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MOBILE PHONE ELECTROMAGNETIC RADIATION

The Botswana Telecommunications Authority (BTA) has read recent media reports raising public concern with regard to the possible negative health effects from the use of mobile phones and radio base stations. The BTA wishes to provide information on electromagnetic radiation from mobile phones and their radio base stations to address the issues which have been reported and that may raise unnecessary alarm and panic to the general public.

Mobile phones and their radio base stations transmit and receive signals using electromagnetic waves (often referred to as electromagnetic radiation or radio waves). The electromagnetic radiation from the base stations and handsets is called non-ionising radiation. Non-ionising radiation does not carry enough energy to change the structure of an atom while ionising radiation can change the structure of an atom. Examples of ionising radiation sources are X-RAY and Nuclear. Electromagnetic radiation is emitted by natural and man-made sources, for example we are warmed by radiation from the Sun. Examples of man-made sources of electromagnetic fields are broadcasting transmitters, household microwaves, and radar.

The concerns of possible negative health effects of the cellular technology can be viewed from the context of mobile phone handset and the radio base station emissions. For mobile phone handsets, exposure to electromagnetic radiation is principally to the side of the head for hand-held use or any other parts of the body for hands free usage. While for base stations, emissions will be to the part of the body which has contact with the phone. The assessment of possible health risks from exposure to electromagnetic fields is based on the evidence of scientific studies and research.

The International Commission on Non-Ionising Radiation Protection (ICNIRP), is an independent scientific organization which has a formal relations with the International Telecommunication Union (ITU) and the World Health Organisation (WHO). ICNIRP is responsible for and has expertise to provide guidance on the health hazards of exposure to non-ionising radiation. The ICNIRP published guidelines for limiting human exposure to electromagnetic fields and radiation in 1998. The guidelines are used internationally with regard to exposure limits for electromagnetic radiation from mobile phones. The guidelines were reviewed in 2009 and the ICNIRP came to the conclusion that scientific literature published since the 1998 Guidelines has provided no conclusive evidence of any adverse effects below the basic restrictions.

The cellular technologies operated in Botswana are: Global System for Mobile Communication (GSM 900, GSM 1800) and the Universal Mobile Telecommunication System (UMTS, often referred as 3G). The technology has been widely deployed in various countries throughout the world and in the SADC region in particular. With regard to compliance with ICNIRP guidelines by the cellular technologies deployed in Botswana, the BTA has been approving the use of cellular technology/infrastructure by referencing to other countries (comparative referencing) that have carried out non-ionising radiation emission surveys and measurements that indicate that GSM 900, GSM 1800 and UMTS radiation is well below the limits set out by the ICNIRP guidelines.

Based on the above, the BTA assures the public that it will continue to ensure that telecommunications equipment deployed in Botswana adheres to international standards and regulations with regard to electromagnetic radiation particularly non-ionising radiation. The BTA further assures the public that there is consensus in scientific literature that there is no evidence of adverse health effects by use of cell phones and their radio base stations within the applicable limits approved as mentioned above.

DIPELAELO KA BODIPHATSA JWA MARANG A MEGALA YA DISELE

Re le ba lekgotla la Bolaodi jwa Ditlhaeletsanyo la Botswana, Botswana Telecommunications Authority (BTA) re etse tlhoko dipego tsa bosheng mo dipampiring tsa dikgang tse di reng megala ya disele le mafaratlhatlha a ditshipi tse di dirisanyang le megala eo e botlhabetsi mo botsogong ja batho. Re le BTA re bonye go tshwanela go sedimosa dintlha dingwe mabapi ka tiriso ya megala ya disele le mafaratlhatlha a tsone ka dipego tse di ka tloga tsa tsenya letshogo le tsebetsebe mo sechabeng.

Megala ya disele le ditshipi tse di dirisanyang le yone di bereka ka marang a a sa bonweng ka matlho aa bidiwang non-ionising radiation. Marang a gonna jaana, ga se a aka amang mmele wa motho ka ga a bogale bope jo bo botlhabetsi. Marang a a fitlhelwa mo go ditsa tlhologo jaaka letsatsi, le didirisiwa di tshwana le mafaratlhatlha a kgaso ya diromamowa, microwave wa mo lwapeng, disele le tse dingwe.

Marang a a nang le bokete jo bo ka amang mmele a bidiwa Ionising radiation mme a fitlhelwa mo didirisiweng tse di jaaka Seipone sa bongaka (Ex Ray) le maranyane a nuclear a a tlwaelesegileng ka go fetlha motlakase kgotsa go dira dibomo. Ke sone se e ya reng motho a tsewa seipone ke ngaka a tsenngwe mo kamoreng e e faphegileng a bo a apesiwe chiba e e faphegileng.

Tlhomamiso ya gore a marang a borai kgotsa nnyaa e ikaegile ka ditshekatsheko tse di di rilweng ke bakanoki ba boranyane, kgotsa scientists.

International Commission on Non Ionising Radiation Protection (ICNIRP) ke lekgotla la ditlhotlhomiso tsa boranyane le le ikemetseng ka nosi mme le tsalane le lekgotla la mafatshe-fatshe la ditlhaeletsanyo (International Telecommunication Union) ITU, le lekgotla la mafatshe la botsogo, (World Health Organisation) WHO. ICNIRP e itebagantse le go sekaseka le go gakolola ka ga bodiphatsa jo bo ka bakiwang ke tiriso ya marang a non-ionising.

Mme e rile ka 1998 lekgotla le la rulaganya la ba la anamisa melawana e e ka salwang morago go fokotsa kamano ya motho le marang a. Mme melwana e ke yone e e salwang morago mo go anamiseng tiriso ya megala ya disele. Melawana e ene ya sekasekwa gape ngogola (2009) mme ga lemogwa gore ga gona bosupi bope ja gore marang a a borai fa go setswe morago ditshetla tse di saleng di bewa ka ngwaga wa 1998. Mo Botswana re dirisa boranyane ja cellular jo bo bidiwang Global Mobile Communications (GSM) le morwarrajone yo o bidiwang Universal Mobile Telecommunication System (UMTS) e e tlwaelesegileng ka leina la 3G. Boranyane jo bo dirisiwa mo mafatsheng a le mantsi go balelwa mafatshe a borwa jwa Africa. Re le ba BTA re ntse re tlhomamisa gore re letlelela kanamiso ya mafaratlhatlha a ditlhaeletsanyo tsa megala ya disele re ikaegile ka dipatlisiso tse di dirilweng kwa mafatsheng a a dirisang boranyane jo mme di supa fa bo se borai ka gope ka bo setse morago melawana e e tlhomilweng ke ba ICNIRP.

Jalo he rele ba BTA re tlhomamisetse sechaba gore re tlaa tswela re beile leitho gore maranyane a ditlhaeletsanyo a a alwang mo Botswana a ikaegile ka ditshetla le melawana e e dirisiwang lefatshe ka bophara e e itebagantseng le tiriso ya marang a ditlhaeletsanyo. Gape re tlhomamisetse sechaba gore ga gona bosupi bope jo bo kayang fa marang a a dirisiwang mo megaleng ya disele a le borai mo botsogong ja batho fela fa a tswelletse a ikaegile ka ditshetla le ditaelo tse re sa tswang go di bolela.