International Journal of Research
Available at https://edupediapublicat ions.org/ journals
e-ISSN: 2348-6848
p-ISSN: 2348-795X
Volume 05 Issue 12
April 2018

IMPACT OF INFORMATION TECHNOLOGY ON ENVIRONMENT

Sahib Singh
Assistant Professor, GAD Khalsa College
Chohla Sahib
Dr. Kulwinder Singh
Principal, Chohla Sahib
Himat Singh
Assistant Professor, GAD Khalsa College, Chohla Sahib

Abstract

In this modern world, Information Technology gives impacts on society, countries, economy, and environment. This paper discusses the positive, negative, direct and indirect impacts of IT on environmental issues. Information technology is playing a vital role in saving the environment. Everyday lacks of trees are saved from being cut. Information technology have also reduces the transportation traffic and wastage of natural resources like petrol and diesel. But as there is rose there are thrones. Information technology has also some negative impacts on environment like radiations, e-wastes and so on. This paper throws light on various impacts of Information technology on environment.

Keywords: Information Technology, Nature, Modern world, Birds, Radiations

1. Number of Trees cut down every year for paper

World consumption of paper has grown 400 percent in the last 40 years. Now nearly 4 billion trees or 35 percent of the total trees cut around the world are used in paper industries on every continent. Besides what you can see around you, paper comes in many forms from tissue paper to cardboard packaging to stereo speakers to electrical plugs to home insulation to the sole inserts in your tennis shoes. In short, paper is everywhere.[2]

Nearly **4 billion trees** worldwide are cut down each year for paper, representing about 35 percent of all harvested trees.. It takes **12 trees** to make one ton of 100 percent non-recycled newsprint. It would take a little more than half a tree to make a carton (10 reams) of 100 percent, non-recycled 20-lb. copier paper. One tree makes 16.67 reams of copy paper, or 8,333.3 sheets.[3]

2. Number of E-mails sent per year

Statistics, extrapolations and counting by Radicati Group from February 2015 estimate the number of emails sent per day (in 2015) to be around 205 billion. **205 billion email** messages per day means almost **2.4 million emails** are sent every second and some **74 trillion emails** are sent per year.[3]

If let suppose that among 74 trillion emails 50% are waste or spam mails which are not required, then the remaining 50% emails(37 trillion) are official emails which have to be transferred among people or offices. If one email equal to one page then it means 37 trillion

emails is equal to 37 trillion pages. Which require 4440177607 trees. **It means information technology saves 4440177607 (approx) trees per year.**

Number of reams required

37(trillion)/8333(sheets per tree)= 4440177607 (approx trees)

3. Positive impacts of Information Technology on Environment

a) Use of Digital Databases instead of manual ledgers: Today is the era of BigData. Millions of transactions are saved daily in electronic databases, which reduces lots of consumption of paper

b) Uses of E-Books: E-Books concept is becoming popular among people. An eBook is an *electronic* version of a traditional print book that can be read by using a personal computer or by using an eBook reader. E-Book drastically reduced the consumption of paper and printing ink.

c) Less Letters more emails and calls: Millions of official letters are generated in offices. Before the concept of E-mails every letter was printed, but now E-mails in office use has reduced the usage of papers

d) Reduction of writing ink: As more and more e-mails and E-books are used, it has reduced the wastage of printing ink in printing presses.

e) Reduction in transportation: Now an era of of information technology. So every message is sent to other person either via e-mails or messaging app. So it has tremendously reduced the transportation traffic as well as pollution.

f) Monitoring of Environment through technology: Information technology is working as egale eye to monitor the environment in various parts of the world. Number of satellites are monitoring the environment conditions in the world and if there is any danger like Tsunami, Volcano eruption or Earthquake, is predicted in advance to save the lives.

4. Negative Impacts of Information technology on Environment.

a) Soaks up fossil fuels

The study, released yesterday, shows that the construction of an average 24-kilogram computer and 27-centimetre monitor requires at least 240 kilograms of fossil fuel, 22 kilograms of chemicals and 1,500 kilograms of water – or 1.8 tons in total, the equivalent of a rhinoceros or sports utility vehicle. [4]

b) Computers emit carbon dioxide

According to a research, computers generate an estimated 35 million tonnes of carbon dioxide into the atmosphere each year. **The emissions by computers account for 2 per cent of world's total carbon dioxide emissions, almost equal to that contributed by aviation**.[5]

c) Toxic 'e-waste' dumped

The global volume of electronic waste is expected to grow by 33% in the next four years, when it will weigh the equivalent of eight of the great Egyptian pyramids, according to the UN's Step initiative, which was set up to tackle the world's growing e-waste crisis. Last year nearly 50m tonnes of e-waste was generated worldwide – or about 7kg for every person on the planet. These are electronic goods made up of hundreds of different materials and

containing toxic substances such as lead, mercury, cadmium, arsenic and flame retardants. An old-style CRT computer screen can contain up to 3kg of lead, for example.[6]

d) Impact of Radiations on Birds

The electromagnetic radiation (EMR) emitted from mobile towers is so powerful that it affects the biological systems of birds, insects, and even humans. The study, released by the environment ministry, called for the protection of flora and fauna by law.

"The review shows that the EMRs are interfering with the biological systems in more ways than one and there had already been some warning bells sounded in the case on bees and birds, which probably heralds the seriousness of this issue and indicates the vulnerability of other species as well," the study found.

The group of experts reviewed 919 studies performed in India and abroad regarding the **effects of cellphone towers on birds, insects, animals, wildlife, and humans**.

Of the 919 studies, a staggering **593 showed the negative impact of mobile towers on birds, bees, humans, wildlife and plants**.

e) Dangers elements in E-waste

i) Batteries contain such as cadmium, Lead, Nickel, silver lithium

iii) The Cathode Ray tube (CRT'S) which contain significant amount of Lead.

iv) Liquid Crystal Display (LCD) are illuminated by mercury filled panels.

5. Databases on the Environment System

1. National Management Information System (Nmis)

According to NMIS of the department of science and technology, it can understand that it has a database compilation that base on research and development projects, as well as information that is related to research scientists and personnel, are included.[1]

2. Environmental Information System (Envis)

According to the ministry of environment and forests, the government of India has developed an information system known as ecological information system or ENVIS. It has its headquarters based in Delhi and has its branches all over India. ENVIS established back in 1982, and since then, its main aim is to provide environmental information to all the decision makers, engineers, scientists, and policy planners that reside in all over the country. The centers of ENVIS implement the work hours in generating a new network for databases in areas such as clean technologies, pollution control, biodiversity, wildlife, environmental management, remote sensing, and renewable energy.

3. Remote Sensing And Geographical Information System (Gis)

The process of remote sensing that accesses through satellites can be used to get through the ongoing alterations in the environment as well as to predict the natural hazards before time such as floods, droughts, volcanic eruptions, starvation, etc. It is one of the most useful techniques in exploring the availability of mineral deposits, crude oil, and locating other geothermal powerhouses.

4. Geographical Information System (GIS)

GIS or geographic information system consider as one of the most effective tools in the entire environmental management topic. It is a process of superimposing different thematic maps with the help of digital data on a large scale of interconnected aspects. The different thematic maps that contain digital information and database on various elements such as forest land, water resources, soil type, cropland, industrial growth, human settlement, and industrial growth, etc. are placed in a layered prospectus in the computer with the help of software.

They are also capable of availing information and facts about the atmospheric phenomena such as the upcoming monsoon, inversion phenomena, the depletion of the ozone layer, smog, etc. It is the reason why remote sensing and GIS play a significant role in resource mapping, management, planning, environmental conservation, and environmental impact assessment as well.[1]

5. The World Wide Web (WWW)

With the availability of resources on every aspect, things like classroom activities, digital files of photos, web-exercises, animations, PowerPoint lecture presentations, and quiz competitions have proved to be more helpful for both the students as well as the teachers who pursue environmental studies.[1]

Conclusion

The field of information technology has been increasing rapidly with an explosion of some applications and new avenues that are opening along with an active role in the field of education, planning, and management of health and environment. Information technology has been playing a significant role in the areas of biometrics, genome sequencing, gene engineering, online medical transcription, maintaining the DTA database for the betterment of human health, biotechnology, etc. The field also helps in identifying some deadly and chronic diseases that come from the infested areas which are very much prone to vector-borne diseases such as schistosomiasis, malaria, etc. based on the geographical map of that area. So information technology have more pros than cons.

REFERENCES

1. https://www.cchit.org/role-of-information-technology-in-environment-and-human-health/
2. http://www.ecology.com/2011/09/10/paper-chase/
3. https://www.youtube.com/watch?v=U_W86hoo0BE
4. https://news.un.org/en/story/2004/03/96452-computer-manufacturing-soaks-fossil-fuels-un-university-study-says
5. https://ecofriend.com/computers-emit-as-much-carbon-dioxide-as-aviation.html
6. https://www.theguardian.com/global-development/2013/dec/14/toxic-ewaste-illegal-dumping-developing-countries
7. http://wwf.panda.org/how_you_can_help/live_green/fsc/save_paper/office_paper/