Development and human Resources Management Review – Researches and StudiesVolume: 11 issue: 01 . 2024 p.p:611-626

The Role Of Cyber Security In Attatning The Sustainable Development Goals

دور الأمن السيبراني في تحقيق أهداف التنمية المستدامة

Sebkhaoui Khadidja
University of Blida 2 Lounici Ali
ahmedkhadidja575@gmail.com

Received date: 28 / 05 /2024 Acceptance date: 26 / 06 / 2024

الملخص :

يهدف البحث إلى التطرق إلى الأمن السيبراني و دوره في دفع تحقيق أهداف التنمية المستدامة من خلال التعرف على خصائص التنمية المستدامة و أبعاد و عناصر الأمن السيبراني و دوره في تحقيق احد متطلبات التنمية من خلال توفير الحماية الفائقة لخصوصية المعلومات والإبقاء على سريتها في مختلف المجالات، لهذا استخدمنا المنهج الاستقرائي الذي يقوم على تبني رؤية مستقبلية للواقع المأمول فيه، و خلص البحث إلى وضع الجزائر إستراتيجية وطنية للأمن السيبراني.

الكلمات المفتاحية : الأمن ، السيبراني ، التنمية المستدامة

Abstract:

The research aims to address cyber security and its role in advancing the attainment of the Sustainable Development Goals through identifying the characteristics of sustainable development and the dimensions and elements of cyber security together with its role in attaining one of the development requirements by providing superior protection for information privacy and maintaining the confidentiality thereof in various fields. In virtue of which, we dared to use the inductive approach, which is based on adopting a future vision of the hoped-for reality, thus the research concluded that Algeria has developed a national strategy for cyber security.

Keywords: security, cybersecurity, sustainable development

Introduction:

Certainly, cyberspace is one of the most important products of the communications revolution and the great development imposed by the conditions of the world, which has alike shown to be amongst the new environments for the concept of power and the expression of its vocabulary, which has recently been used in international relations, thus becoming one of the main actors in the community of countries in conflict, whereat major countries use the same for achievement purpose of some security considerations. As a consequence, the term cyber security has entered as a new dimension within the agenda of the field of security and social studies and has gained the interest of many researchers specialized in this field. Further, its importance has also manifested with the increasing dependence of people around the world on technology and modern communication, as it has become of an active and important role as one of the requirements for attaining sustainable development, seeing that includes a wide range of social, economic and environmental dimensions. Nonetheless, in 2015, world leaders from 193 countries gathered at the United Nations to adopt the Sustainable Development Goals, which aim to eradicate poverty, hunger and diseases of society in general and cover some specific areas, in respect such as education, health, equality and well-being, together with ensuring prosperity for all. Likewise, it had also included the announcement of a significant spread of information and communication technologies, as the latter plays a crucial role in driving progress towards the Sustainable Development Goals by providing unprecedented opportunities for data-based decision-making, effective resource management and sustainable development practices. Moreover, we are enjoying the benefits of a global information society; nonetheless, openness has made it vulnerable to encroachments and criminal activities by hackers of networks, which is called cybercrime or information criminality, along with its permanent and continuous threat to sustainable development, which can take place anywhere and at any time, as it has the ability to inflict enormous damage in the blink of an eye. Therefore, countries have moved towards the creation of research and security institutions specializing in the study of cyberspace, together with how to employ it in a way that contributes to attaining the requirements of sustainable development. Consequently, the study of cyber security has become one of the most important innovations of the technological and digital development that the world is recently living, whose role is directly highlighted in attaining one of the development requirements by means of providing superior protection for information privacy and maintaining its confidentiality in various fields, whether economic or political, all the way through not allowing unauthorized persons and specialists to access and use it.

Additionally, the problem of this research has a major role in choosing the approach that should be followed in addressing the research topic. As a result, the researcher followed the analytical and investigative approach through the analysis of the topic from the principal relevant printed books and references, together with researches and studies that dealt with this topic, which is based on the adoption of a future vision of the hoped-for reality, the development of an effective strategic vision for cyber security so as to maintain and develop sustainable development. In light of which, we came to the conclusion that the phenomenon of cybercrime has become a threat to

sustainable development in the world, and Algeria is not immune from this. Subsequent to which, the following problem can be addressed: What is the relationship of cyber security to sustainable development?

Firstly: **Importance of the research**

In actual fact, the urgent need for these types of studies for the increase of the volume of threats and security risks in cyberspace more than ever as a result of electronic or cyber wars targeting infrastructures, government facilities and institutions, industrial networks and researches that are somehow able to disrupt the operation of critical infrastructures and thus have an effective role in hindering the requirements and dimensions of sustainable development, for the reason that cyber security is based on continuity and development, as it helps to ensure the sustainability of information and data safely. In a consequence, organizations and individuals have to keep their top secret systems and data protected, as this can be achieved after updating security strategies and programs to face the changing and advanced threats they face in the digital world, since the required development does not seek human progress connected in a few places for a few years, but for all mankind over the distant future.

Secondly: Objectives of the research

1. This study may be an area to open new directions for decision-makers to take effective preventive policies to protect sensitive infrastructures from digital attacks;
2. This research aims as well to recognize the concepts related to cyber security and identify the mechanisms that help to confront cybercrime at the level of sustainable development, either internationally or locally;
3. As it stands for one of the important topics that imposes itself on the international arena, and as a crime that knows no borders and distances.

Thirdly: The conceptual framework for cyber security and sustainable development

1. **Definition of cyber security**

- **Linguistic definition of Cybernetics**:

In fact, this word is taken from the word (cyber), which stands for an adjective for anything related to computer culture, information technology or virtual reality, as Cybernetics means (internet space), being a word derived from the Greek word Kybernetes, which was first mentioned in the science fiction works, as the meaning thereof was the command of the ship's captain [1]

.

As for the Oxford English Dictionary, it provides definition of this word as "the study of the effectiveness of human work in comparison with the effectiveness of calculators related to the features and characteristics of computers, information technology and virtual reality[2]

With regards to the dictionary of information security terms, it defines it as: "a cyberspace attack aimed at controlling websites or electronically protected structures in order to disable, destroy or damage them [3]

- **Lexical definition of Cybernetics**:

Naturally, the word Cybernetics in its modern concept was used for the first time by the American mathematician "Norbert Wiener", a professor of Mathematics at the Massachusetts Institute of Technology "MIT", who gave it its modern terminological concept in 1948. Further, with the aim to describe the feedback system to take advantage of the outputs of systems in adjusting their inputs in controlling the same and stabilizing the performance thereof. Besides, "Weiner" believed that this system can be widely applied in various fields, not only practical but also humanitarian. Consequently, the modern terminological source of the word cybernetics is "the science of command and control in biology, machines and the study of communication mechanisms[4]

More to the point, The US Department of Defence "Pentagon" provided an accurate definition of the Term (Cyber security), as it considered the same as (all necessary organizational procedures to ensure the protection of information in all its electronic and physical forms, from various crimes, attacks, sabotage, espionage and accidents). Nevertheless, the European Declaration (cyber security) was considered to mean: (the ability of the information system to resist hacking attempts or unexpected incidents targeting data)[5]
.

Additionally, according to the definition issued by the International Telecommunication Union "ITU" report on (trends of reform in telecommunications for the year 2010-2011), cyber security is defined as: (it stands for a set of technical, organizational and administrative means that are used to prevent unauthorized use, misuse, recovery of electronic information, communication systems and the information they contain, in order to ensure the availability and continuity of information systems, enhance the protection, confidentiality and privacy of personal data, and take all necessary measures to protect citizens and consumers from risks in cyberspace)[6]
.
It should be highlighted that the issue of defining the concept of cyber security stands for a relative issue that depends on the nature of the perception and understanding of each of the States and bodies, each according to its vision and strategy and its ability to exploit the available advantages and encounter the risks inherent in this space.

Based on its objectives, cyber security can be defined as the activity that ensures the protection of human and financial resources associated with communication and information technologies, and ensures the possibilities of reducing losses and damage that result therefrom should risks and threats be materialized. Similarly, it allows the

situation to be restored to its initial status, as soon as possible, provided that the wheel of production does not stop, and in such a way that the damage does not turn into permanent losses. Besides, it represents the activity, process, capacity or information and communication systems of the State, whereat the information contained therein are protected from any motive of damage and use.

2. Conceptual framework for sustainable development

- **Definition of sustainable development**

In 1980, the phrase Sustainable Development was first used by the International Union for Conservation of Nature, which issued a report entitled as "The global strategy for survival:[7]

Nowadays, development is no longer economic figures and indicators, but rather social changes, the expansion of correct concepts and values, the participation of individuals in decision-making, in addition to an environment free from pollution factors, and the dissemination of education and the adoption of knowledge in order to keep pace with scientific and technological progress, as well.

Firstly: Definition of sustainable development

Essentially, there are many definitions of sustainable development, there exist more than 60 definitions of this type of development , because the concept of development varies from country
to country, and in general, the concept of sustainable development was first mentioned in the report of the World Commission on Environment and Development in 1987, as it provided definition to this development in this report as: "that development that meets the needs of the present without
compromising the ability of future generations to meet their needs to meet their needs [8]

As for Robert Solow 1991, he defines sustainable development as "Non-prejudice to the productive energy of future generations, leaving the same on the situation inherited by generations, as productive energy is not only the consumer resources that current generations are consuming; it goes beyond that to the quality of productive energy, which includes, in addition to its material side, the moral or cognitive side, which includes the nature and volume of savings and the quality of investment for these surpluses and rational consumption of current and future resources".

Above and beyond, it is defined as "underlining a set of goals through which the focus is on the long term instead of the short term, on future generations instead of current generations, on the entire planet instead of divided countries and territories, on meeting basic needs, as well as on individuals, regions and resource-poor peoples who suffer from marginalization[9]

The World Commission on Environment and Development defined sustainable development as: "development that requires meeting the basic needs of all, expanding the opportunity for society to satisfy their aspirations to a better life and spreading values that encourage consumption patterns within the limits of environmental possibilities that society reasonably aspires to achieve"[10] .

- **With regards to the procedural definition of Sustainable Development**

It stands for all the economic, environmental, social and security dimensions that take good use of the available resources to meet the needs of individuals while preserving the right of future generations to these resources.

Fourthly: Characteristics of sustainable development

The most important characteristics of sustainable development can be concluded as follows:

- It represents a long-term development, the fact of which is one of its most important features, as it takes the time dimension as basis thereof, as it stands for a development focused on the fate and future of coming generations;

- Equality and respect for the rights of future generations, as it represents a development that takes into account and provides the right of present and future generations of Natural Resources. However, equality in this context is of two types, the first is between the current generation, whilst the second is between the current and future generations;

- It is a multidimensional and interrelated process based on planning and coordination between economic and social development plans on the one hand, and environmental development on the other hand;

- The human being is the means of attaining sustainable development together with the traced goals thereof, as it pays great attention to the human side and its development, and puts meeting his basic needs and requirements in the first place, together with considering the same as its first goals;

- Keen to develop the spiritual and cultural aspects and maintain the cultural privacy of communities;

- The international dimension of sustainable development, whereat the international community seeks to adapt efforts to help poor countries to reaching it.

Fifthly: Social dimensions and elements of cyber security

1. **Social dimensions of cyber security**

The 2006 World Telecommunication Development Conference adopted the Doha plan of action, which consists of several programs, including regulatory reform, development of infrastructures and Information and Communication Technologies "ICT", e-strategies and ICT applications, economic and financial issues, inclusive of costs and tariffs, human capacity-building, to assist member States and members of the Telecommunication Development sector in making the fullest possible use of appropriate new technologies for the development of their telecommunication networks, along with taking into account the accelerated convergence of large-scale

telecommunication networks as information and communication infrastructures. Additionally, as stated in the report of the International Telecommunication Union (ITU) 2010 on the social dimensions of cyber security that the digital revolution has changed how business deals, and how governments work. Further, globalization and technological progress have weakened the infrastructures and thus made it a potential target for terrorist attacks, as countries face real risks, for enemies to exploit the vulnerabilities of accurate information systems. Besides, they seek to disrupt the infrastructure and basic resources in order to threaten national security and at this juncture lay the social risks that can be explained in the light of the points listed hereunder:[11]

- **Targeting the national security**

Categorically, the studies issued by the International Union in July 2017 confirmed that there is an urgent need in the fields of (ITU) for communication, education, training and studies to raise the level of skills and knowledge in security. Above and beyond, there are four main categories of cyber threats to national security, which are[12]:

To begin with cyber warfare and economic espionage, which are largely related to countries, and then the category of cyber crime and cyber terrorism, which are mostly related to non-state actors of any particular country.

- **Destruction of infrastructure**

Cyber conflict results in life-threatening consequences in the event that the information infrastructure would be corrupted. Consequently, the report (ITU 2017) of the World Telecommunication Development Conference stated in the draft Strategic Plan of the Union that "the need for a modern and secure infrastructure for telecommunications and information technology, together with the need to promote the development of infrastructure and services, including building confidence and security in the use of telecommunications and information technology; in addition to the need for an enabling environment, strengthening an organizational environment and policies favourable for the sustainable development of communications, as information technology threaten values and ethics"[13].

- **Threatening values and morals**

Unquestionably, one of the social dimensions is protection from low moral and ethical standards, as illegal and undesirable content has a negative impact on the morality of society and on the high percentage of criminal practices, in respect such as pornography, promotion of trafficking in contraband, prostitution, terrorism, recruitment for issues affecting international security and peace. As consequence, it is necessary to build a responsible society, aware of the dangers of cyberspace, able to deal with safety rules and aware of the legal consequences that can result from exposure to the safety of individuals, institutions and capital[14].

Additionally, there has been a link between cyberspace and national security through the adoption of the principle of e-government by many countries. As a result, military, security, intellectual, political, social and economic information content has become located in cyberspace, exposing these countries to the risk of cyber threats.

More and more, the cyber security challenge is one of the most serious challenges of the 21st Century, as the modern concept of security is no longer limited only to traditional military, political, economic and social aspects.

Most importantly, the threat of cyber security has increased after ICT has dropped the concept of geographical borders between countries and put national sovereignty at stake, in addition to the increase in security threats and challenges resulting from the use of the internet, in respect such as: theft of funds, fraud, planning terrorist operations, conducting piracy actions, increased theft of intellectual property, hacking of economic and commercial enterprises and the spread of cyber terrorism networks throughout the intellectual invasion of social networks and spreading a culture of violence and incitement to crimes under religious, sectarian or nervous pretexts.

2. **Cyber security elements** (https://www.mah6at.net/)

With the aim of achieving the goal of cyber security, it is necessary to have a set of elements with each other to complement the role therein, and one of the most important dimensions and elements of cyber security:

- **Technical**

Indeed, technology and technique play an extremely important role in the lives of individuals (technology) and organizations, as it provides superior protection to them against cyber attacks, and includes the protection of devices in various forms of smart, computer and networks based on firewalls, the use of malware, antivirus and others. It is absolutely necessary for people who are data users (People).

- **People and systems**

In a specific institution, use key data protection principles, such as setting a strong password, avoid opening external links and attachments via e-mail, in addition to making backup copies of data. Further, people and technologies are employed to perform many processes.

- **Activities and processes**

Undeniably, activities and managing them in line with the application of the cyber security foundations, along with copping with such attacks in efficient manner.

Sixthly: Relationship between cyber security and Information Technology in attaining and protecting the Sustainable Development Goals

Dr. Ashraf al-Arabi, president of the National Planning Institute, highlighted that there is a complete link between cyber security, sustainable development and inclusive growth, and that information protection has shown to be extremely important for all sectors, underlining that the status of Information Protection threatens all the Sustainable Development Goals with their economic, social and environmental dimensions.

1. **Some of the main ways in which information technology contributes to the attainment of the Sustainable Development Goals**[15]

- **Data collection and analysis**

Actually, information technology allows to collect, store and analyze huge amounts of data related to various aspects of sustainability, in respect such as environmental conditions, energy consumption and social indicators, as these data provide valuable insights for decision-making, policy formulation and resource allocation.

- **Environmental monitoring and management**

In fact, information technology systems, inclusive of sensors, remote sensing technologies and data analytics, help monitor and manage environmental factors, in respect such as air and water quality, deforestation and biodiversity. Moreover, this information enables the identification of ecological trends, early warning systems of natural disasters and the development of strategies for the sustainable use and conservation of resources.

- **Renewable energy and efficiency of resources**

In reality, information technology plays a pivotal role in optimizing energy consumption, promoting renewable energy sources, enhancing resources efficiency and intelligent networking. For instance, IT systems are used to monitor and manage electricity distribution efficiently, reduce waste and integrate renewable energy sources into the network. More to the point, IoT devices and data analytics can help optimizing the use of resources in industries, buildings and transport systems, thus resulting in reduced energy consumption and environmental impact.

- **Sustainable Urban Development**

For sure, IT solutions contribute to the development of smart cities aimed at improving the quality of life while reducing resource consumption and environmental impact. Through interconnected systems, cities can improve traffic management, waste management, energy distribution and public services. Besides, smart city initiatives also rely on information technology to involve citizens in decision-making processes, promote sustainable mobility and enhance urban resilience in most cases.

- **Universal access to the right to education:**

Information technology enhances access to information and educational resources, by endeavouring to bridge the digital gap and disseminating knowledge; thus enabling individuals and communities to make informed decisions about sustainability practices, encourages change in behaviours in the right direction, and promotes innovation in sustainable development.

- **Cooperation and knowledge sharing**

In fact, IT tools facilitate global cooperation and knowledge exchange among researchers, policy makers and practitioners, as online platforms and networks allow experts to exchange ideas, best practices and lessons learned in the pursuit of the Sustainable Development Goals. Above and beyond, these collaborative efforts help accelerate innovation, encourage partnerships, and promote replication of successful initiatives together with expanding the extent thereof.

- **E-commerce and sustainable consumption**

Information technology supports the growth of e-commerce, provides opportunities for sustainable consumption patterns, as online platforms can facilitate the sharing economy, enable access to products and sustainable services, the fact of which reduces the need for physical infrastructure, reduces carbon emissions from transport and promotes the efficient use of resources.

2. Cyber security and its role in protecting the Sustainable Development Goals

Indeed, we are already witnessing the birth of the "augmented human" society, it is a human with enhanced capabilities thanks to his constant connection to the network and the resources provided thereto. Besides, he can in this day and age see events at the moment they occur thousands of miles away, and uses artificial intelligence algorithms to quickly resolve complex issues that used to require days of study.

The link between cyber security, sustainable development and inclusive growth stands for a full link, and Information Protection is extremely important for all sectors, principally that the Information Protection situation threatens all the Sustainable Development Goals in all their "economic, social and environmental" dimensions. Further, security and security continuity are considered a necessary condition for the significant creation of Sustainable Development. Besides, with the increasing trend towards digital transformation, cyber security has become an important point in the national security of all countries. Consequently, cyber security is an important factor in supporting the Sustainable Development Goals, the fact of which shall be more evident through the points hereunder[16] :

- **Information and data protection**: Cyber security plays a crucial and important role in protecting important data and information from various types of cyber attacks, when institutional data and information are secured, individuals and the State can benefit from technology better and attain sustainable development.

- **Digital infrastructure**: The development of digital infrastructure promotes economic growth and contributes to the attainment of Sustainable Development Goals, as cyber security plays an important role in securing this infrastructure and achieving the sustainability thereof.

- **Youth empowerment and digital skills**: Cyber security contributes to the development of youth skills in the field of technology in various dimensions, and enables them to contribute to the attainment of the Sustainable Development Goals.

- **Innovation and entrepreneurship**: Cyber security encourages innovation and entrepreneurship in the field of technology, thereby contributing to the attainment of sustainable development.

- **Digital government and electronic services**: It enhances cyber security and develops digital government by providing electronic services to citizens, contributing to attaining sustainable development through improving efficiency and transparency.

- **Education and awareness**: Cyber security has an important role in promoting awareness of internet security and technology through their participation in empowering communities and attaining sustainable development.

- **International cooperation and partnerships**: Cyber security efforts can enhance international cooperation between countries and institutions, supporting the attainment of the Sustainable Development Goals on a global level.

Seventhly: **Algeria's National Cyber Security Strategy**

If truth be told, the future of "cyber security" cannot be discussed without considering the emerging trends in technology and the threats associated with its use, as specialized organizations are developing and adopting technologies related to big data and cognitive computing, the fact of which makes cyber dimensions grow steadily in terms of size and complexity. Further, specialists have developed modern and appropriate models and methods to take advantage of this information in advertising campaigns and smart marketing[17]

More to the point, the new global trends also impose the achievement of the 2030 Development Plan and the goals of the World Summit on the Information Society for the period after 2015 (WSIS+10) on the Arab countries, among which Algeria, several commitments, inclusive of the implementation of global development plans and facing the challenges that prevent their implementation. Above and beyond, this can be performed by demonstrating the necessary political commitment and updating strategies, mainly ICT, in line with the new development goals and in accordance with the priorities of the Arab countries, inclusive of Algeria[18]

Algeria's National Cyber Security Strategy has set a clear purpose and a consistent direction, and has alike set a vision for the Algerian society to be a secure, guaranteed, full of life, flexible and reliable society in order to provide opportunities for its

citizens, protect national assets and interests and promote peaceful interactions and proactive participation in cyberspace with the aim of achieving national prosperity, as this strategy aims to provide a coherent roadmap, initiatives and mechanisms for implementing and achieving a national vision on cyber security through the points listed hereunder:

1. **From a legal point of view**

In enacting legal provisions to surround cybercrime, the Algerian legislator has relied on three criteria that are to some extent agreed upon by jurists and comparative legislation[19]

- **First**: The means of the crime represented in the use of communication technologies;

- **Second**: The subject of the crime represented in the violation of Information Systems;

- **Third**: The legitimate aspect represented in the penalties specified in the law, as the legislator aims through this step to determine the scope in which cybercrime is active, in such a way that the actors can control the issue.

2. **From a practical point of view**

For the purpose of ensuring the effective and serious implementation of various measures aimed at achieving cyber security, the higher authorities of the State entrusted this task to specialized bodies within the cyber security sectors, and recommended that freedoms be respected within the framework of constitutional legality and international charters, among such bodies, we name those listed below:-

- Central Department for Combating Cybercrime;

- Centre for the Prevention of cybercrime and Information Crimes;

- National Institute of Criminal Evidence and criminology of the National Gendarmerie.

in virtue of which, amongst the results reached by these departments, it turned out that cybercrimes in Algeria are multiplying very rapidly, as this is revealed by the recorded figures that have been decided, whereat more than 2500 crimes were recorded in 2017, the most prominent of which concerns 70% violation of personal freedoms, online threats, publishing indecent images, extortion, electronic piracy and the like, according to the estimate of the same devices. Further, these figures could not be recorded unless with the irrational practices embodied by the excessive and irregular use of communication media and media technologies. Thus, more than 28 million internet users were counted, 18 million have Facebook accounts and sites and 13 million daily social network users[20]

3. **From a technical point of view**

For obtaining purpose of the best technological means, relying on competencies and being acquainted with the best protection methods considered as a solid link to avoid gaps and resist intrusions; to achieve this task, it has become necessary for the authorities to invest in the technical side and encourage initiatives aimed at developing security policies and protecting the information infrastructure, particularly if we know that we are on the threshold of embodying the e-government project, which has become a requirement for citizens to improve services.

4. **From the scientific point of view**

In order for the authorities to be able to control various aspects pertaining to the process of achieving the cyber security as outlined in the national strategy, the sovereign institutions (Presidency of the Republic, Ministry of defence, Financial institutions, ministries) (50) proceeded to the organization of training courses and made use of all material and human means. Moreover, Algeria has alike called on international experts to enable the frames active in the field of all wires to learn the best practices in security technology and general e-business policies in force abroad. More to the point, missions have been sent to attend and participate in international conferences to benefit from experiences aimed at issuing appropriate recommendations for the security and safety of information in cyberspace.

5. **Cooperation**

It stands for the measures that are based on the existence of partnerships, cooperative frameworks and information exchange networks, as well.

6. **Building of capacities**

It represents the measures of the presence of research and development, education and training programs, accredited professionals and public sector agencies that promote building of capacities.

Conclusion:

1- The relationship between cyber security and information technology is becoming increasingly connected with the potential exposure of strategic interests of an electronic nature to cyber dangers and threats, thus leading to the transformation of cyberspace as a mediator and a source of tools for multilateral conflict;

2- Cyber security is an important factor in supporting the Sustainable Development Goals all the way through protecting information and data from cyber attacks;

3- Cyber security develops digital infrastructure and promotes economic growth, thus contributing to the attainment of Sustainable Development Goals, particularly since cyber security plays an important role in securing and protecting this infrastructure together with achieving the sustainability thereof;

4- Cyber security contributes and supports innovation and creativity in the field of technology. Further, it enables young people to develop their digital skills to contribute to attaining sustainable development in all its aspects;

5- We come to conclude that the concept of multi-dimensional and multi-level cyber security begins with achieving the State security, then the security of the community in the internal or external environment or overlapping between inside and outside, as well as the security of individuals. In a consequence, the security of sustainable development, so as to include all departments and areas that can be a source of cybercrime or technological threat. In virtue of which, the electronic security variables have become governing variables for many data and decisions to such a degree that was not known in previous periods.

6- Cyber security should be an essential part of the national plans of any country for the development of digital infrastructure that supports the attainment of stability and sustainable development; as security and development are two inseparable points in the development and prosperity of countries (neither development without security nor security without development) as security cannot be achieved for members of any society without a set of conditions represented by economic, health and environmental conditions that enhance the development process and contribute, simultaneously, to the preservation of safety and progress of the country. Besides, security has shown to be a prerequisite for providing the necessary stability for the development process, sustainable progress and social justice, together with developing the capabilities of the country’s economy and society, in addition to achieving a decent standard of living.

List of references:

1 Saad Ali Haj Ali Bakri, (2017), (الأمن السيبراني ومعضلة حمايته.. عولمة التعليم العالي.. الرقمي) "*Cyber security and the dilemma of its protection.. Globalization of Higher Education.. Digital*", **Arab Economic International Journal**, Issue 25, (24th August), p.24.

2 Ahmed Abbis Nima al-Fatlawi, (2016) (الهجمات السيبرانية: مفهومها والمسؤولية الدولية الناشئة عنها في ضوء التنظيم الدولي المعاصر) "*Cyber attacks: their concept and the international responsibility arising therefrom in the light of contemporary international regulation*", Al-muhaqqal al-Hilli **Journal of Legal and Political Sciences**, Issue IV, 08th Year, p.214.

3 Toulay Asser, (ما هي السيبرانية؟ وما دورها في صناعة القرارالحياة؟) "*What is cybernetics? What is its role in decision-making*" Al-Hayat, Issue 123, pp.41 – 32.

4 Idriss Attia, (2019), (مكانة الأمن السيبراني في منظومة الأمن الوطني الجزائري) "*The place of cyber security in the Algerian national security system*", **Journal of Credibility**, Volume 1, Issue 1, 01-12, p.103.

5 Salah Mahdi Hadi Al-Shammari, Zeid Mohammed Ali Ismail: (2020) (الأمن السيباني كمرتكز جديد في الإستراتيجية العراقية) "*Cyber security as a new anchor in the Iraqi strategy*", **Journal of political issues**, Faculty of political sciences, Al-Nahrain University, Issue 62, p.276.

6Adel Abdel Moneim, (2018) (أمن المعلومات والأمن القومي، دراسات إستراتيجية) "*Information security and national security, strategic studies*", **Journal of international politics**, Issue (213), Al-Ahram Centre for Strategic Studies and Research, Cairo, p.202.

7 Boumediene Tachma, (2016) **(التنمية المستدامة وإدارة البيئة بين الواقع ومتطلبات التطور) "*Sustainable development and environmental management between reality and the development requirements***", Al-Wafa Legal Library, 01st Issue, Egypt, p.67.

8 Scientific Committee for Environment and Development: (1989) **Our common future, TR, Mohammed Kamel Aref**, knowledge World Series No.142, National Council for Culture, Arts and Lettres, Kuwait, p.83.

9Laib Abderrahmane, (2011), **التحكم في الأداء الشامل للمؤسسة الاقتصادية في الجزائر في ظل (تحديات التنمية المستدامة) "*Controlling the overall performance of the economic institution in Algeria in light of the challenges of sustainable development***", PhD Thesis, University of Setif, p.12.

10 Othman Mohamed Ghoneim and Magda Abu Zant, (إشكالية التنمية المستدامة في ظل الثقافة الاقتصادية السائدة) "*The problem of sustainable development in light of the prevailing economic culture*", **Journal of Management Science Studies**, University of Jordan, Amman, Jordan, Volume 12, No.81, p.76.

11 Telecommunication Development Bureau, (2010), Report on the implementation of the Doha Action Plan (DAP) Programs, study committees, activities and initiatives in the Arab region, ITU report, Document : RPM-ARB10/14-A, Telecommunication

Development Division, Regional preparatory meeting for the World Telecommunication Development Conference 2010 for the Arab States region, Damascus, Syrian Arab Republic, 17th – 19th January.

12 Islam Fawzy, (2019), Cyber security: Social and legal dimensions – sociological analysis, **National Social journal**, National Centre for Social and Criminal Researches, Cairo: Vol. 56, No.02, May, p.111.

13 Islam Fawzy: Op. Cit., p.112.

14 Islam Fawzi: Same reference and page.

15 Wafaie Fawzi, **(تكنولوجيا المعلومات و دورها في تحقيق أهداف التنمية المستدامة) "*Information technology and its role in achieving the Sustainable Development Goals***", Al-Nahrain Centre for Strategic Studies, Department of Technology and National Security Studies, Publishing date 13th August 2023 12:11: 33 Iraq https://www.alnahrain.iq/storage/uploaded_images/sl6GSvLMKhKQX26cn9tZ.png

16 Amira Saleh, (2023), **(الأمن السيبراني في المرتبة الرابعة من بين أهم مخاطر الاقتصاد العالمي) "*Cyber security ranks fourth among the most important risks of the global economy*"**, Al-Masry Al-Youm Newspaper, Issue 6943.

17 Dan Craiyen et al., "**Defining Cyber scurity**", Technology innovation management review, Montreal, Canada, (October 2014), p.14.

18 Idris Atiyah: Op. Cit. p.117.

19 The Algerian legislator has taken into consideration certain provisions of the French legislation of 1988, vide in this regards, André Lucas, Jean Devrèze, Jean Frayssinet, (Droit de l'informatique et de l'Internet) "*Computer and Internet Law*", Issue Dalloz, Themis

20 Djamel Bouazdia, (2019) (إستراتيجية الجزائر في مواجهة الجرائم السيبرانية، التحديات و الأفاق المستقبلية) "*Algeria's strategy in the face of cybercrime, challenges and future prospects*", **Journal of Legal and Political Sciences**, Vol. 10, p.01, p.1280.