# Sustainable Civilization: Informatization Strategy

Andrew Targowski
*Professor Emeritus, Western Michigan University (USA), former President of ISCSC (2007-2013)*,
andrew.targowski@wmich.edu

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Professor Emeritus, Western Michigan University (USA)
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**Abstract**

The article proposes strategic aspirations for the development of sustainable civilization, which are based on organizing the Geoinformatics Steering System, which will monitor civilizations based on established indexes measuring the state of civilization. This monitoring must have a uniform system on many levels of human organization, from the enterprise (company) to regions, countries, continents and the world. The condition for this organization is the creation of the World Civilization Organization because the current efforts of people and countries are chaotic.

*Keywords:* sustainable civilization, sustainable civilization model, the Triangle of Death of Civilizations, Geoinformatic Management System, World Civilization Organization

**Introduction**

The global warming challenges topped the list of world problems in the 2020s. To solve this problem, it must be included in the context of a broader, sustainable civilization—one in which nature is to have priority in society's "democracy." The trend of people settling in megacities is ever becoming thoughtless in practice and effects. In order to remedy the unwelcome consequences of urban congestion and environmental threats, we need to configure a functional plan for the realization of the "green" (wise) city as the nucleus of sustainable civilization. Next a computerized system of monitoring this civilization will be defined/explained/detailed. Terms such as "balanced," "green" and "wise" when used to describe civilization are synonyms based on the context in which they are used.

**1. Configuration of the Sustainable (green-wise) State (CSS)**

*Intention* – To configure efficient and effective means for maximizing sustainability guided by wisdom and adaptive strategy for the wise use of resources and means for the good of humanity.

*Strategy* – To formulate supplemental alternatives to the online configuration for the application and control of sustainable development of civilization, guided by wise statehood.

The empowerment of knowledge-based society (KS) is glorious.

It is even more important that knowledge-oriented society will be able to wisely choose the correct ("green") options for expediting healthy and sustainable living. The implementation of sustainable development supplemented by the monitoring and corrective role of a facilitative state can make wise civilization a global reality. Fig. 1 illustrates the CSS model.
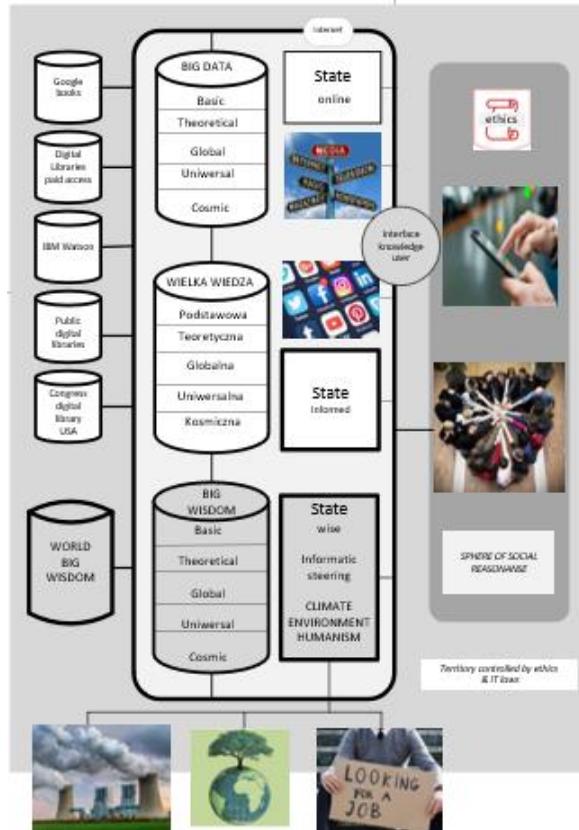


Fig.1. The configuration of the sustainable (wise-green) state (CSS)

In the CSS model, the basic applications of computerization are designed for climate control, "green" environment, and social responsibility. These will ensure survivability and reduce calamities that would endanger societies and compromise the fate of people in the vital economic base. For the state to be wise, it must support the development of a wise civilization, the parameters of which are spelled out below.

By wise civilization is meant the use of the following values:

- ➢ Nature comes first.
- ➢ People are more important than markets.

➢ Human health is more important than money.
➢ Sufficiency and sustainability are more important than performance.
➢ Business serves people, and regulatory measures of a wise state are essential to harmonize business pursuits and public interests.

Capitalism and socialism are based on continuous economic growth, which leads to the depletion of strategic resources. Consequently, it is necessary to develop a policy of Ecologism—a  system based on a market economy but regulated by the criteria of sustainable development, which consists of the following subsystems:

- Eco-education - based on eco-knowledge and wisdom.
- Wise society - trained and educated in the field of eco-education and qualified to make wise decisions.
- Eco-democracy - everyone is created equal, but not with the most favorable natural environment.
- Eco-justice - any crime against the law must also be assessed for environmental damage, and possibly punished.
- Eco-infrastructure - should function in harmony with nature and protect it from destruction.
- Deep economy - in addition to business and administrative costs, it includes environmental and social costs to calculate the effectiveness of functioning.
- Deep media - comprehensively and objectively informs the public about the state and the progress made in the field of sustainable civilization.
- Eco-communication - based on techniques friendly to nature and man.

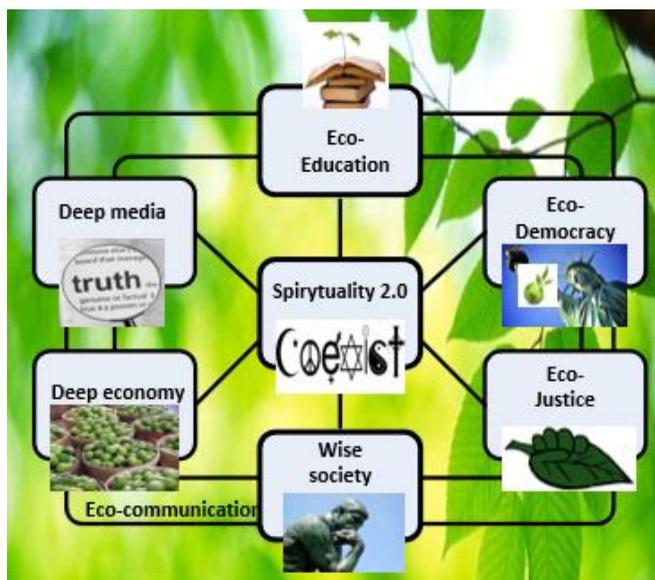A model of Sustainable (green-wise) civilization is given in Fig. 2.



Figure 2. Model of Sustainable (green-wise) civilization

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The first prerequisite for the planned architecture of the Sustainable (green) civilization is civilians committing themselves to adopt a second layer of complementary civilians-based pseudo-religion called Spirituality 2.0. It does not replace any of the existing Religions 1.0, which would be not only heresy, but an unprecedented revolution whose victory would not be possible but would also be unnecessary and harmful. It is not about the fight against religion, but about its development at the global level and not in individual regions. The 2.0 spirituality would teach complementary morals based on the most important values of many religions 1.0. These values are shown in Table 1.

Table 1. Complementary values of 2.0 Spirituality

| Civilization | Vales of Contribution |
|---|---|
| AFRICAN | Spiritual communication with ancestors |
| BUDDHIST | Morality |
| CHINESE | Respect for seniority |
| EASTERN | Self-sacrifice |
| HINDU | Moderation |
| ISLAMIC | Reward and Punishment |
| JAPANESE | Cooperation and cult of nature |
| WESTERN | Freedom and the cult of technology |
| GLOBAL | Free flow of ideas, goods, services, people according to *Pax Orbis* |
| UNIVERSAL | Wisdom, goodness, access, dialogue, consent, conditional forgiveness, human and civil rights, international law, sustainable development |

The development of a Sustainable (green-wise) civilization will not begin if it remains in the hands of popular contemporary laissez-faire politics. The danger of the fall of civilization indicates the need for a certain dose of social engineering. This would involve a mixed approach, both bottom-up and top-down. The role of organizations such as the UN and government agencies is necessary, as is the participation of NGOs. Even today, every school and university should seriously develop eco-knowledge and wisdom, and train wise graduates. They will be candidates for wise citizens, workers or leaders who will apply wise solutions in their positions that will eventually develop Wise Society and Sustainable (Wise) Civilization.

The proposal to transform modern civilization into a sustainable (wise-universal) one is caused by a structural crisis affecting Western civilization and the global civilization that replaces it. The driving force of these civilizations is the United States, which has entered a structural rather than cyclical crisis. Therefore, the question may be asked: "Can America be fixed? Some believe that if more money is invested in technology and labor costs are lowered in America, the country will maintain economic growth with machines that replace human labor. This advice is wrong; it will exacerbate the crisis of America and Western civilization even more, as indicated by the turbulent years of Donald Trump's presidency 2016-2020.

## 2. Towards the computerization of wise civilization

The salvation of Western civilization and the entire world civilization in general depends on whether we can break with the development of self-destructive civilization and begin the development of Wise civilization.

In the CSS model, digital storage of cataloged examples of wisdom in matters of developing sustainable (green) solutions is necessary. The question is how to do it? This can be computerized in the format of descriptive sentences and / or in the format of symbols or numbers according to the developed classification of examples of wisdom. This will not happen immediately since one needs many different projects and studies before one would reach the international standard. But one can start with an example of the descriptive format of the wisdom seed of the Polish Revolution in 1980-1989, given in Table 2, where the bold variant was chosen and considered wise.

Table 2. A basis of wisdom of the Polish Revolution - SOLIDARITY 1980-1989

| ELEMENTS | SOLUTIONS | APPLIED KNOWLEDGE | CHOICE OF OPTION |
|---|---|---|---|
| Problem | Strategy of Revolution | 1789 and 1917 | Bloody |
| Option 1 | Military confrontation | Warsaw Uprising 1944 - failure | 200,000 killed |
| Option 2 | Passive resistance | Gandhi's strategy | Peaceful victory |
| Option 3 | Underground fighting | Underground fighting in 1939-45 | Terror by the occupants - Germans |
| Art of living | Historic legacy and compromise | Failures of Polish Uprisings | Compromise |
| Global context | Advice by John Paul II | Gandhi's victory in India | Relying on the tested strategy |
| Sustainability context | Minimalization of losses | Ruined Warsaw and the loss of 30% od Polish material assets | Avoiding the past bad decisions |

The hypertext technique makes it possible to move from the collections of Great Wisdom to collections of Great Knowledge or other information collections. Examples of wisdom-based descriptions are given in the colloquial non-structural language from the point of view of Database Management Systems (DBMS). These unstructured text data should be converted to structured data used in the standard DBMS database system technique (e.g. Oracle or IBM DB2). This process is called textual disambiguation, in short known as ETL - from "extract / transform / load" (select / transform / load).

The purpose of text disambiguation is to read the raw text - narrative - in order to convert the text into a standardized record in a standard database. Then the text looks like any other analytical database. Other analytical databases can be attached to the analytical database to obtain the effect of the ability to analyze data in structured and unstructured notation in the same question. Each entry in the analytical database can be linked directly to the original source document.

This feature is needed if you ever have a question about the context of the data found in the analytical database, then you can easily and quickly verify it. It is so because the source document describing the basis of wisdom is not modified or changed in any way.

To perform text disambiguation, it is necessary to "map", i.e., to document relevant parameters that can be specified within the unambiguous text. Mapping directs the obtaining of textual unambiguity as to how to interpret the document. Each document has its own mapping processes. All documents of the same type can be handled by the same mapping. For example, there may be one mapping of wisdom grains related to the transport of environmentally harmful materials, another mapping may relate to documents used in R&D management, etc.

Electronic text is a contribution to the text unification process. There are many forms of electronic text. The actual electronic text of the basis of wisdom can come from anywhere. Electronic text can be in the form of appropriate language, slang, shorthand, comments, database entries and many other forms.

The textual disambiguation of the bases of wisdom should be able to handle all forms of electronic text. In addition, electronic text can be in different languages. The result of disambiguation can take different forms, depending on the types of users.

In the process of disambiguation of unstructured texts, existing taxonomies or the ones developed for the needs of a given collection of Great Wisdom are used. Taxonomies are an important tool in general natural language processing, and in text analysis.
For example, an organism may have several levels of meaning such as Animal => Mammal => Primate => Human. Or an IT company => Apple => IBM => Microsoft.

As one can see from the example, the basis for natural language processing (NLP-Natural Language Processing) is text classification. IBM Watson Natural Language Classifier (NLC) is the leader in this respect, allowing users to classify the text of custom categories. Developers with no machine-learning experience (ML-Machine Learning) or NLP can improve their applications using this IBM-NLC service that combines various advanced ML techniques to ensure the highest possible accuracy without requiring large amounts of training data.

## 3. Indexes of Sustainable civilization as a driving force of its computerization

Gross Sustainable Development Product - measures the cost of growth and development developed by the Global Community Assessment Center and the Society for World Sustainable Development. It is defined as the total value of production in the region over time and is measured using market prices for transactions of goods and services in the economy. It is to replace GDP. Calculations are based on the following indicators:

- Economic effects of degradation or improvement of the environment and health
- Depletion of resources, depreciation or recognition or finding new resources (inventory)
- Impact of human activity on the environment
- Impact of human activity on the availability of resources
- Impact of human activity on economic development

The Sustainable Society Index calculates indicators in three categories: human well-being, environmental well-being, and economic well-being.  In total, these indicators are best in Norway; the graphical model of this index is given in Fig. 3.  The index for American sustainable society is given in Fig. 4. The index for Poland is given in Fig. 5.
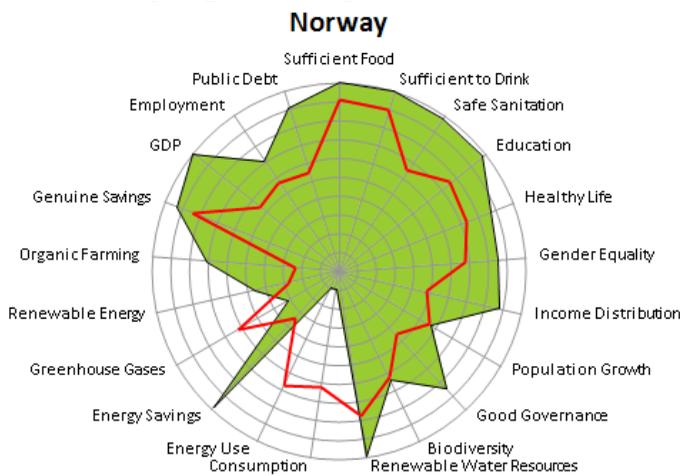


Fig. 3. Index of Norwegian Sustainable Society in 2016. 10-best, 1-worst indicators. The solid line stroke defines the average values for the world.
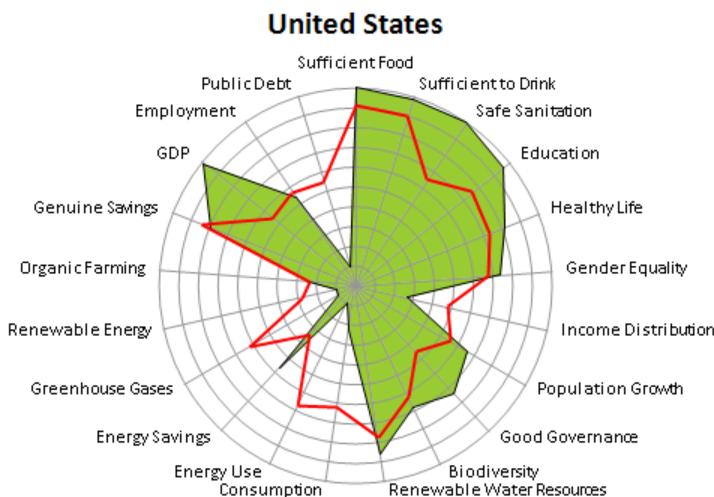


Fig. 4. Index of American Sustainable Society in 2016. 10-best, 1-worst indicators. The solid line stroke defines the average values for the world.
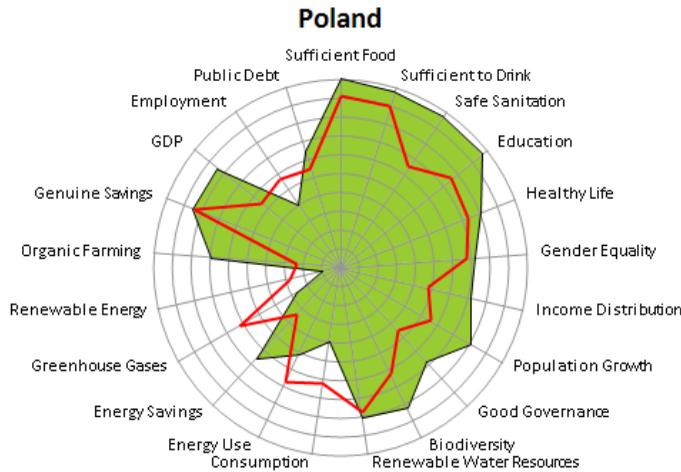
Fig. 5. Index of Polish Sustainable Society in 2016. 10-best, 1-worst indicators. The solid line stroke defines the average values for the world.

## 4. Introduction to the Geoinformation Management System (GMS)

The purpose of this conceptual study is to develop an approach to the Geoinformation Management System with 8D Civilization at all necessary levels of sustainable civilization control — that is, from the global level through the following levels: continental, state, region, and enterprise. It is so because civilization in the field of climate protection and nature has no borders. It permeates across borders with effortless regulation. In addition, the scope of sustainable civilization must include the problem of technology's attack on traditional man's work methods, which, according to business objectives, should lead to total unemployment (a labor-free economy involving a radical reduction in labor costs) and even to the possible disappearance of the human species in favor of cyborgs.

The logic of the hierarchical approach to GMS Civilization 8D leads to the condition that this system must be designed holistically. This is because uncoordinated solutions carried out by individual levels of control will lead to information and decision chaos, which will only deepen the problem of the crisis of civilization and strengthen the feeling that we are dealing with the "end the world."

Choosing an approach to designing GMS civilization 8D

Designing large and complex information systems can involve three approaches:

- Bottom-up, which results in the implementation of partial systems, forming the so-called information islands, usually at the lower level of enterprises and organizations. This level of system solutions dominates in Poland and those countries that are rapidly developing computerization.
- Top-down, which results in comprehensive and integrated systems that may also apply to the level of enterprises and organizations, for example based on ready-made SAP software. However, these systems are not hierarchical.
- Mixed, involving the replacement of the old partial system by a new comprehensive system, but gradually implementing the old system until the new one is checked and started. Such a system was the Polish National Information System (KSI) implemented in 1971-74.

In the design of GMS Civilization 8D, a mixed approach (i.e., top-down) should be adopted, because it is a hierarchical system and not only local, regional, national or continental, but also global; among other things, monitoring and improving the climate or the use of strategic resources knows no geographical boundaries. And the sustainable development of civilization requires the functioning of supportive multi-area systems with information roots in the lowest forms of human organization. It can be expected that a few well-designed enterprise and organization systems will need to be modernized in a mixed approach, according to a top-down model.

The development of IT applications to date has resulted from the progress of computational technique that dictated systemic solutions. It consisted in the fact that IT specialists designed systems, among others in healthcare, and doctors had to adapt to them. However, it should be the opposite, and the process of designing GMS Civilization 8D should reverse this direction. The IT professionals must design a system based not on what they know or like, but what is required to solve the crisis of civilization — i.e., to be essential for improving the quality or standard of lives. To prove this thesis, the following overview of the development of IT applications will be summarized as follows:

A. Examples of computational techniques that impose its mode of application:

- Weather and agricultural calculations carried out on tables / abacus (Mesopotamia 2700 BC) did not have a major impact on the functioning of primitive civilization.
- Commercial arithmometer conducted on table counting machines, starting from Pascal's arithmometer known as Pascalin (1652) and then on parallel arithmometer (1694) by Gottfried Leibnitz (1646-1716). Pascal's arithmometer was initially met with bankers' sharp opposition since if one of them would break, only Blaise Pascal (1623-1662) would be able to repair it, while others were worried that those devices might introduce unemployment. His arithmometer was not accepted.

> Only during the developing Industrial Revolution in the second half of the nineteenth century parallel arithmometers began to favorably support traders (best-selling among those were the Thomas [1820], and later the Odhner [1873] arithmometers) until early to mid-twentieth century.

- Censuses on Hollerith and Powers punched cards (from the second half of the 19th century) have been conducted by almost every country in the world every 10 years, subsequently switching to computers starting from the second half of the 20th century.
- Commercial accounts kept at the cash registers based on the models of the American company NCR (from 1884 until today produced by this company) began to dominate the market to this day. Small companies are still using them, and large ones have gone online.
- Carried out on punch cards commercial transactions have been dominated by the punch card machines manufactured by IBM (since 1924), by the French company BULL (since 1931), by the Czech company ARITMA (before WWII), as well as by the Soviet company SAM.
- Processing of commercial data on computers since the second half of the 20th century has been dominated by IBM computers, and then popularized via numerous computers, both American and European.

B. Examples of a computational technique that must comply with the goals and strategies of users:

- Of course, today every IT system should be designed and implemented jointly with a future user. Often, users think they are unqualified and IT professionals like to impress them.
- Systems of the type GMS Civilization 8D and other such types should have assumptions developed by users, to which designers, programmers, and operators of IT should adapt.
- Artificial Intelligence (AI) systems should have assumptions developed by future users and verified by law to prevent the economy without employees (labor-less economy).
- Internet of Things (IoT) should have assumptions developed by future users and verified by law.

From science fiction to reality - between potential and prudence

The fact that an IT system can "technically" accomplish something does not mean that it is necessary to develop such a system. For example, Ilona Weiss, President of ABC DATA (Onet, 8 July, 2019) says: "AI not only leads to an increasingly deeper automation of various processes, but also more accurate inference and diagnosis. It will become the driving force behind the dynamic development and sale of various types of medical devices and platforms, the services of which will be available to all of us."

Unfortunately, Ms. President forgets that the first AI-based medical expert system was Mycin based on 500 principles developed at Stanford University in the early 1970s (i.e. almost 50 years ago).  But it was not accepted because the doctors who used it could not receive insurance for the so-called bad practices.  And they still will not get it, neither they nor the IT companies that produce them.

Similarly, 5G can encrypt transmitted data in a 256-bit record whose breaking is supposedly impossible.  Hackers who would like to break into these transmissions would have to use quantum computers that are not yet widely available.  But for some countries (USA, China, Russia, Iran, etc.) this is a kind of cyberwar weaponry, and access is not a problem.  Another problem will be the unreliability of mass IoT networks that will break down or freeze like home computers today, and will not be repaired to "move the stopped city."

The development of computational technique occurs at the speed of development of a science fiction concept.  Especially when it comes to computational e-technique (so-called ETO or "digitization"). Table 3 characterizes its introduction periods and consequences for the design of its applications in periods of machine civilization (characterized by its number of spaces - D) attacked by computational technique.

Table 3. Degrees of development of machine civilization attacked
by computational technique with respect to geographical considerations

| DEGREE OF CIVILIZATION COMPLEXITY | SYSTEM RESULT | BENEFIT | SPONSORS | REPERCUSSIONS |
|---|---|---|---|---|
| 2D (1880-2070) | Paper print-out | Improved bureaucracy | Business and public administration | Reduction of number of clerks |
| 3D (2000-) | Hologram on a screen | Improved security of citizens | Better visualization of geographic assets | Better management of territorial assets |
| 4D (1983-) | 4G Wi Fi Internet of people (IoP) | Global communication | Almost every firm and users | Better climate monitoring |
| 5D (2000+) | Monitoring of streets and buildings | Improved security of people | City administration, business, hospitals, schools, colleges | Better monitoring of criminals |
| 6D (2020+) | 5G fast Wi Fi Internet of everything (people and things) (IoE) | Unreliable machine civilization | Promoted by naive young generation | Labor-free economy, communistic commune supported by governmental universal pay. Useless political leadership |

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| DEGREE OF CIVILIZATION COMPLEXITY | SYSTEM RESULT | BENEFIT | SPONSORS | REPERCUSSIONS |
|---|---|---|---|---|
| 7D (2030+) | Cyborg, a new race of mankind | Civilization attacked from within | Promoted by greedy Big Business | War old human race vs cyborgs |
| 8D (2040) | Human victorious? | Wise civilization? | Strong legal control of applications | Perhaps old mankind will win with a new mankind? |

Analyzing the stages of development of machine civilization is not the subject of this article. The approach here is based on a top-down-bottom-up method similar to climate dynamics. And the purpose of this classification is to awaken responsible people to the fact that enthusiastic rapture of what artificial intelligence can do for humans is interesting but also dangerous. That is because it leads to widespread unemployment (labor-free economy) and communism, where everyone will receive an equal benefit from the state to pay bills. This allowance will come from a fund created by several owners of all robots in the world as taxation for their "extraordinary technical progress." There are already examples of universal support for people not working in Finland and in the city of Stockton, California in the USA (130 km from Silicon Valley), where there is high unemployment and poor workers receive an inverted base salary of $500 per month, except for temporary state insurance for the unemployed.

As for the development of cyborgs, their future is best praised by the most famous American futurologist Ray Kurzweil, claiming that around 2025 computers will think faster than people, thus creating in this way the so-called singularity, referring to the Higgs "divine particle" boson that arose in time t = 0 Big Bang of our universe. Similarly, Kurzweil says, will computers lead a new Big Bang to a new species of man? He forgets that quick thinking does not mean wise thinking. Also, why should we allow fast-thinking cyborgs to kill us as we once did when we were a *Cro-Magnon*? Then, we "got rid of" the *Neanderthals* in Central Europe. Isaac Asimov already predicted this situation, when in 1940s-50s he developed three laws on how to deal with robots. First, we cannot design robots that will kill us. What is worse, before the machine civilization ends us, we will first finish ourselves because of promoting a lifestyle that will end human civilization. That will be discussed in further sections of this study.

## 5. The triangle of death of civilization

The public does not notice that modern civilization has led to the creation of the "death triangle of civilization".

It is a combination of population, ecological, and resources bombs. This concept was introduced by Targowski[1] and it is illustrated by the model in Fig. 6. The power of this triangle relies on the interrelationships between bombs.
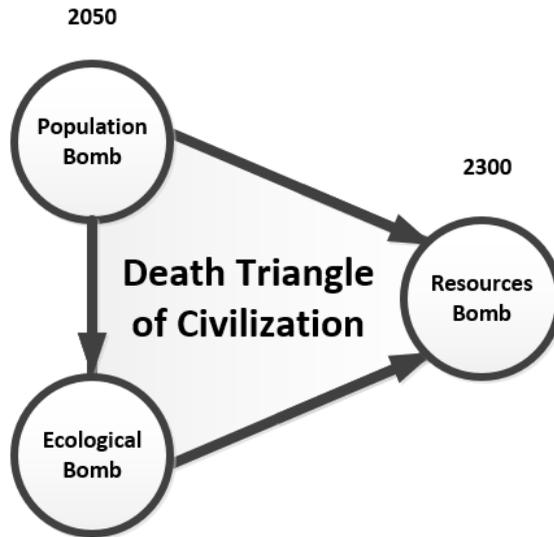


Figure 6. The Death Triangle of Civilization

- **Population bomb** - The biggest threat to civilization is the overpopulation of the small planet Earth . In 2020, the population was 7.8 billion, and is growing annually by about 80 million people, or by the size of two countries such as Poland. In the last 50 years (1960–2020) the world population has more than doubled - from three billion to 7.8 billion people. This is more than what has happened in the last two million years, that is, since we began to behave like people, not hominids. In the third millennium, people reproduce at a rate of 1.2% per year, which leads to a doubling of the current population over the next 58 years, or around 2070. Then there will probably be about 14 billion of us. In recent years, another billion people arrives every 12–13 years[2]. The current size of the population should be considered the number one problem of modern civilization. For this reason, an agreement should be reached between organized *religious* religion, business, and governments regarding the system of controlling the development of the world's population. To date, organized *religious* religion (especially the Catholic Church) opposes all birth control, but does not feel responsible for the fate of the born. Governments in democratic countries are also passive, not wanting to repeat the alleged mistake China has made to introduce a strict birth control system. However, the role of business is not considered at all.

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[1] A. Targowski (2009). *Information Technology and Societal Development*. Hershey, PA, and New York: Information Science Reference, p. 404.
[2] Population Media Center, www.populationmedia.org, access: 27.12.2012.

What is particularly striking in the research on the future of civilization is the passivity of conclusions. They show human helplessness in the absence of any major impact on population formation.

- **Ecological bomb** - It results from overpopulation of the planet and from civilization that destroys the natural environment. Overpopulation and the wasteful lifestyle mean that the so-called footprint is too large to keep the natural environment intact. The footprint measures how much land and water a person needs for biological survival, how much space (s)he needs for buildings and roads, and how much fresh air must be absorbed that can emit carbon dioxide ($CO_2$). The size of the footprint varies over time, depending on the dynamics of functioning civilization (its development and fall). This measure assesses how quickly people consume resources and generate waste compared to how quickly nature can absorb our waste and how quickly it regenerates its resources. According to assessments, civilization currently consumes the equivalent of one and a half planet in terms of resources used and the possibilities of our waste absorption. This means that we consume half of the planet's "spare" resources, in other words - we take them from a warehouse that we cannot replenish to the initial level. According to UN estimates, if the current trend of population growth and consumption of strategic resources continues, then around 2030, civilization will need two Earth-type planets to support its functioning. In 2050, however, we will need three of our planets to keep civilization in motion and at the current level of quality of life. Regarding global warming, scientists working for NASA have found that the Thwaites glacier in the west of Antarctica, which the media called 'the holocaust glacier', has become even more unstable. The glacier was "loud" at the beginning of 2019, when NASA found a pit the size of Manhattan. The total melting of Thwaites would raise sea levels by 50 cm, which would soon flood many coastal cities[3]. What is more, the instability of the ice giant also gives rise to the conclusion that a similar fate awaits other glaciers.

- **Depletion of strategic resources bomb** - For 5800 years, or 96% of its existence, civilization operated on the muscles of humans and animals and was not limited by any energy raw materials except caloric (containing protein) food. Since the time of the industrial revolution, i.e. in the last 200 years, civilization has been operating based on internal combustion engines. Thanks to this, it became self-sufficient, extremely comfortable for people, and very productive. The American Petroleum Institute predicts, that if not within 40, then maybe within 50-80 years the oil reserves will run out sometime between 2062 and 2094. At the same time, its price will increase, as mining techniques are becoming increasingly advanced and expensive. A similar fate awaits gas, uranium, and coal reserves.

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[3] https://wiadomosci.onet.pl/swiat/topnienie-lodowcow-na-antarktyce-nieodwracalne-miasta-portowe-ulegna-zatopieniu/try2nte, accessed July 10, 2019.

The first two resources will be enough for the next 40-50 years of automatic civilization, while the coal reserves are larger and will last until 2300.[4] The solution to the automatic civilization's dilemma of the depletion of energy resources would be human knowledge. And indeed, engineers have developed ways to generate renewable energy based on wind power, solar radiation, and invented biofuels. The reserves of non-ferrous metals, with the largest deposits in China, are similar. Non-ferrous metals are necessary in the production of electronic devices, which are the most characteristic products of automatic civilization, because they control systems that ensure this self-reliance. When these metals run out, then civilization may cease to be automatic.

Conclusions:

➢ The biggest threat to civilization is the overpopulation of the planet, which entails the destruction of the environment and the depletion of strategic resources. Therefore, the world's population should be reduced to an optimal size of five billion in 2050.

➢ The reduction of the world's population should be accompanied by a change in lifestyle, so that the footprints of individual countries return to the permissible levels in 2050, i.e. most countries must get rid of the ecosystem deficit and proceed to its reconstruction.

➢ Contemporary inhabitants of civilization, and especially their opinion-forming centers in the form of non-governmental organizations (NGOs), are well informed and talk about problems of overcrowding, ecology and resource depletion, but politicians elected in cycles for two to four years do not attach importance to this type of information and warnings. Especially troublesome is the fact that that they listen not to their voters, but to lobbyists who financially support their careers in various legal forms. Therefore, world policy should be governed by new goals of the twenty-first century.

## 6. Architecture of GMS CIVILIZATION 8D - world

The current approach to implementing a sustainable civilization is mainly limited to agreements on the limitation of harmful gas emissions to reduce or even maintain the current temperature. For example, the Paris Agreement (2016) has been mainly concerned with the issue that the temperature does not rise by 2ºC until the end of the 21st century. Not to mention the lack of a computerized system for monitoring and managing sustainable civilization.

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[4] Al Gore. (1993). *Earth in the Balance: Ecology and the Human Spirit.* New York: Rodale.

Therefore, until the World Civilization Organization (WCO) and its regional and national branches are established, it will not be possible to develop and manage a sustainable civilization.

The creation of the WOC should not surprise anyone, because similar organizations already exist, such as WTO - World Trade Organization, WHO-World Health Organization, World Bank, International Monetary Fund, UNESCO, UN, World Tourism Organization, International Atomic Energy Agency, ILO-International Labor Office, and many more similar.
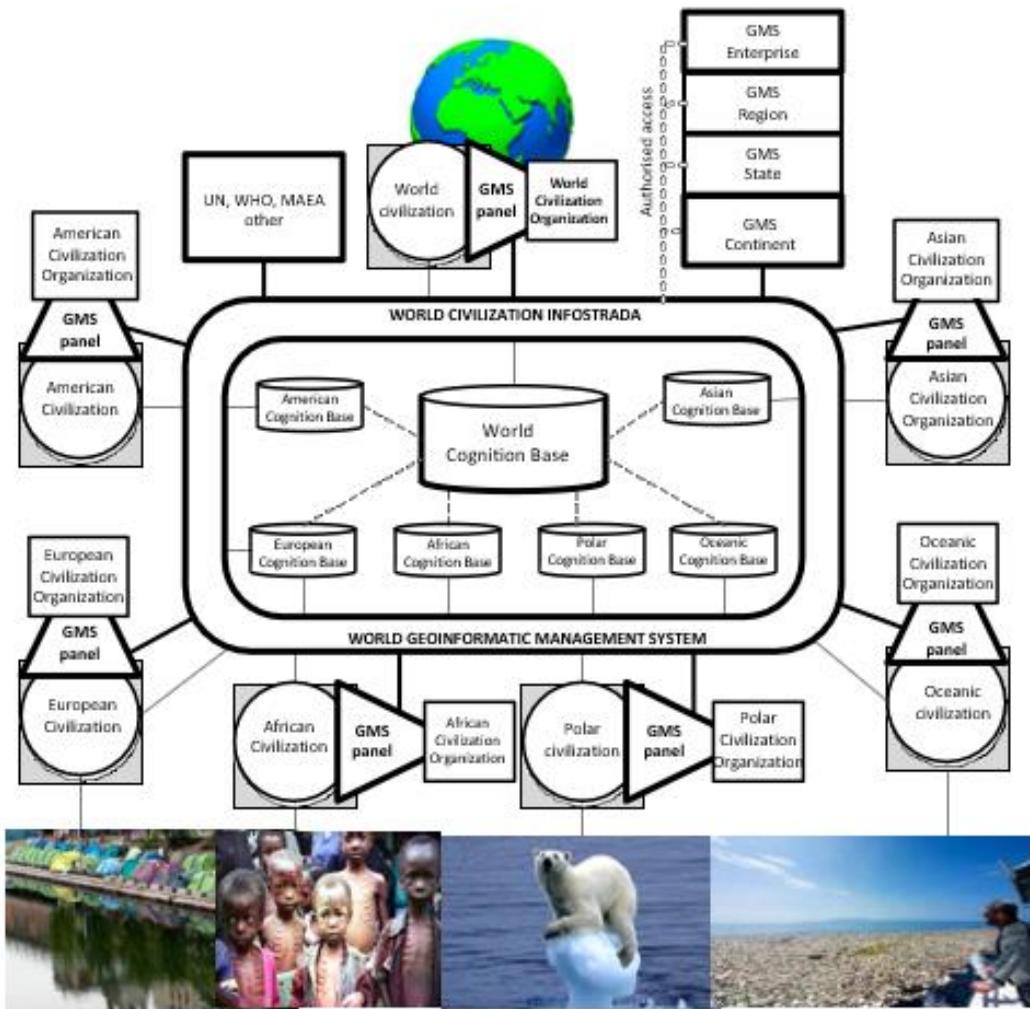


Figure 7.   World Geoinformatic Management System (GMS)

Fig. 7 shows the architecture of the 8D World Geoinformation Control System for Civilization, which includes the following elements:

- ➢ Goal - to support monitoring and activities in the development and steering of sustainable civilization
- ➢ Mission - to ensure the preservation of the human species in a balanced civilization, where work is a means to enrich *humanistic* human values
- ➢ Strategy - a top-down approach
- ➢ Policies - man and his health and nature are more important than money
- ➢ Creed - man is better than a machine
- ➢ Scopes of knowing and reacting as subsystems:
    - ▪ WATER - potable, agricultural, industrial, and other
    - ▪ CLIMATE - temperature, gases, changes, threats
    - ▪ NATURE - ecology, animals, greenery, forests, rivers, seas, mountains, glaciers and more
    - ▪ RESOURCES (natural); energy, metals, calcium, and others
    - ▪ ENERGY (traditional) - combustion, nuclear and renewable energy
    - ▪ SOCIETY - population, lifestyle, health, education, construction, work, globalization, mechanization, automation, computerization, artificial intelligence, relations and business goals, and others
    - ▪ AREA - land development, urbanization, ecological construction and others
    - ▪ WASTES - permanent, organic, sewage, landfills, renewable, and others
    - ▪ RECYCLING - types of materials
    - ▪ LEADERSHIP - leaders and organizations involved and indifferent to ecology.
- ➢ Cockpit GMS Civilization 8D (management dashboard), whose users are, among others, The World Organization of Civilizations and is continental organizations that monitor civilizations; American, European, African, Asian, Oceanic and Polar.
- ➢ World Cognition Database, which is a continental exchange reservoir of knowledge. The cognition scope involves:
    - ▪ Big Data - recording processes and events
    - ▪ Big Information - calculating changes in processes and events that cause corrective or improvement actions
    - ▪ Big Concepts - collecting functioning and innovative ideas, but waiting for implementation
    - ▪ Big Knowledge - scientific data, principles, and laws of particular knowledge domains that generate awareness of the situation
    - ▪ Big Wisdom - optimal choices for solving problems and making decisions
- ➢ The World Infostrada Civilization, or the Global Tele-information Network (GAN-Global Area Network), which is a private network of WCO and regional national branches. It is not an Internet-based network that does not ensure the security of transmitted information.
- ➢ Other elements that do not need to be defined in this first conceptual architecture. Further  assumptions will be refined in the process of realization of technical projects.

The GMS cockpit will perform e-process and make available all kinds of information about the implementation of unified Key Performance Indicators (KPI). Their calculation, updating and communication to users must be standardized and integrated in aggregations at all levels of this system. Otherwise there will be chaos, which is already taking place, because there are several indicator systems at the enterprise level, which, however, are not logically balanced. That is because there is no World Civilization Organization yet to provide such geoinformatics coordination in World civilization.

World Organization of Civilizations should operate based on the following main principles:

- Each state is obliged to be a member of the WOC and its branches because civilization covers entire continents and is not selective. Countries that neglect the sustainable development of sustainable civilization can be a serious threat to other countries that care for civilization, including climate and water, as well as strategic raw materials, etc.
- At the very beginning of the WCO, each country pays 1% of its KPB, but multiplied by exceeding the global hectare limit, per ha. Most countries exceed their limit twice, and some emirates exceed it by up to 10 times.
- In the event of non-compliance with some countries' goals and strategies, the appropriate policies, procedures, various types of penalties will be imposed. That would be accomplished by adopting the principle that ecology has an advantage over democracy, which disregards its responsibilities to the common planet. Which follows from the principles of Wise civilization.

## 7. Architecture of GMS Civilization 8D – continent

This architecture is like the architecture of GMS Civilization 8D World (Fig. 7), except that its main users are the countries of the continent. For example, in Europe we are dealing with a European Western civilization, a European Southern civilization, a European Central civilization, a European Eastern civilization, and a European Northern civilization.

## 8. Architecture of GMS Civilization 8D state – Poland

The architecture of SKG Civilization 8D of the state is shown in Fig. 8. Poland was adopted as an example of this type of system.
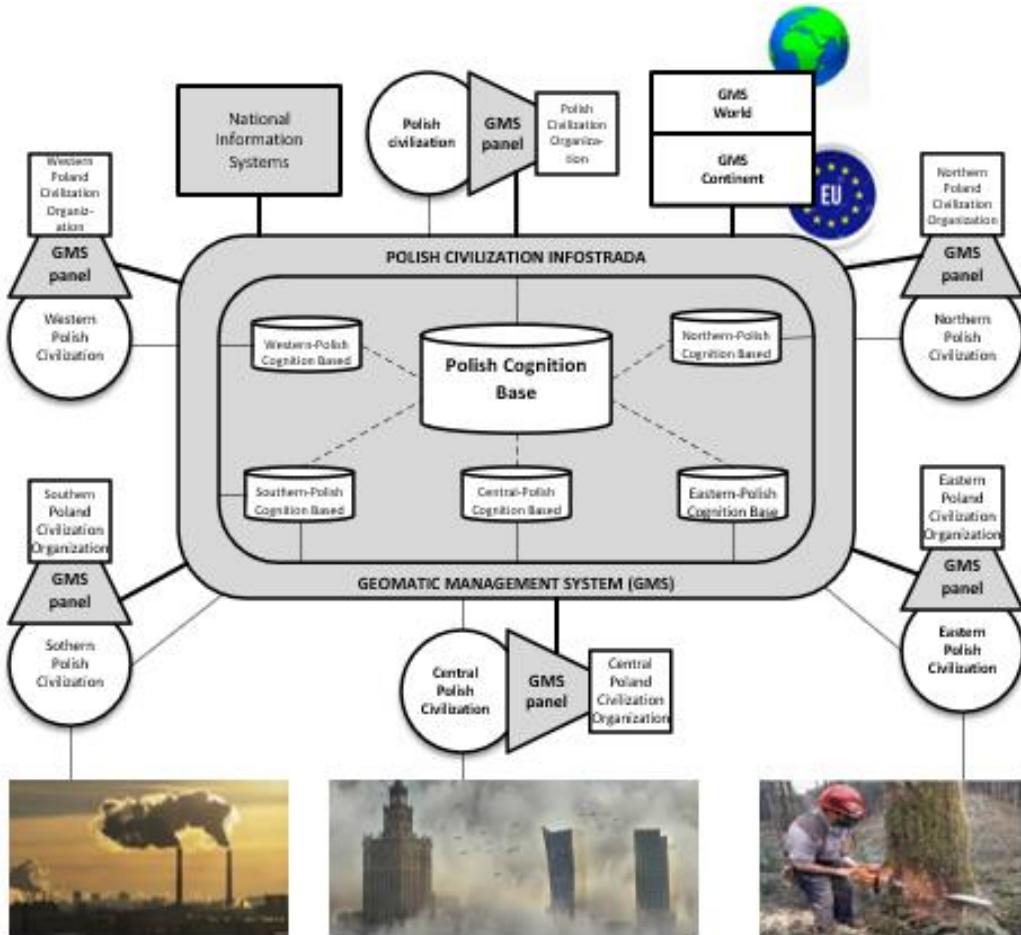
Figure 8. State (Poland) Geoinformatic Management System (GMS)

Architecture of GMS CIVILIZATION 8D - region – reminds architecture at the state level, only limited to its regions, and its elements will be the SKG of enterprises, referred to below.

## 9. Architecture of SKG Civilization 8D – enterprise.

The architecture of the Geoinformatics Management System of 8D Enterprises (organizations) is shown in Figure 9.
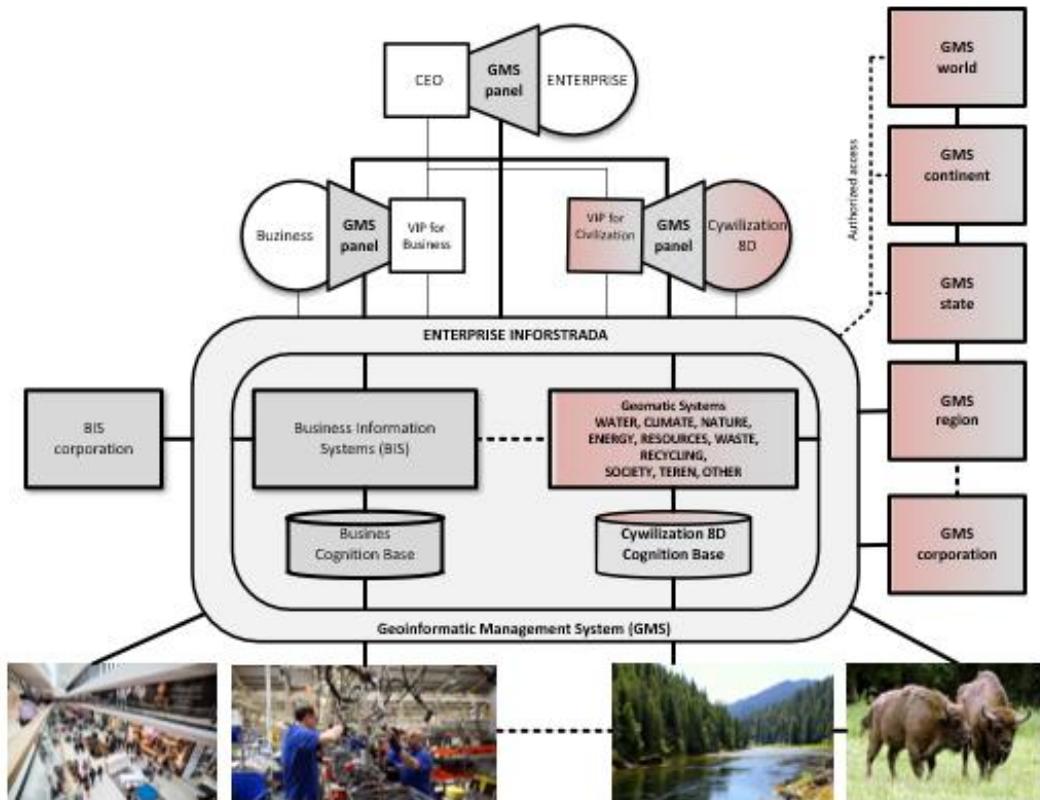
Figure 9. Enterprise Geoinformatic Management System (GMS)

## 10. Bottom-up verification of the concept of sustainable civilization by the city architect Lech Makowski.[5]

The movement towards sustainable civilization emerged from academic circles that first realized the decline of modern civilization based on the constant growth of population and economy, which is unsustainable. The range of solutions has many options, which are usually hastily defined and implemented that leads to even greater environmental degradation and the decline of civilization. Experienced practitioners involved in urban development are rarely listened to. To them, among others the architect Lech Makowski, who verifies bottom-up the top-down system solutions presented in this study as follows:

- Solar panels and windmills - it turns out that their energy yield is low, and their installation requires colossal tracts of land, which is ecologically damaged, and the production of panels causes great environmental pollution.

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[5] Lech Makowski is a Polish-American architect, a graduate of the Gdańsk University of Technology, who has been implementing architectural projects in Los Angeles for several decades. He is a sculptor and conceptual art painter.

- Windmills are also a big mistake.  The efficiency achieved is not proportional to the production costs and materials used.  In addition, they cause millions of birds to die annually.

- It would be unfair to say that all this makes no sense, because it is absolutely necessary and sensible to replace the existing energy sources with alternative energies, but this must be preceded by a very thorough design and analysis of effectiveness and side effects.

- Regarding the topic of cities and the slogan 'ecological sustainability', it has already become evident that cities that we often use as examples of urban order cease to be meaningful and functional and lead to one logical conclusion: that there must be mass decentralization of urban structures.  A reversal of the centralized concept centers such as New York, San Francisco, Mexico City or even Warsaw.  Life in such an environment is becoming a torture and any attempts to solve it are doomed to failure, which was perfectly noticeable during the 2020 pandemic, where the largest number of infections was in the centers of large cities.

- Progress in technologies supporting family life and culture of using free time is best implemented in small groups of people.

- As a result of the progress of automation, robotization and computerization, there is talk of a universal income-subsidy for everyone who will not work because there will be no work.  This is nonsense, because there will be products, but there will be no consumers able to buy them.

- As to the topic of overpopulation, proposals for its regulation are unrealizable while pandemics, wars and revolutions remain.  In addition, the control method that took place in China in the 20th century did not work. To get a 5% decrease in population in this way in the world, one must wait 50 years.  Once President Reagan, when asked what he thinks about abortion, answered in this way, "I noticed that all those who support abortion so much have already been born."  Another expert Paul Ehrlich[6], whom Pope Francis invited to a conference in the Vatican, says that at a certain age, i.e. around 70, they become not only unproductive but also unnecessary. The only reasonable solution would be to regulate birth by improving contraceptives with absolute exclusion of any abortion.  The church would have an easier situation to promote the regulation of the population. Disseminated measures would have to be very meticulously checked for side effects.  It would be a much slower process, but without tragic and ruthless methods of destroying everything along the way. Since we have come to an agreement on emissions of carbon dioxide and loans, there should be nothing to prevent such an agreement on birth control.

- As for technology and innovation in all industries.  In a world where most of the work will be done by robots, there is no need to involve people in any other activity. But where will the financial resources come from for such technological progress?

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[6] Paul Ehrlich is Bing's Professor of Population Studies and president of the Center for Biology Conservation at Stanford University. He is the author of several dozen books and hundreds of peer-reviewed scientific articles.

Universal pay removes the so-called additional "product" or profit. Since people are paid for not doing so, any increase in their yard will eat yields from the production costs of all factories. This is a bit masochistic. And thus technical progress will stop because there will be no funds to finance it. It seems that at this point the American futurologist Rey Kurzweil "hits his head against the wall."

- As for "Wise civilization," I agree that nature comes first. But from the beginning, we have been programmed in human civilization that nature is subordinated to us and is meant to serve us. Unfortunately, as it happens with human nature, we have distorted it in a caricatured way. So the question is whether it would be better to put this matter in such a way that since we are part of nature and we cannot exist without it, whether under pressure or without it, we must keep all the principles of its protection and give it the possibility of regeneration.

- I do not think that we should tolerate or accept all degenerations proposed by demagogues, such as protecting the environment of a single slug at the expense of stopping the construction of a dam that is needed by the local population. The basic principle is the balance of human needs and the needs of nature. There is scope for sensible and impartial scientists.

- As for the "Wise Civilization" political system, the systems that have taken place in the last 200 years have either failed the test or have reached their limits and are leading us to failure. I have the impression that only the federalization of sovereign state units can prevent great conflicts. The example of the United States is just a pattern of such a formation, but its "architecture" should be planned by impartial and recognized experts. Evolution has created a symbiosis between a given environment and a man settled there. It is unbelievable social à la Stalinist in moving entire nations to other places such as Tatars, Chechens, Ingush or starving Ukrainians and other ethnic groups for a total of about 6 million including 1-1.5 killed in the name of an overarching political doctrine. It is senseless to pull individuals or whole groups out of places where their culture, customs and interpersonal relationships grew up.

- One can see conflicts reduced slightly through a hybrid form of syncretism. That is because the preservation of religions practiced in different regions has historical and cultural justification. This problem should be approached from the point of view of ecumenism, tolerance, coexistence and additionally applying regulation of behavior and restrictions in this area. This would be possible when formulating federal legislation. Conflicts usually arise at the intersection of ethnic, state, and religious interests, which should be regulated in a new federalist formation. Here you can quote the thought of C.S. Lewis: "that evil is not that people stop believing in God and they don't believe in anything anymore, but that they are ready to believe in everything."

- The visions of Huxley's newborn farms of the Bokanovsky Group[7], deity cults or stupefaction and stunning of all normal human reflexes using the drug "soma" had only the probability of solving problems only among "crazy scientists and politicians."

## 11. Summary

➢ The use of information systems to manage the sustainable development of the planet Earth requires a planning and design approach - from the top (top-down) because the climate has no boundaries and a solution at the level of the country, region or enterprise, even a very good one, may not be effective in a wider spatial continent or the world.

➢ For such systems to be implemented, it is necessary to recognize the World Civilization Organization (WCO), like the World Health Organization, the World Trade Organization, or many others with similar tasks.

➢ There is the opportunity for a country to be a pioneer of this approach if it creates the National Organization for Civilization (NCO), which will push for the creation of the WCO and ECO (European Civilization Organization).

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[7] Bokanovsky's trial is a fictitious process of cloning people depicted in Aldous Huxley's novel "A New Wonderful World" from 1932.