installation of mobile towers and BTSs from the State in which the tower is being installed, and from the local body within whose jurisdiction the tower is to be placed, prescribing audit standard for TERM Cells relating to the placement and position of the proposed BTS''s with reference to existing towers and BTSs. This is apart from the clearance that the service provider is obliged to obtain from the "Standing Advisory Committee for Frequency Allocations" (SACFA). Some of the salient compliances which these guidelines require are:

(a) A SACFA clearance;

(b) Structural Stability Certificate;

(c) Clearance from the Fire Safety Department;

(d) Clearance and NOC from local bodies;

(e) Payment of regulatory fees

8. DOT apart from the above is also stated to have issued instructions to TERM Cells for carrying out technical audits of BTS''s and to measure periodically the radiation from the towers which have come into commercial operation. For this purpose detailed guidelines have been codified by the Telecommunication Engineering Center called the "Test Procedure for Measurement of Electro Magnetic Fields From Base Station Antenna".

9. The State of U.P. has framed building byelaws with reference to the powers conferred upon it by Section 57 of the Urban Planning and Development Act, 1973. As per the salient features of these byelaws, permission is accorded to the service provider only upon him having submitted a layout plan of the proposed tower prepared by an architect registered with the Council of Architects along

with a structural safety certificate. The service provider is required to obtain an NOC from the Residents'' Welfare Association and the byelaws strictly prohibit the installation of such towers on buildings which have been illegally erected or are situate in narrow lanes. The byelaws further require the service operator and the landlord of the premises to submit a joint affidavit indemnifying against any human or property loss which may occur.

9-A. The Union Government in its Affidavit filed in these proceedings has further stated that the Science and Engineering Research Board functioning under the aegis of the Department of Science and Technology in the Union Government has constituted an Expert Committee/Task Force on 4 September 2013 to evaluate and to carry out studies in respect of the possible impact of Electro Magnetic Field (EMF) radiation exposure from mobile towers and handsets. The Affidavit discloses that as may as nineteen research proposals have been initiated by this Task Force in 2015. Dealing with the issue of distance the Union-respondents have submitted that mobile towers and BTSs are an essential ingredient to providing seamless and uninterrupted service. It has referred to the fact that the licensees are under an obligation to provide a minimum of 90% coverage and ensure a high quality of service. It is submitted that in order to maintain continuity of service, it is imperative that mobile towers be placed in all areas including residential and commercial areas. It is their submission that the placement of these towers is itself based upon a radio frequency network planning which maps out the various locations where these towers are liable to be installed to ensure seamless uninterrupted service. It is bearing in mind the above objective that DOT, they submit, does not place any limitation of a permissible distance between towers. For the aforesaid reason also it is contended that there is no restriction on the placement of these towers near schools, hospitals or residential areas. According to the respondents, the prescription of adherence to a norm which is 1/10th of the safe limit prescribed by ICNIRP is a sufficient safeguard against all perceived dangers to human health. They submitted that even in the case of multiple sites or cluster of antennas installed in close proximity the overall radiation limits are not permitted to exceed the exposure limits mandated by Department of Telecommunication (DoT).

B. The Prof. Girish Kumar Report

10. On 10 January 2012, the Division Bench of the Court at Lucknow issued directions on a public interest litigation Writ Petition (M/B) 11275 of 2010 (Sri Ram Singh Jauhari v. Union of India), to constitute an expert committee to consider the various issues highlighted in the report of Prof. Girish Kumar. A thirteen member committee comprising of members working in DOT, professors from the Indian Institutes of Technology at Kharagpur, Kanpur, Delhi, Roorkee, Bombay, the Indian Council of Medical Research, Institute of Toxicology Research, Department of Science and Technology Government of India came to be constituted. This Committee submitted its findings in a Report dated 17

January 2014. Some of the salient conclusions that were recorded in this Report are extracted below:

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Main issues brought out in the petition-presented by Prof. (Dr.) Girish Kumar

Details of deliberations held by the Committee

1

People living within 50-300 meter radius are more prone to dangerous ill effects of EMR on human health. There are some evidence to this effect.

It was explained to the Committee members by him that if present ICNIRP guidelines are followed then human body would absorb microwave energy of 583.2 kw-sec which would amount to keeping human body in microwave oven for 19 minutes/day.

Thermal effects of EMF radiations are explained in this example as there is a comparison with microwave heating. It has been assumed by Prof. (Dr.) Girish Kumar that human body is a cylinder of fluid and has no thermal regulation of its own. Further, to understand the effect to EMF radiation of human body, following factors need to be considered:

Further, with regard to Microwave Heating Concept, 4.2 KW of microwave power raises temperature of 1 Litre of water by 1 degree C in 1 second. In a microwave oven, temperature of one cup of water increases from 30 degree to 100 degree C in approx. 70 seconds with 500 watt of microwave power. With 1W power temperature will increase by 1 degree C in 500 seconds.

Temperature of ear lobes increases by approx. 1 degree C when cell phone is used for approx. 20 minutes

(a) According the scientific data published in reputed scientific journals, the Absorption cross-section (ACS), which is defined as the ratio of power absorbed to incident power density, of human body to EMF radiation is between 0.2 to 0.3 within mobile frequency bands as it is frequency dependent.

These values have been determined by considering that the human body is totally immersed in a uniform EMF. Such a situation can only be created in an isolated environment like laboratory. For an actual directional exposure, the value of ACS will be even less.

(b) Human body is not homogeneous. It consists of several layers like skin, tissue, fat, muscle etc and different dielectric constants.

(c) Only about 20%-30% of the human body shall be actually exposed to the directional beam of EMF radiation from the BTS antenna. In his computations, Prof. (Dr.) Girish Kumar has assumed that the full EMF radiated power (at peak traffic value) is falling on the human body from all sides i.e. from every angle in

3600and also from top and bottom as if live human being is kept in a reverberation chamber having EMF radiation from all sides at peak values. He further assumes that the entire electro-magnetic (E.M.) power in the incident wave enters into the human body which is not correct.

(d) BTS generally radiates at much lower power than peak power.

(e) World Health Organisation (WHO) in its fact sheet No. 193 of 2011 while describing short-term health effects has mentioned that at the frequencies used by mobile phones, most of the energy is absorbed by the skin and other superficial tissues, resulting in negligible temperature rise in the brain or any other organ of the body.

Prof. (Dr.) Girish Kumar has not taken these factors into consideration in the calculations given by him. Further, Prof. Girish Kumar has also not taken into account a very important factor, i.e., the self thermo-regulatory mechanism of the human body.

As for as thermal effects are concerned, committee also noted that power density of the Sun''s radiation during day time is of the thermal effects, the Committee notes the following:

The assumptions used by Prof. (Dr.) Girish Kumar are hypothetical. Such assumption of a person being close to and in front of very narrow beam of antenna at that height in the air is rhetorical and impractical. Further, there is no scientific evidence available so far to prove that the temperature of the human body steadily rises by 20F in one hour and 80F in 4 hours and so on inspite of self thermo regulation.

The rise in body temperature due to EMF exposure depends upon whole-body SAR for which the FCC limit for general public is 0.08 W/Kg. There are ample number of published scientific studies which show that at these SAR levels, the rise in body temperature is of the order of 0.1 degree centigrade (0.180F) for long exposure times.

The thermal time constant and thermo-regulatory mechanism of human body have been totally ignored by Prof. (Dr.) Girish Kumar. Thus, the calculation given by him has no scientific basis as far as human body or living organisms are concerned in real situations. The factors affecting the EMF exposure to human body as deliberated in point 1 above also apply in this case.

The sole criteria of safety is that with present level of power radiated from antenna, the radiation level at the location around the tower where the people could be present should be within the limits as prescribed by the DOT which are already 1/10th of ICNIRP norms.

Conclusion:

The Committee has come to the conclusion that Prof.(Dr.) Girish Kumar has made an over simplification of the complex phenomenon of human response to

such stimuli.

Such unfounded and hypothetical analysis is ill conceived. This is complete misrepresentation of actual position and shall create only confusion, misperception and unfounded fear in the minds of general public, which should be avoided.

The Committee makes the following observations:

a. FCC limits for occupational exposure to EMF radiation for 300- 1500 MHz frequency are f/300 mwatt/cm2 with average measurement time of 6 minutes. Whereas for general population, EMF radiation exposure for 300- 1500 MHz frequency, the FCC limits are f/1500 mwatt/cm2 with power density limits from cell tower should be f/300 mw/cm2 for 6 minutes use and f/1500 mw/cm2 average measurement time of 30 minutes. These two limits are for different environments and hence can not be compared. for 30 minutes use.

b. While the FCC standard for radiation is f/1500 mwatt/cm2, when expressed in the unit of watts/m2, this limit becomes f/150 watt/m2. This is far relaxed than the limit of ICNIRP which is f/200 watt/m2. The FCC limits are followed in USA, Canada, and Japan besides few more countries. India has adopted 1/10th of ICNIRP norms which is more stringent and is f/2000 watt/m2.

c. While, measuring this parameter, the average of 30 minutes of radiation is taken so as to avoid any misreading due to instantaneous increase. The contention of Prof. Girish Kumar that the same limit, when averaged over 6 minutes, becomes f/300 mw/cm2 is total misunderstanding of the standard.

d. Cell towers are designed to radiate continuously for providing reliable and continuous mobile phone service. The Committee observed that this interpretation of Prof. (Dr.) Girish Kumar, of reducing the radiated EMF power from cell tower depending on period of use, is baseless and hypothetical.

e. The Committee members explained that duration of thirty minutes mentioned in FCC guidelines is the duration of any sample over which the measurement should be done and average of the values gathered during these thirty minutes should be taken as the value of EMF radiation power density observed. The Committee noted that the FCC guidelines are available in public domain with the above explanation. These guidelines (FCC No. OET 56) have also been shared among all the members of the Committee. (ANNEXUE-II). Further, averaging is used in any measurement to avoid judgement on any instantaneous observation. This is a very well internationally established scientific procedure of measurement.

f. The Committee further noted that in case of ICNIRP guideline, power density is to be averaged over any 6 minutes period for the purpose of measurement of EMF radiation. ICNIRP guidelines mentions that "for frequencies between 100 Khz and 10GHz, seq (i.e. power density) are to be averaged over any 6 minute period." This measurement standard however does not mean that the radiation

exposure to the public has to be limited to only six minute, as being made out in the meeting by Prof. (Dr.) Girish Kumar.

g. It was opined by the Committee that as long as the absolute prescribed limit of EMF radiation power level is not exceeded, duration of exposure is not significant taking into account the self thermal regulatory mechanism of the human body. Rather, absolute prescribed limit of EMF radiation power level are recommended by the international bodies keeping in view the continuous radiation from cell towers.

h. The limit of 6 minutes radiation at the recommended power levels of EMF radiation by FCC as deduced by Prof. Girish Kumar is absolutely incorrect and gross misrepresentation of the FCC recommendation. Similarly, the limits deduced by him for 24 hours use is also utter misrepresentation of the FCC standard.

i. In the context of 30 minutes average exposure, FCC in their document No. OET Bulletin 56 has clarified that "For such public exposure situations, the MPE (Maximum Permissible Exposure) limits normally apply for continuous exposure. In other words, as long as the absolute limits are not exceeded, indefinite exposure is allowed."

j. Same applies to the measurement of SAR values for average 6 minutes and has no relation to the duration of use of mobile phone by the people. Conclusion:

The Committee after carefully deliberating all the aspects concludes that the interpretations and projections given by Prof. (Dr.) Girish Kumar are absolutely incorrect and are complete misrepresentation of the facts.

Further, it is also clear from above that the prescribed norms for EMF radiation by standards making bodies take into account the continuous EMF radiation (24x7) emitted from mobile towers and mobile phones (while in use).

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of pregnancy. This has also been brought out by him in his report submitted to Secretary, DOT in December 2010.

Biological effects or health effects? What is a health hazard?

Biological effects are measurable responses to a stimulus or to a change in the environment. These changes are not necessarily harmful to your health. For example, listening to music, reading a book, eating an apple or playing tennis will produce a range of biological effects. Nevertheless, none of these activities is expected to cause health effects. The body has sophisticated mechanisms to adjust to the many and varied influences we encounter in our environment. Ongoing change forms a normal part of our lives. But, of course, the body does not possess adequate compensation mechanisms for all biological effects. Changes that are irreversible and stress the system for long periods of time may constitute a health hazard.

An adverse health effect causes detectable impairment of the health of the exposed individual or of his or her offspring; a biological effect, on the other hand, may or may not result in an adverse health effect.

It is not disputed that electromagnetic fields above certain levels can trigger biological effects. Experiments with healthy volunteers indicate that short-term exposure at the levels present in the environment or in the home do not cause any apparent detrimental effects. Exposures to higher levels that might be harmful are restricted by national and international guidelines. The current debate is centered on whether long-term low level exposure can evoke biological responses and influence people''s well-being.....

Conclusions from scientific research

In the area of biological effects and medical applications of non-ionizing radiation approximately 25,000 articles have been published over the past 30 years. Despite the feeling of some people that more research needs to be done, scientific knowledge in this area is now more extensive than for most chemicals. Based on a recent in-depth review of the scientific literature, the WHO concluded that current evidence does not confirm the existence of any health consequences from exposure to low level electromagnetic fields. However, some gaps in knowledge about biological effects exist and need further research. ....."

(Source: WHO website: http://www.who.int/pehemf/about/WhatisEMF/en/index 1. html

Copy attached as Annexure-III

The Committee has noted that the claims made by Prof.(Dr.) Girish Kumar on health effects of EMF radiation are not supported by any scientific evidence Prof. (Dr.) Girish Kumar appears to have heavily relied only on Bio-Initiative Report 2007 and 2012. This report is one of the extreme view among thousands of studies on the subject and does not provide any conclusive evidence.

The Committee noted that WHO, after studying approximately 25,000 studies over past 30 years has concluded that current evidence does not confirm the existence of any health consequences from exposure to EMF radiation.

WHO has concluded that considering the very low exposure levels and research, there is no convincing scientific evidence that the prescribed EMF exposure from base station cause adverse health effects.

As regards the health effect of radiation from prolonged use of mobile phone, International Agency for Research on Cancer (IARC), an agency of WHO, has classified radio frequency electromagnetic fields as possibly carcinogenic to humans (Group 2B), a category used when a casual association is considered credible but when chance, bias or confounding cannot be ruled out with reasonable confidence.

WHO has further stated that a large number of studies have been performed

over the last two decades to assess whether mobile phones pose a potential health risk. To date, no adverse health effects have been established as being caused by mobile phone use.

The Committee also noted that in fact substances, mixtures and exposure circumstances classified by the International Agency for Research on Cancer (IARC) as ''Group 2B'', inter-alia, include coffee, Aloe vera (whole leaf extract), Pickled vegetables (traditional in Asia), Talc-based body powder etc. (source IARC Monographs).

However, more studies are underway at various forums (National as well as International) to find any conclusive evidence and direct correlation to the harmful health effect from EMF radiation from cell towers and mobile phones.

Committee has further noted that IARC and WHO have classified the radio frequency Committee felt that such selective highlighting of EMF radiation, as the only environment factor, may cause unfounded fear and scare among public and should be avoided in the absence of any conclusive evidence.

Members have further questioned the assumption of Prof. (Dr.) Girish Kumar that cancer can develop during a short period of exposure to EMF radiation to a new born baby during pregnancy in 9 months time whereas as per the present findings, latency period for developing cancer in human being is 10-15 years. Similarly assumptions of Prof. (Dr.) Girish Kumar that brain tumor has developed during 4 months of exposure to EMF radiation is also not acceptable as the latency period is much higher.

Conclusion:

It is noted by the Committee that measured EMF radiation power levels from cell tower have not been quoted by Prof. (Dr.) Girish Kumar in this example while ignoring all other factors which might be relevant. Also no peer reviewed conclusive analysis has been presented by him. This makes the case study highly misleading and objectionable and at best be termed as anecdotal.

6.

International Exposure Standards from some of the countries (about 12 only) was presented that the radiation norms vary from 2w/m2 to as low as 0.00001w/ m2

The examples taken by Prof.(Dr.) Girish Kumar are from very few countries and some are the examples of small local bodies/countries in a country. These are isolated examples and as per information available, these norms are not even legally binding in some of these countries. It is worthwhile to mention that most of the countries in the world have adopted ICNIRP limits. In fact WHO has recommended adoption of International standards, namely, ICNIRP/IEEE.

Moreover, India is among the very few countries who have adopted precautionary approach and have adopted much lower norms than rest of the world which is

1/10th of ICNIRP recommended EMF radiation limit. India has adopted 1/10th of ICNIRP limits as an abundant precaution.

Conclusion:

India''s prescribed limits for radiation are already much lower than most of the countries in the world. Therefore, there is no need to further reduce the limits without conclusive studies by International standards bodies and India''s own conclusive research and findings.

7

Analysis of certain studies done in few countries have been quoted by Prof.(Dr.) Girish Kumar. These include Spain, Israel, Germany, Sweden, Brazil and India.

It is noted by the Committee that only few select studies, many of them possibly without any peer review, have been picked in the example given in the presentation by Prof.(Dr.) Girish Kumar, simply to buttress his own point of view.

Whereas International Organisations like United Nation''s WHO conduct peer review of the independent studies done by an individual or a country and have taken into account approximately 25,000 studies over past 30 years from all over the world.

Conclusion:

The studies quoted by Prof. (Dr.) Girish Kumar, therefore, may be relevant for conducting further peer review at international level for appropriate correlation and can not be relied upon at this stage without any conclusive evidence.

11. From a perusal of the aforesaid findings it is apparent that various aspects which were highligted by Prof. Girish Kumar were considered in great detail by a team of experts which ultimately came to the conclusion that there was no justification for the fear perception as raised in his report. The Committee held was that there was a need for a continued research on the subject of EMF radiation. However it categorically held that at present their was no scientific evidence which may justify the perception of EMF radiation adversely effecting human health or well being.

C. The Parliamentary Standing Committee

12. The Parliamentary Standing Committee delved upon various issues of concern such as the structural safety norms, the ill effects of EMF radiation, the need for India specific research, and the need for a continued monitoring of the issues pertaining safety and health. Upon the submission of the Report by the Committee, the DOT submitted an Action Taken Report and point wise response. We deem it apposite to extract some of the relevant parts of the same hereunder: -

B. Issues related to health hazards from EMF Radiation and Need for India specific long term Research

(Recommendation Sl. Nos. 6 and 9)

10. The Committee in its Original Report had recommended as under:-

"The Committee note with concern that the Government had not adopted or prescribed any standards relating to safe exposure from electromagnetic radiations emitted by the mobile towers as well as the mobile handsets and it was only in the year 2008 that the Department of Telecommunications adopted the standards prescribed by the International Commission for Non-Ionizing Radiation Protection (ICNIRP) although the same were in existence since 1998. These norms are a kind of international safety guidelines for RF exposure. Thereafter, based on the growing media reports and increasing public concern on the possible health hazards of EMF emission from antenna(e) of telecom towers/ networks, an Inter- Ministerial Committee (IMC) was constituted by the Government in August, 2010 to examine the effect of EMF Radiation from Base Transmission Stations (BTSs) and mobile phones. Based on the recommendations of the IMC, in respect of BTSs, exposure limit for Base Station Emissions was subsequently reduced to 1/10th of the limits prescribed by ICNIRP with effect from 01.09.2012, which according to the various memoranda received by the Committee has still failed to allay the fear amongst the public who have cited various kinds of health hazards to human beings, animals, flora and fauna from the EMF emission of telecom towers.

During the course of the examination of the subject, the Committee found two contradictory views on ill effects of EMF emissions from telecom towers and mobile handsets on humans and wildlife. The Committee note that on one side, various organizations/ stakeholders, such as, Association of Unified Telecom Service Providers of India (AUSPI), Cellular Operators Association of India (COAI), Reliance Communications Limited, Vodafone India Limited, European Business Group etc., have denied the harmful effects of EMF radiations from mobile towers and mobile handsets and also contended that sufficient precautionary measures have been put in place. On the other side, various studies including Bioinitiative Report of 2012 have linked several adverse health effects to electromagnetic fields from mobile tower and handsets including effects on wildlife like birds, bats, honey bees, etc. Some of the health effects reported are effect on cell growth, cell differentiation, DNA damage, altered immune system, hormonal effects, pervasive impairment of metabolic and reproductive system, effect on fertility, reproduction and health of off-springs, risk of glioma (a malignant brain tumour), sleep disorders, confusion, anxiety and depression and appetite disturbance, etc. The Department of Telecommunications has cited a World Bank Report of May, 2006 which has concluded that considering the very low exposure levels and research results collected to date, there is no convincing scientific evidence that the weak RF signals from base stations and wireless networks caused adverse health effects. In this regard, the Committee feel that the Department is selectively relying on the research findings which have concluded that there is no health effects of EMF

from telecom towers/networks while ignoring host of other reliable research and concerns made which have proved to the contrary. Considering the seriousness of the matter which concerns the citizens of the country, the Committee recommend that Government should entrust the scientific study on impact of Telecom towers and handsets on humans to a reputed Government organisation in a time bound programme. Till such time Government should strictly enforce EMF radiation norms finalised in September, 2012 which are reportedly 1/10th of ICNIRP prescribed norms."

(Recommendation No. 6)

The Committee note that all the standards of radiation limit which the Government has chosen to follow are based on the researches conducted in western countries where conditions are very different from countries like India. Some of the specific differences between western countries and India are low population density, cold climatic conditions, low density of mobile phone towers etc. The Committee also note that DoT has acknowledged that some of the India specific conditions, such as, multi-operator scenario, mobile phone usage, higher population density etc., have been conveyed to WHO for their considerations in carrying out with India specific research. Against this backdrop, the Committee are not convinced with contention of DoT that none of the studies done under the aegis of the WHO had proved that the emissions from the mobile phone towers/ networks are causing harmful effect on human beings as the same are not based on India specific research. The Committee find it deplorable that some of the India specific research carried out by eminent scientists and other Governmental organisations have not been taken into consideration by DoT in forming its guidelines. For instance, a 10 year study conducted by Prof. Gandhi of Department of Genetics, Guru Nanak Dev University, Amritsar has found that radiations emitted from the towers are degenerating DNA and chromosomes. Similarly, a study conducted by Prof. Jitendra Behari in Jawaharlal Nehru has found that the exposure to radiation from mobile towers and mobile phones could have an adverse impact on male fertility and deplete the defense mechanism of cells. Also the Environment and Forest Ministry study has blamed electromagnetic radiation from communication towers for the declining number of sparrows and bees, etc. The Committee, in view of the above findings made by the reputed experts and research institutes, feel that there is no room for complacency on the issue by selectively relying only on the findings of WHO whose research reports are mainly based on developed countries and strongly recommend that the findings of India specific studies should also be taken into consideration by DoT in coming out with its policy initiative on mobile towers.

The Committee also note that the main challenge involved in conducting studies on radiation hazards from mobile towers and mobile handsets is the requirement of very long period of scientific research on targeted population and the lack of established standard procedures and protocols to study and monitor the EMF impacts on humans and wildlife. The Committee are, however, concerned to note

that in spite of exponential growth of mobile telephony in the country over the last decade, no efforts have been made by the Department to undertake a continuous or long term research on the issue. It is rather surprising to note that even though the Department of Telecommunications is the nodal Department for all telecommunication related issues, it is only the Department of Science and Technology which on the direction of Prime Minister''s Office has constituted a Committee under Dr. N.K. Ganguly, former Director General (ICMR) on 1.10.2012 to examine the harmful effects from Mobile towers on the population living in the vicinity and for developing the frame of reference for calling out Request For Proposals (RFPs) for scientific assessment of health hazards and adverse impact on ecology. The Committee feel that DoT should be more sensitive and proactive in discharging its prime responsibility on such critical matters. The Committee, therefore, strongly recommend that the DoT must wholeheartedly associate itself with such long term research works being carried out within the country and also make regular budgetary allocation under a separate budget head of expenditure for research on health hazards from EMF radiation.

(Recommendation No. 9)"

Replies of the Government

11. The Department in their Action Taken Note have stated as under:-

"As has been brought out in response to recommendation no 1 above, extensive research has been carried out on the subject of health effects from EMF radiation. WHO has clearly stated that in the area of biological effects and medical applications of non-ionizing radiation approximately 25,000 articles have been published over the past 30 years. Despite the feeling of some people that more research needs to be done, scientific knowledge in this area is now more extensive than for most chemicals. Based on a recent in-depth review of the scientific literature, the WHO concluded that current evidence does not confirm the existence of any health consequences from exposure to low level electromagnetic fields. However, some gaps in knowledge about biological effects exist and need further research.

The Committee on Man and Radiation (COMAR) is a technical committee of the Engineering in Medicine and Biology Society (EMBS) of the Institute of Electrical and Electronics Engineers (IEEE), an international standard making body. COAMAR is primarily working in the area of biological effects of non-ionizing electromagnetic radiation, including radiofrequency (RF) energy. With regard to Bio-Initiative report 2007, COMAR submitted a statement in 2009 titled - "COMAR Technical Information Statement: Expert reviews on potential health effects of radiofrequency electromagnetic fields and comments on the Bio Initiative Report". Extract of this statement is as below:

"This report summarizes the conclusions from several major reports and comments on the markedly different conclusions in the Bio Initiative Report (abbreviated BIR below). Since appearing on the Internet in August 2007, the

BIR has received much media attention but, more recently, has been criticized by several health organizations (see Section titled "Views of health agencies about BIR"). COMAR concludes that the weight of scientific evidence in the RF bio effects literature does not support the safety limits recommended by the Bio Initiative group. For this reason, COMAR recommends that public health officials continue to base their policies on RF safety limits recommended by established and sanctioned international organizations such as the Institute of Electrical and Electronics Engineers International Committee on Electromagnetic Safety and the International Commission on Non-Ionizing Radiation Protection, which is formally related to the World Health Organization."

Further, it is also noted that Indian Council of Medical Research (ICMR), on critical examination of the Bio-initiative 2012 Report, has observed that the report is not based on multi disciplinary weight and there is no balanced reflection of the current state of scientific knowledge. However, further study is needed to arrive at a conclusion about the potential health effects of EMF radiation.

India specific scientific research by Indian Scientist/Engineers keeping in view Indian environment and conditions are being carried out and till the time conclusive data from these researches becomes available, we have to rely on research done by reputed international agency like WHO, ICNIRP etc. These agencies have already carried out extensive research on the subject as has been brought out above. However, Department of Science and Technology (DST), Government of India, is already working on conducting study on possible impact of EMF Radiation exposure from mobile tower and handset on life (humans, living organism, flora and fauna and environment) and related initiatives. Based on the recommendation of the Committee headed by former Director General (ICMR), representative from IIT Chennai, Indian Institute of Toxicology Research, Lucknow, Department of Telecom, Ministry of Environment and Forest, ICMR and DST, Science and Engineering Research Board (SERB) invited RandD proposals in June, 2013 on the possible impact of EMF radiation exposure from mobile towers and handsets on life (humans, living organism, flora and fauna and environment) and related initiatives from Eligible Scientist/Organizations-public or private, individually or in collaboration. The SERB has constituted an Expert Committee / Task Force on 04 September 2013 to evaluate, RandD proposal to study the possible impact of EMF Radiation exposure from mobile tower and handset on life (humans, living organism, flora and fauna and environment) and related initiatives. SERB has short listed 79 proposal for carrying out scientific studies. Thus, India specific scientific research by Indian Scientist / Engineers keeping in view Indian environment and conditions are being carried out and conclusive data from these researches will also become available in future."

(Reply to Recommendation No. 6)

The EMF project of WHO has been conducting research on effects of EMF Radiation on human health since 1996. This project has participation from over

50 countries. It is pertinent to note that many of these studies have been going on for years as to understand the effect of EMF over the period of time. Thus these studies are not specific to developed countries alone. WHO has referred to approximately 25,000 articles published around the world over past 30 years, and based on an in-depth review of scientific literature, has concluded: "current evidence does not confirm the existence of any health consequences from exposure to EMF radiation". Since the effects on human beings are to be studied over a long period of time, further studies are going on around the world.

As has been given in Action taken report to recommendation no. 6 above, India specific scientific research by Indian Scientist/Engineers keeping in view Indian environment and conditions are being carried out and conclusive data from these researches will also become available in future. Till the time conclusive data from these researches becomes available, research done by reputed international agency like WHO, ICNIRP, etc. are to be relied on.

(Reply to Recommendation No. 9)"

12. The Committee, in their original Report, had expressed their concern that while prescribing the limits to safe exposure from electromagnetic radiations emitted by mobile towers and mobile handsets, the Department had selectively relied on researches conducted in the western countries which have conditions very different from countries like India, such as low population density, cold climatic conditions, low density of mobile phone towers, etc., ignoring some of the India-specific conditions like multi operator scenario, mobile phone usage, higher population density, etc. The Committee note that for India-specific studies, the Department of Science and Technology (DST) are working on conducting a study on the possible impact of EMF radiation exposure from mobile towers and handsets on life (humans, living organism, flora and fauna and environment) and related initiatives. Towards this end, the Science and Engineering Research Board (SERB) has invited proposals on the possible impact of EMF radiation exposure from mobile towers and handsets and shortlisted 79 proposal for carrying out scientific studies. The Committee are of the view that India-specific research on the subject has become very important, mainly because the standards of radiation limit which the Government have chosen to follow are based on researches conducted in western countries and some of the India-specific research carried out by eminent scientists and other Governmental organizations - which have found adverse impact of EMF - have not been taken into consideration by DoT. Taking into cognizance the initiative taken for carrying out India-specific scientific research by Indian scientists/engineers which will provide valuable feedback on the impact of EMF radiation, the Committee emphasise that DoT should promote and encourage the research works being carried out in the country, including by providing appropriate budgetary support.

Need for an enforceable national guidelines for setting up of telecom towers.

The Committee note that mobile telephony which was introduced in the country

more than one and a half decade back underwent high pace of growth and already more than 7 lakh Base Transmission Stations (BTSs) have been installed in the country to cater to the need of more than 860 million mobile connections. The Committee, however, are unhappy to note that even after the lapse of such a long period, no uniform telecom infrastructure policy has been framed by the Government for setting up of the mobile towers in the country. This has resulted in a haphazard growth of this sector with varying parameters from State to State in setting up of mobile towers besides mushrooming of a large number of illegal towers all over the country. It was only in the year 2012 that DoT came out with some guidelines on grant of clearances for installation of mobile towers which too were just advisory in nature. The Committee note that these guidelines were sent to the Chief Secretaries of all States and UTs and were also placed on the website of the Department for inviting comments/ suggestions and based on the comments/ suggestions so received, the DoT issued revised guidelines on 1st August, 2013 which again are advisory in nature and none of the provisions contained therein have any kind of statutory backing. The Committee express their strong displeasure that even though the DoT has formulated revised guidelines, the Department is not aware of the practices followed in advanced countries like UK/ USA with respect to setting up of mobile towers.

The Committee are of the strong opinion that before formulating and issuing revised guidelines for setting up of mobile towers, the DoT ought to have studied and adopted the best practices prevalent in the advance countries in this regard. Further, the scrutiny of these revised guidelines has revealed various loopholes and ambiguities which in the opinion of the Committee render the guidelines ineffective and deficient on a number of crucial aspects. The Committee find that the revised guidelines have not addressed the important issue of removal of already existing illegal mobile towers or making it mandatory for the existing more than 7 lakh towers to comply with the guidelines. Moreover, no road map has been prescribed as to how the revised guidelines are supposed to be implemented within a specific timeframe.

The Committee are of the firm opinion that until or unless the deficiencies in the guidelines are fully addressed, these are hardly expected to serve any meaningful purpose in streamlining the process of mobile tower installations and relocation of the already existing towers, wherever necessary, in the country. The Committee, therefore, strongly recommend that efforts should be made by the Department to come out with fresh guidelines in consultation with State Governments taking into consideration the above concerns of the Committee. The Committee further recommend that the implementation of guidelines should be made mandatory across the entire country by giving them a statutory backing. Apart from this, the Committee also strongly recommend for issuing of directives to all State Governments/Local Municipal bodies for immediate removal of all such illegal towers which have been set up without permission or which have failed to obtain the required ''No Objection Certificate'' for structural safety or otherwise pose any kind of risk or health hazard to the public or to the

residents living in the vicinity of mobile towers.

Action Taken by the Government

As has been detailed earlier, the revised guidelines for grant of clearances for installation of mobile towers have been issued on 01.08.2013. These broad guidelines already stipulate the requirements for Telecom Service Providers/ Infrastructure Providers for obtaining clearance from local bodies / state governments for installation of mobile towers. These broad guidelines issued by DoT for clearance of installation of mobile towers to Chief Secretaries of all the states, should help in formulation of uniform-like policies across various states. These guidelines have been issued recently and in future will be able to achieve their desired objective. In the meanwhile, keeping the recommendations of the Standing Committee in mind, DoT has taken steps to study best practices being followed in advance countries and information on the same is being collected.

For towers installed without permissions required under byelaws of local bodies, State Governments are taking actions based on the letter/advisory guidelines issued by DoT to states. For towers that pose any risk of health hazard to the public due to EMF radiation, extensive audit of comprehensive self-certificates and sites for compliance to EMF radiations safe limits being submitted by telecom service providers is being carried out by TERM Cells of DoT. These audits have the purpose of limiting the EMF radiation exposure and keeping general public areas in the vicinity of towers safe, and are carried out as per the procedure prescribed from time to time in their respective License Service Areas. TERM Cell of DoT levy penalty on those towers which violates the prescribed norms. In order to make the deterrence stronger, the penalty for violation of prescribed stricter EMF norms from BTS tower by telecom service providers has been increased from Rs. 5 Lakhs to Rs. 10 Lakhs per BTS, per incidence per operator w.e.f. 20th November, 2013. Provision has also been made to shut down the sites which do not meet the prescribed norms.

(Ministry of Communications and Information Technology /Department of Telecommunications O.M. No. 12-25/2010- CS-III(Pt. II)

D. World Health Organisation Initiative

13. From the material placed before us we find that the WHO had in 1996 established the International EMF Project. The Project aimed at assessing the scientific evidence gathered on the possible effects of EMF exposure to health. The Project discharges its function of carrying on and enabling scientific research with the aid of 50 national authorities, eight international organizations and independent institutions. This Project is charged with reviewing the results of scientific studies carried on at an international level as also to focus research in the field. The web portal of the WHO carries the following recital on the subject: -

"....WHO''s International EMF Project was launched to provide scientifically sound and objective answers to public concerns about possible hazards of low level

electromagnetic fields.

Despite extensive research, to date there is no evidence to conclude that exposure to low level electromagnetic fields is harmful to human health..."

D. Emf Radiations - Recommended International Safety Standards

10. WHO recommended that ''National authorities should adopt international standards to protect their citizens against adverse levels of RF fields. They should restrict access to areas where exposure limits may be exceeded. ''WHO has recommended adoption of international standards, namely International Commission for Non Ionizing Radiation Protection (ICNIRP)/ Institute of Electrical and Electronics Engineers (IEEE). The main conclusion from the WHO reviews is that EMF exposures below the limits recommended in the ICNIRP international guidelines do not appear to have any known consequence on health. The WHO says -

"All reviews conducted so far have indicated that exposures below the limits recommended in the International Commission for Non Ionizing Radiation Protection (ICNIRP) 1998 EMF guidelines, covering the full frequency range from 0-300 GHz, do not produce any known adverse health effect. However, there are gaps in knowledge still needing to be filled before better health risk assessments can be made."

E. The Precedents

14. The issues canvassed before us on these petitions also stood raised before various other High Courts. The Kerala High Court was one of the first Courts, which ruled upon a similar challenge. In Reliance Infocom Ltd. v. Chemanchery Grama Panchyat, AIR 2007 Ker 33 , the High Court observed as follows:

"5. We have already found that RF exposures from Mobile Base Stations are much less than from radio, FM radio and television transmissions and that the consensus of scientific community is that the radiation from Mobile Phone Base Stations is far too low to produce health hazards if people are kept away from direct access to the antenna and the overall evidence indicates that they are unlikely to pose a risk to health. The strength of radio frequency fields in front of the antennae varies with the distance. Persons standing directly in front of the antennae in these high density zones will get higher exposures. We have also found that the height of Mobile Base Station antennae is normally 36 metres and the effect of radio waves depends on the distance from the base stations since the antennae are directed horizontally with a 5 degree downwards tilt. Human studies pertaining to base stations conducted by Santini R et al (2002), Bortkiewicz et al (2004) and Hutter and kundi et al (2006) do not report any quantitative parameters related to health hazards. Therefore it can safely be concluded that the permission granted for installation of Mobile Base Station by the Panchayat would not cause as such any health hazards nor will it affect the fundamental rights guaranteed to citizens under Article 21 of the Constitution.

Right to life enshrined under Article 21 includes all those aspects of life which make life meaningful, complex and worth living. Development of technology has its own ill-effects on human beings, but, at times people will have to put up with that at the cost of their advantages. Petitioner and others for installing towers will have necessarily to comply with the statutory provisions contained in Chpater XIX of the Kerala Municipal Building Rules. 1999 which permits construction of telecommunication towers over buildings. Petitioner has submitted that it has already satisfied all those conditions and in such circumstance Panchayat has granted the licence.

8. We notice that the Panchayat has as on today no scientific data or relevant materials to cancel the licence already granted on the ground that the installation of the Tower would cause any health hazards. Licence granted has been cancelled by the Panchayat based on an apprehension that the radiation may cause health hazards to the people of the locality. Further Ext.P5 also says that installation of generator would cause sound pollution. Petitioner has not installed any generator as on today and if the installation of generator would cause any sound pollution, evidently Pollution Control Board can give appropriate direction and the petitioner will have to obtain necessary consent from the Pollution Control Board for installation of generators, so that it would not cause any sound pollution. So also, if the installation of Tower and the emission of electromagnetic waves causes any air pollution, affecting human health the Pollution Control Board can take appropriate measures under Air (Prevention and Control of Pollution) Act, 1991."

15. Following the dictum laid down in the aforesaid judgment similar views were taken by the High Court of Jammu and Kashmir in Ujagar Singh and Ors v. State and Ors., AIR 2011 J and K 49, the High Court of Gujarat in Muktipark Co-operative Society v. Ahmedabad Municipal Corporation, Special Civil Application No. 5548 of 2014 along with connected applications decided on 5.9.2014, the Madras High Court in K.R. Ramaswamy @ Traffic Ramaswamy v. The Secretary, Department of Telecommunications, Government of India, New Delhi and Ors., W.P. No. 24976 of 2008 along with connected petitions decided on 05.03.2015, the Delhi High Court in Residents Welfare Association v. Union of India and Ors., W.P. (C) 8661 Of 2015 decided on 09.09.2015 and the High Court of Himachal Pradesh in- Baldev and Others v. State of H.P. and others, Writ Petition No. 5282 of 2014 decided on 30.11.2015 as well as Surinder Singh v. State of H.P. and Others, Writ Petition No. 4187 of 2015 decided on 30.11.2015

16. A challenge on similar lines also fell for consideration before a Division Bench of this Court when a petition Writ Petition (PIL) No. 40535 of 2013 (Ashwani v. State and Ors.), in public interest came to be dismissed on 26 July 2013 in the following terms:

"Till a proper research is made and conclusively it is shown that Mobile Towers in residential areas are a definite health hazard, it will not be proper to ask for removal of such towers from the residential areas, which is not prohibited under

any law or executive decisions of the State. Petitioner has failed to properly research and has not stated that this issue has not been determined authentically. Similar prayers made in Public Interest Litigations filed earlier have been declined by this Court.

For all the aforesaid reasons this writ petition is dismissed."

17. From the above narration of facts, it is clear that High Courts throughout the country have noted the absence of any scientific material or data which may warrant a prohibition on the enterprise of establishing a mobile network and the consequential erection and establishment of mobile towers and BTS''s.

18. Having traversed and noticed the vast field of scientific material gathered by different committees and organisations, the precedents rendered on the subject we now proceed to deal with the issues raised before us on merits.

F. On Merits

I. Whether the contention of the petitioners including those related to the deleterious effect of EMF radiation upon human health and safety is liable to be sustained?

19. The primary contention of the petitioners as noted above is based upon a perceived present and imminent danger to human health and safety caused by EMF radiation. The report of Prof. Girish Kumar forms the fundamental bedrock upon which these submissions are based. We however find that this is not the first time that this report has been utilised or pressed into service for laying a challenge to the roll out and establishment of mobile towers. In fact this very report was noted by the Division Bench of the Court at Lucknow in Shriram Singh Jauharia when taking note of the said report the Bench constituted a committee to examine the conclusions and undertake a comprehensive review on the subject of EMF radiation and the ill effects of mobile telephony on human health. As the record would reveal and as would be evident from the findings of the committee that we have extracted above, the conclusion arrived at was that there was no material which justified the conclusions arrived at by Prof. Kumar. The Committee, in fact went to the extent of characterizing the perceived threats as voiced by Prof. Kumar as being a misrepresentation. Once that be the state of the record we find that the report of Prof. Kumar does not advance the case of the petitioners any further.

20. However since the issue raised in the petitions related to public health and safety and bearing in mind the command of Article 21 we delved even further to consider whether there was any material, which justified the invocation of our constitutional powers to injunct the seventh respondent from establishing the mobile towers or BTS''s.

21. We felt constrained to burden this judgment with various extracts of the findings and recommendations of DOT, the Parliamentary Standing Committee as well as the WHO in order to establish that a plethora of material gathered by

experts clearly negatives the perceived and alleged imminent threat and danger to health as was sought to be canvassed before us. All t he experts have unanimously voiced their opinion that the present body of scientific research does not justify the threat to health and life as is sought to be portrayed by some quarters including the petitioners before us.

22. O n the above state of the record we find no merit in the challenge raised by the petitioners on this score. Bearing in mind the present conclusions and findings on the subject as expressed by experts across the board we find that there exists no justification for the submission of a present and imminent danger or threat to human health from the radiation emitted by mobile towers and BTS''s. We further note that the studies undertaken both in India as well as by other international organizations have unanimously opined that the emissions from these equipments are minuscule and do not warrant the anxiety or fear which is sought to be generated in this batch of petitions. Our conclusion so recorded is of course not intended to relieve DOT or the Union Government from its obligation of continuing a scientific review of the subject. However in light of what we have found above, we rule against the petitioners insofar as Issue No. I is concerned. Issue No. 2 Whether the seventh respondent is in compliance with the statutory and regulatory framework presently in vogue?

23. We find that the petitioners have clearly failed to establish on the basis of any material on record that the seventh respondent was in breach of the statutory requirements placed and enforced by DOT. In order to be assured independently, we as a matter of abundant caution called upon the TERM Cell to carry out a technical audit of all the proposed sites. The report of the TERM Cell placed before us upon affidavit did not find any of the sites to be in violation of the statutory and regulatory norms governing the field. We further note that as per the regulatory provisions prevalent, none of the mobile towers or BTS''s of the seventh respondent would be entitled to be energized for commercial operations unless and until the self certification process is complied with and requisite papers filed before the TERM Cell. We therefore and in light of the above, find no ground which may warrant a restraint upon the establishment of the mobile towers and BTS''s being established by the seventh respondent.

Issue No. III. Whether the Court in exercise of its jurisdiction under Article 226 would be justified in granting the reliefs as sought?

24. The submissions of learned counsel for the petitioners advanced on these petitions on more than one aspect would require us to travel into the realm of testing policy measures as well as evaluation of scientific material gathered by experts. The Court in exercise of its powers of judicial review undertakes an exercise of testing actions of the State on the touchstone of our Constitution and the laws of the land. Articles 21 and 38 clearly mandate the State to take measures to ensure the safety, health and well being of all citizens. Its measures and actions must be aimed at alleviating the living conditions of all citizens and the environment of the nation as a whole. The Court in exercise of its

constitutional mandate is therefore obliged to enquire into and test all actions of the State bearing in mind the breath and content of Articles 21 and 38. However at the same time, it cannot loose sight of certain inherent limitations placed upon the exercise of this power. The Court is not an arena for scientific debate nor is it a forum for the testing of conflicting scientific studies and findings of experts. That is surely not its province. The Courts exercise their power of judicial review to test a lis or a cause necessarily against legal norms or legal parameters. Legal norms and legal parameters do not, nay, cannot be left to rest upon competing or nebulous scientific research or opinion.

25. We may in this connection usefully refer to two causes, which travelled to the Supreme Court for an amplification of what we have held. The first was a challenge to the construction of the Tehri Dam. The second more recent and of far greater import than the subject which falls for our determination - the use of nuclear energy. N.D. Jayal v. Union of India, [(2004) 9 SCC 362] dealt with a challenge to the establishment of the Tehri Dam. The Supreme Court dealing with the challenge held: -

"20. This Court cannot sit in judgment over the cutting edge of scientific analysis relating to the safety of any project. Experts in science may themselves differ in their opinions while taking decisions on matters related to safety and allied aspects. The opposing view points of the experts will also have to be given due consideration after full application of mind. When the Government or the authorities concerned after due consideration of all viewpoints and full application of mind took a decision, then it is not appropriate for the court to interfere. Such matters must be left to the mature wisdom of the Government or the implementing agency. It is their forte. In such cases, if the situation demands, the courts should take only a detached decision based on the pattern of the well settled principles of administrative law. If any such decision is based on irrelevant consideration or non-consideration of material or is thoroughly arbitrary, then the court will get in the way. Here the only point to consider is whether the decision-making agency took a well informed decision or not. If the answer is "yes", then there is no need to interfere. The consideration in such cases is in the process of decision and not in its merits."

26. Dealing with the challenge to the establishment of a nuclear power plant in G. Sundarrajan v. Union of India, [(2013) 6 SCC 620] the Supreme Court ruled: -

"15. India''s national policy has been clearly and unequivocally expressed by the legislature in the Atomic Energy Act. National and international policy of the country is to develop control and use of atomic energy for the welfare of the people and for other peaceful purposes. NPP has been set up at Kundankulam as part of the national policy which is discernible from the Preamble of the Act and the provisions contained therein. It is not for courts to determine whether a particular policy or a particular decision taken in fulfillment of a policy, is fair. The reason is obvious, it is not the province of a court to scan the wisdom or reasonableness of the policy behind the statute.

200. Much hue and cry has been raised by some sections of the people about the possible impact of radiation from KKNP Units 1 and 2, a point which has been addressed by AERB, NPCIL, MoEF and all the Expert Committees constituted to go into the impact and effect of radiation from the units not only on humans but also on ecology. The Experts Committees are of the unanimous opinion that there will not be any deleterious effects due to radiation from the operation of KKNP, and that adequate safety measures have already been taken. We cannot forget that there are many potential areas of radiation reflected in many uses of radioactive materials. Radioactive materials are used in hospitals, surgeries and so on. Mobile phone use, though minor, also causes radiation. In a report of the Department of Telecommunication "Mobile Communication - Radio Wave and Safety" released in October 2012, it has been stated that a human body is exposed to more electromagnetic field radiation in case of a call from mobile phone in comparison to the radiation from a mobile tower.

201. We have, therefore, to balance "economic scientific benefits" with that of "minor radiological detriments" on the touchstone of our national nuclear policy. Economic benefit, we have already indicated has to be viewed on a larger canvas which not only augment our economic growth but alleviate poverty and generate more employment. NPCIL, while setting up the NPP at Kundankulam, have satisfied the environmental principles like sustainable development, corporate social responsibility, precautionary principle, inter-/intra-generational equity and so on to implement our National Policy to develop, control and use of atomic energy for the welfare of the people and for economic growth of the country. Larger public interest of the community should give way to individual apprehension of violation of human rights and right to life guaranteed under Article 21.

205. This Court in Chameli Singh v. State of U.P. [(1996) 2 SCC 549] held that in an organised society, the right to live as a human being is not ensured by meeting only the animal needs of man, but secured only when he is assured of all facilities to develop himself and is freed from restrictions which inhibit his growth. Right to shelter includes adequate living space, safe and decent structure, clean and decent surroundings, sufficient light, pure air and water, electricity, sanitation and civil amenities like road, etc. so as to have easy access to his daily avocation.

206. Nuclear power plant is being established not to negate right to life but to protect the right to life guaranteed under Article 21 of the Constitution. The petitioner''s contention that the establishment of nuclear power plant at Kundankulam will make an inroad into the right to live guaranteed under Article 21 of the Constitution, therefore has no basis. On the other hand, it will only protect the right to life guaranteed under Article 21 of the Constitution for achieving a larger public interest and will also achieve the object and purpose of the Atomic Energy Act. "

27. Bearing in mind the principles which must guide the exercise of the power of

judicial review as enunciated by the Supreme Court we are of the opinion that this Court while exercising its jurisdiction under Article 226 would clearly not be justified in proceeding on the basis of the conclusions of an author of a scientific study which itself has not found acceptance amongst its peers.

28. Our reluctance to accede to the submissions advanced by the learned counsel for the petitioners also stemmed from the factual backdrop of the present proceedings. There was no conclusive material which was brought to our attention which may have even remotely be read as evidencing, underlining or supporting the perceived threat to human health voiced by the petitioners. Further we note that the seventh respondent is in the process of rolling out and establishing its 4G network on the basis of licenses and permissions granted by the Union Government which are not under challenge before us. It is also not established from the record that the seventh respondent is in breach of the conditions of its license or that its installations violate the regulatory framework put in place by the Union and State governments.

29. The present policy regime as approved by the Union Government grants authority to the seventh respondent to establish a 4G mobile telephony and data network in accordance with the license issued to it. Mobile telephony is an enterprise which is duly permitted and has the sanction of the State. The subject of the so called and alleged effects of its usage on public health is a debate which continues both at the national as well as the international level. The fact however remains that as on date there is no conclusive material or scientific study which may justify or be read as conclusive proof of the canvassed ill effects of EMF radiation on human health. We are also mindful of the fact that DOT has adopted and put in place national standards which peg the maximum emission levels at 1/10th of the international norm prescribed by ICNIRP. This in our opinion should have been sufficient to allay the fears and anxieties of the petitioners. Moreover the scientific experts in the field have found no justification in the findings recorded by Prof. Girish Kumar. The report of the Committee comprised of eminent persons who are experts in their field is liable to be accorded judicial deference. We accordingly find no ground which would warrant the issuance of the writs as prayed for.

Issue No IV Further directions

30. Though having found no justification for the imposition of a prohibition or restraint upon the installation of mobile towers and BTS''s there remain certain issues which in our opinion do require notice. As per the admitted stand of the Union, the TERM Cells carry out a random inspection of 10% of the mobile tower sites falling within their respective jurisdictions. No periodicity of inspections appears to be fixed. There also does not appear to be in place a system for verification of the self-certification which is filed by the prospective service provider. The other area of concern appears to be, as was evident from the common refrain of all the petitioners, the lack of a complaint redressal mechanism or at least the absence of an effective, robust and transparent

grievance redressal machinery.

31. The absence of determinative scientific data does not lead us to hold that the technology and its perceived effect on health and well being does not require a continuous monitoring or sustained scientific study or research. It is evident from the body of material placed before us that internationally a close watch is being maintained on the effects of EMF radiation. All studies indicate that presently there appears to be no definitive scientific material or data which may warrant EMF radiation being classified as endangering health. However the state of the research can at present, as we have noted above, be best described as being still nebulous and tenuous. This is perhaps the reason for research in the field being continued and ongoing. The standards adopted in our country are stated to be more stringent than those suggested by the WHO. However the fixation of a standard is but one aspect of the oversight mechanism which must necessarily be put in place. The more important and fundamental issue appears to be the requirement of a system which ensures the adherence to the standards fixed. This aspect, in our opinion, cannot be left to depend solely upon a 10% random annual check carried out by TERM Cells.

32. The other aspect as noted above relates to the grievance redressal mechanism. From the submissions advanced and the material placed before us we find that there does exist the need for the establishment of a grievance redressal and information dissemination mechanism which may take note of complaints and allay the various doubts which stand raised in respect of the subject in question. The absence of an effective machinery was also noted by the Parliamentary Standing Committee which found the reply of DOT to be unsatisfactory and reiterated its recommendations for the system being made more robust and responsive. Bearing in mind the serious concerns raised in respect of the above two issues, we proceed to issue the following directions: -

(1) DOT will expeditiously and not later than within 2 months from the date of this judgment frame guidelines for the TERM Cells carrying out periodical inspection of mobile towers and BTS stations falling within their respective jurisdictions;

(2) DOT while framing the guidelines shall also consider and if thought feasible incorporate appropriate provisions for inspection of all or such percentage of cell towers as may be deemed appropriately by the TERM Cells;

(3) DOT shall also consider and implement a mechanism where the testing of cell sites is not left to depend upon the self certification procedure of the service provider solely;

(4) The directions issued shall mandate the TERM Cells to disclose their findings of compliant and non-compliant mobile towers and BTS''s for the information of the general public;

(5) The TERM Cells shall also make known to the general public the action taken

against erring and non-compliant mobile towers and BTS establishments;

(6) DOT shall ensure that the particulars of TERM Cells including the particulars of its Nodal Officer for different regions are made known to the members of the general public;

(7) DOT shall establish a complaint cell in the various regions details of which are given wide publicity in the area concerned, to receive and address public complaints relating to mobile towers and BTS;

(8) DOT shall also issue necessary directions to ensure that the complaint cell duly looks into, enquires and disposes of such complaints within a reasonable period of time.

33. Subject to the aforesaid directions, this writ petition stands disposed of.

