

GLENGAZE MODEL UNITED NATIONS 2019

SRI VENKATESHWAR INTERNATIONAL SCHOOL

UNITED NATIONS GENERAL ASSEMBLY
(BACKGROUND GUIDE)

AGENDA: Information and communications technologies for sustainable development



LETTER FROM THE EXECUTIVE BOARD

Greetings Delegates,

We welcome you to the stimulation of of United Nations General Assembly in GlenGaze MUN 2019 . The letter is the first thing we expect you to read before you move ahead with the background guide and the agenda.

Use this space to familiarise yourselves with the the committee and the expectations of the executive board and we would like to mention some important points.

As you know, the agenda for the committee is **“Information and communications technologies for sustainable development ”**.

Information technology and strategic planning complement each other to attain the sustainable development goals (SDGs) and it requires in depth knowledge about various documents related to it . Also Along with this you must also be aware of various economical and technical terms concerned with the Agenda.

This background guide has been prepared just for you to gather the **basic understanding of the Agenda and to ensure a fair competition** by providing a basic stance to everyone. But keep this in mind that you should extend your research further this background guide. In the session, the executive board will encourage you to speak as much as possible, as fluency, diction or oratory skills have very little importance as opposed to the content you deliver.

At the end of the day of we hope everyone have a wonderful debate with dexterous MUNers we expect you to come up with a meticulous conclusive document. We are certain that we will be learning from you immensely and we also hope that you all will have an equally enriching experience. In case of any queries feel free to contact us. We will try our best to answer the questions to the best of our abilities. Feel free to mail us any queries. All the best and hope see you all at the conference !

Regards ,

SimranBudhiraja - Chairperson (simranbudhiraja5050@gmail.com)



Adi Sharma - Vice Chairperson (adisharma1301@gmail.com)



Yana Bedi - Rapporteur (bediyana19@gmail.com)



INFORMATION IN RELATION TO SUSTAINABLE DEVELOPMENT

The issue of sustainable development is at the heart of society setting the future course of humanity on the planet. This paper argues that irrespective of technological change--more powerful computers, satellite monitoring, even artificial intelligence--the issue of sustainable development will remain essentially the same in the high tech future of tomorrow. The concept of, as opposed to the term of, "**sustainable development**" is not new; the profound and complex problems subsumed by the term can be traced back to the earliest human civilizations and the perennial tension between population growth and economic development, on the one hand, and the use of natural resources and ecosystems on the other.

The term "sustainable development", however, is a recent invention, coming into common usage very recently. For example, the **Brundtland Commission**, which is responsible for most frequently cited definition of sustainable development states it to be the process "to meet the needs of the present without compromising the ability of future generations to meet their own needs".

The concept of sustainable development can be broken into two parts. On the one hand, "sustainability" relates to the question of the "carrying capacity" of the earth, while giving no attention to social issues, particularly those concerning equity and social justice. "Development", on the other hand, would appear to assume and even necessitate continual economic growth and ignore the question of ecological constraints or "carrying capacity". When these two concepts are put together, a very different one emerges, and the result is much more than the sum of the parts.

It is therefore a multi-dimensional concept, and it must be addressed at various levels simultaneously. Sustainability may be divided into three types: social, ecological and economic. The ecological definition is perhaps the clearest and most straightforward, measuring physical and biological processes and the continued functioning of ecosystems. Economic definitions are sharply contested between those who emphasize the "limits" to growth and carrying capacity and those who see essentially no limits.

The positive and negative environmental impacts of information and communication technologies (ICTs) are widely debated. In theory, ICT is among the sources contributing to the increasing levels of CO₂ emissions in terms of production of ICT machinery and devices, energy consumption, and recycling of electronic waste. However, ICT is also expected to reduce CO₂ emissions on a global scale by developing smarter cities, transportation systems, electrical grids, industrial processes, and energy saving gains. These two effects

work in opposite direction, creating an inverted-U relationship between ICT and CO2 emissions.

IMPACT OF INFORMATION TECHNOLOGY

The development of novel and affordable information and communications technologies, and the emergence of information society with new economic models, has the potential for making major contributions towards sustainability of the earth's ecosystems. Innovative use of information technology offers substitutes for travel and for the transportation of goods, and a major shift towards less resource-intensive production, consumption, trade, and services. Such changes can significantly reduce the environmental impact of industrial and commercial activities and thus contribute to sustainable development.

Today's information society is being built on technology, knowledge and intelligence. Information Technology (IT) empowers both people and machines with information, which is transformed into knowledge and intelligence. Appropriate use of the knowledge by both people and machines contributes to sustainable development. While informed and empowered people know their role as citizens in an environmentally sustainable society, empowered machines have the knowledge to minimize energy and material use, wastes, and pollutants.

Information technology facilitates fast, cheap, equitable, and resource-efficient access to information, accumulated knowledge, learning opportunities, and co-operation support tools for its citizens. Internet, today's cyberspace, facilitates people from across the globe to co-operate and perform various activities of human life and endeavour. Processing, storage, transmission, and sharing of information in electronic form, without any spatial or temporal constraints, empower people with instant information along desired lines. Information analysis contributes to knowledge and intelligence, which have increasingly become commodities in the information age. As information becomes accessible to anyone, and anywhere, it is increasingly becoming a basic economic resource and a structuring factor in today's society.

Miniaturization and innovation in electronics have equipped machines with intelligence and communication technologies, enabling them to collaborate with each other in their work. By empowering machines, IT offers a high potential for making a positive contribution towards sustainability of our economy and environment, particularly by reducing the impacts arising from manufacturing and transportation activities. However, such opportunities are emerging in various other sectors too.

POTENTIAL OF IT TOOLS IN SOME SELECTED SECTORS

1. **Manufacturing-**

Because they provide flexibility, open systems will be the key for the manufacturing organization of 2020 and beyond. Typically, one has to design a product to meet a particular need, then quickly hone in on the design, sacrifice design flexibility and create a product that cannot evolve and meet new needs.

The Information Revolution gives the flexibility to postpone commitment of resources to a particular course of action until the last minute, allowing us to make better decisions about our design before the freedom to make those decisions is lost.

Competitive advantage will go to companies that provide exactly what their customers want at a low cost. For most people, it's the latter and they shouldn't have to pay more for it. Such flexibility means the future of manufacturing could hold economies of scope, in which cost reductions on a group of products are achieved through components which are shared by all the products. This approach differs from the concept of economies of scale, which today offers large amounts of a specific product.

2. **Transport-**

- a. Tele-working and telecommuting can be acceptable substitutes for local and long distance travel.
- b. Microprocessor engine control systems can save fossil fuel and reduce pollution.
- c. Advanced transport tele-matics (ATT) can improve transport efficiency and road safety.
- d. Intelligent transport systems can reduce travel time, improve traffic flow and help to make the roads safer.

Some of these technologies are fibre optics, computers, networks, improved human-computer interfaces, digital transmission and compression, communication satellites and cellular devices. They are influencing interactions among states, international governmental organizations such as the United Nations, multinational corporations and non-governmental organizations.

3. **Agriculture-**

Modern agricultural production systems continue to demand increasing levels of intensive management, to help farmers maintain a competitive edge. Computer programs are used by farmers to assist in record keeping and enterprise analysis. However, many computer packages which are available are used to record activities in progress in the production process or financial activities.

There are few which express the production process in financial terms. Sustainable food system benefits from the responsible use of resources by farmers who perform a wide variety of tasks as part of crop management. These tasks can be facilitated by expert systems with the knowledge, designed and built with the help of local expertise. Land information system prepared using Geographic Information Systems (GIS) and remote sensing can help farmers plan their activity and facilitate decision making and planning at the local level.

4. Environment

IT systems can provide improved access to environmental information to citizens, authorities at every level, NGOs, and businesses for environmental monitoring and management. GIS and remote sensing can be used to map resources, land-use patterns and environmental factors. This could help bring about more effective planning, management, and decision-making with regard to the environment.

Moreover Information systems can facilitate a national and worldwide dialogue about policies needed to ensure that sectoral growths are consistent with an improved environment. The environmental community has been painfully slow to recognize the power that information tools can bring to this debate.

5. Education

"Education technologies" is a phrase commonly used to refer to whatever the most advanced technologies available are for teaching and learning in a particular era. Throughout history, humans have invented technologies that radically change what they're able to see, do, and think about over significant time scales.

Microscopes-medicine-health; the printing press-books-literacy and news-we've used technologies to craft new environments in which we live, which then change human life by changing what we do in fundamental ways, and even what we think about what humans are. Consider artificial intelligence and biotechnology efforts such as the human genome project

In this context, we see a redefining of the very roots of learning and education underway with new computing and communications tools. Education in the context of such societal transformation as this should not be "business as usual," only making the learning of the past achieved through greater efficiency. For example, technology is changing the "what" of learning by introducing new concepts, techniques, and tools for understanding and also making the world-for inquiry, design, creative expression. These innovations include computer-aided design, simulations of physical systems that model climate change, the origins of the universe, or ecosystem

population dynamics, as well as new ways to visualize and integrate data and to carry out radically new forms of inquiry that weren't possible until recently. Micro-worlds provide children in these early years with understandings of Newtonian mechanics and about sensors and graphing and feedback in complex systems. In addition to shifting the time and place of learning through wide-area networking, new participants in on-line communities are also learning from one another across school and age boundaries, including scientists, scholars, parents, and senior citizens.

6. Others

- a. Saving paper: Electronic information processing and dissemination can save the forests.
- b. Arresting urbanization: Ready and adequate access to information, knowledge, and telecommunications in rural areas would discourage urbanization.
- c. Tele-medicine: Tele-medicine can provide medical care to people in their homes, and to patients in remote areas.
- d. Empowering citizens with information: By creating suitable contents on cyberspace and making it available at info kiosks in their close proximity, preferably in the local language and covering local issues among others, will empower citizens with the knowledge to act to bring about sustainable development.

INFORMATION TECHNOLOGY - ISSUES AND CHALLENGES

The rapid development and use of information and communication technologies are causing major repercussions on all aspects of the private and public life in all countries. This development is transforming the traditional ways of functioning of our contemporary societies and is providing new opportunities and challenges for all. This situation makes it important for developing countries to keep abreast of the new ethical, legal and societal issues and opportunities offered by the Information Society.

1. Societal and Psychological Challenges

- The analysis of impact of IT focuses both on structural changes and changes for the individual at work and on the role as citizen. The main humanistic focus is on possibilities and prerequisites, related to IT, for influencing one's own life

conditions, for social belonging, for a meaningful life content, and for learning and developing oneself.

- **The Information Gap:** Looking at our society as a whole, there are noticeable inequalities or "gaps" in the distribution of information and information technology. For various reasons, some people appear poised to garner greater benefits from technological advances than others. Observers have pointed to gaps that appear along several dimensions, including socio-economic status or income level, ethnic background, gender lines, or geographic gaps.

Domestically, the geographic gap refers to a division between our urban metropolitan areas and rural regions. On an international level, it refers to the inequitable global distribution of technology and information. In other words, some nations have enormous technological prowess and capabilities, while other nations do not.

2. Ethical Issues

Ethical issues and concerns have always underscored the utilization, management and control of information. In the age of information, political and societal tensions will increasingly surface and coalesce, creating significant differences among groups within nations, as well as among nations. The quality of information content will be deliberated by the perceived haves and the have-nots. Who controls information will be a major issue for 21st century scholars and politicians.

There are many unique challenges we face in this age of information. They stem from the nature of information itself. Information forms the intellectual capital from which human beings craft their lives and secure dignity. However, the building of intellectual capital is vulnerable in many ways. The ethical issues involved are many and varied.

Privacy: What information about one's self or one's associations must a person reveal to others, under what conditions and with what safeguards? What things can people keep to them and not be forced to reveal to others?

Accuracy: Who is responsible for the authenticity, fidelity and accuracy of information? Similarly, who is to be held accountable for errors in information and how is the injured party to be made whole?

Property: Who owns information? What are the just and fair prices for its exchange? Who owns the channels, especially the airways, through which

information is transmitted? How should access to this scarce resource be allocated?

Accessibility: What information does a person or an organization have a right or a privilege to obtain, under what conditions and with what safeguards?

ICTs and Environment

ICT can have both negative and positive impacts on the environment. ICT production, use, and disposal have negative environmental impacts, and increase CO₂ emissions resulting from electricity production. According to Røpke and Christensen (2012) the use of ICT have direct impacts on electricity consumption, it also gives rise to energy consumption in relation to the production of equipment and the running of the infrastructure, such as server parks and data centers. The ICT sector has been estimated to produce 2% of global greenhouse gas emissions (GHG) Therefore, making the production, use and disposal of ICT greener refers to 'green ICT'. The green ICT view sees ICT primarily as a problem to be mitigated. On the other hand, ICT can reduce emissions by building smarter cities, transportation systems, electrical grids and industrial processes. The 'ICT for green' view sees ICT as a possible solution to many environmental problems. There is much hope that ICT can be a major part of the solution in dealing with climate change and related environmental challenges

Artificial intelligence(V. Very Important aspect)

The emergence of artificial intelligence (AI) and its progressively wider impact on many sectors across the society requires an assessment of its effect on sustainable development. Notably, AI enables new technologies that improve efficiency and productivity, but it may also lead to increased inequalities among and within countries, thus hindering the achievement of the 2030 Agenda. The fast development of AI needs to be supported by appropriate policy and regulation. Otherwise, it would lead to gaps in transparency, accountability, safety and ethical standards of AI-based technology, which could be detrimental towards the development and sustainable use of AI. Finally, there is a lack of research assessing the medium- and long-term impacts of AI. It is therefore essential to reinforce the global debate regarding the use of AI and to develop the necessary regulatory insight and oversight for AI-based technologies.

The use of AI is a topic which requires intensive debate as it has both pros and cons and thus an important part of the sustainable development debate.

Topics for discussion-

- Advantages of ICTs
- Disadvantages of ICTs
- Development with focus on environment
- Use of Artificial intelligence
- Implications of artificial intelligence

NOTE-these are just a few simple suggestions from the EB, the rest depends on the delegates to choose which topic they want to discuss.