

## THE HYBRIDIZATION OF SECURITY SYSTEMS AS A FUNCTION OF THE HUMAN SECURITY CONCEPT

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### Abstract

Depending on the inclination of the authors and the focus of their security research, we recognize two most common approaches: the first focuses on the stability of national governance structures and territorial integrity (state and/or national security); while the second approach focuses on security as a civil right in daily life, the availability of necessary resources and the quality of life. The latter approach is known in theory as the concept of human security. Considering the fact that a comprehensive analysis of the security situation involves elements of both approaches, in the paper we consider the complex relationship between state and non-state security actors through the hybridization of the political system. The mismatch between the level of the national strategy and its operationalization at the level of meeting the needs of citizens requires the introduction of new elements in the space between the strategic and operational levels. The outlined approach can be called the Hybrid Security System because of its potential contribution to raising the level of Human Security (HS) in local communities. We will present the hybrid security system conceptually in the form of a decentralized computer network. The presented diagram of System Dynamics and the proposed model of HS operationalization through the hybridization of security systems using the potential of Information and Communications Technologies are a good basis for the analysis and raising the level of citizens' security in relation to current threats.

**Key words:** security system, Human Security, operationalization, hybridization, System Dynamics.

## ХИБРИДИЗАЦИЈА СИСТЕМА БЕЗБЕДНОСТИ У ФУНКЦИЈИ РЕАЛИЗАЦИЈЕ КОНЦЕПТА ЉУДСКЕ БЕЗБЕДНОСТИ

### Апстракт

У зависности од опредељења аутора и фокуса њихових истраживања у области безбедности, препознајемо два приступа: први у средиште истраживања ставља стабилност државних управљачких структура и територијални интегритет (државна и/или национална безбедност); док се други приступ усредсређује на безбедност као право грађана на сигурност у свакодневном животу, доступност неопходних

средстава и квалитет живота. Овај други приступ је у теорији познат под називом концепт људске безбедности. Имајући у виду чињеницу да свеобухватна анализа безбедносне ситуације подразумева елементе оба приступа, у раду разматрамо сложен однос државних и недржавних субјеката безбедности кроз хибридизацију политичког уређења. Неусаглашеност између нивоа државне стратегије и њене операционализације на нивоу задовољавања потреба грађана захтева увођење нових елемената у међупростор између стратешког и оперативног нивоа. Изложени приступ због потенцијалног доприноса подизању нивоа Људске безбедности у локалним заједницама можемо назвати Хибридним системом безбедности. Хибридни систем безбедности приказаћемо концептуално у виду децентрализоване рачунарске мреже. Приказани дијаграм системске динамике и предложени модел операционализације људске безбедности кроз хибридизацију политичког система, користећи потенцијал информационо-комуникационих технологија, даје добру основу за анализу и подизање нивоа сигурности грађана у односу на актуелне претње.

**Кључне речи:** систем безбедности, људска безбедност, операционализација, хибридизација, системска динамика.

### *INTRODUCTION*

Security is a complex field that can be analyzed applying various approaches, depending on the inclination of the author and the focus of their research. In the broadest sense, we most often recognize two approaches: the investigation of the political processes and the social environment affecting the stability of the state and local managing structures; and the investigation of security as the right of citizens to their security, protection of their assets and welfare. Although at first glance it seems that this is the case of mutually excluding positions, we talk about complementary approaches to security that can contribute to the quality of security status analysis together.

The primary goal of the first approach that we recognize by two terms, state and/or national security, is the security on the institutional level that ultimately also affects the security of the citizens. The second approach gives an important place to citizens by introducing them as the subjects of the security space, apart from the state. The Concept of Human Security quantifies its status by the elements that affect the quality of life of the citizens – elements that are, as such, a constituting part of common public interest. Many of HS elements may appear in state documents pertaining to strategic measures that generate politics focused on the security of citizens.

The elements of HS are present in the strategies of national states through their commitment to upholding the principles of sustainable development, as well as the respect for the basic human rights contained in the UN Chart. However, it is a long way from a declarative commitment to an idea to its implementation. The realization of HS requires the creation of a political framework that demands a wide involvement of different actors beside the involvement of formal state institutions. Beside the regular subjects, such as states and international universal (and regional)

organizations, we also recognize the following actors: non-governmental organizations (associations of citizens - both national and global), transnational businesses, international political movements, various levels of local (self) government, and many informal institutions. Given the number of actors, their vertical and horizontal coordination across political structures is required in order to bring about positive effects at the individual level - the level of citizens as end-users of the system.

The implementation of national policies and strategies that have an impact on HS follow the top-down principle. At the national level, decisions and regulations are made, which are then implemented at a lower, local level. The shortcoming of this process is that strategies are rarely changed and often do not take into account the changing realities at lower levels. On the other hand, operationalization, i.e. the realization of security-related activities at the citizen level, requires the bottom-up principle and a rapid real-time response. Activities such as risk management, monitoring, various security services, etc., are carried out in dynamic and ever-changing circumstances and require insight into the specific situation at the local level. The state, at the strategic level, as a slow inert structure, is not able to react in a timely manner in accordance with the needs of the situation in order to protect the interests of citizens. In practice, this leads to problems in the efficiency of the realization of activities that contribute to the status of citizens' security in the part that is addressed at the local level (Kraushaar & Lambach, 2009).

Considering the described characteristics of the process, we can say that there is a kind of interregnum between the institutional level of security space design and citizens as end-users of the system. In order to solve the problem identified, we propose a hybrid approach based on the introduction of new elements of the security system in the interspace between the strategic level at which state strategies are created, and their operationalization in real conditions, at the local level. We see a solution to the problem in the hybridization of the political order that can facilitate the operationalization of the HS (Richmod & Michell, 2012). This paper presents a proposal for the realization of HS through a hybrid form of a distributed computer network.

### *THE CONCEPT OF HUMAN SECURITY*

After the fall of the Berlin Wall, many expectations of the transitional process of returning to the capitalism of the former socialist (communist) countries were betrayed. The period of time from 1989 to 1994, was long enough to identify global trends and security challenges in the post bipolar world. In addition to the problems inherited from the Cold War period, there are also negative effects of transition, that is, the consequences of this process on the lives of the people affected by it. UNDP experts who participated in the writing of the 1994 Annual Development Report offered an analytical

framework that should be able to identify the causes of the poor social and political condition (UNDP, 1994, pp. 22-40).

The seven-dimensional matrix, on which HS is based, enables the quantification of the quality of life of people in an area, through all relevant segments of the private, social, economic, health, political, environmental and institutional space (Đorđević, 2013, p. 78). The HS incorporates the struggle for human rights and the humanization of human relations, as well as the relation of man to the living and non-living world on the planet from the Enlightenment to our times. The idea is that the quality of life of members of our civilization is quantified by universal standards, regardless of where they live, what their skin color or confessional affiliation is. HS represents an attempt to operationalize UN documents, such as the Charter of Human Rights, Brutland and the Brandt Report, as well as many other movements and declarations (such as the fight for the rights of workers and women, the Roman Club, etc.). The analytical potential that the HS carries in itself enables the identification of the causes of the largest number of security challenges and threats the modern civilization is currently facing.

This situation emphasizes the need for operationalization of the HS in order to obtain a model that enables a qualitative analysis based on specific indicators. The monitoring of the situation on the ground makes it possible to identify the source of the problem and therefore to find the solution in an easier way. When designing research procedures, it is necessary to ensure the reliability of the data obtained and to prevent any information manipulation. Explicating the methodology that researchers will be guided by requires far more space than we have on this occasion. The idea is to point out the analytical potential of the HS that is even more pronounced using the opportunities offered by information and communication technologies (ICT). However, we emphasize here that the increasing digitalization in our surroundings and the automation of business processes based on the principles of artificial intelligence requires additional engagement in protecting people and their surroundings. The so-called AI offers certain possibilities, but there are no definitive solutions to the problems it opens in the field of HS, thus we are talking about new aspects of HS and the issue of respecting the ethical standards in this field (Đorđević & Džigurski, 2018).

We emphasize the fact that HS challenges the right of states and economic entities to pursue their interests by endangering fundamental human rights. HS starts from the protection of human rights as the basic premise of the existing UN system and the commitment assumed by all Member States. Scientific and technological progress raises many ethical and legal issues that need to be addressed in order to maintain the current level and make progress in the field of HS. One of the solutions is to apply the so-called embedded security and ethical methods and principles into technical means and decision-making processes in order to achieve an effective response to existing and possible new forms of endangering

people and their surroundings. That is why interdisciplinary cooperation between experts of various profiles (technical experts, ethicists, lawyers, etc.) and policy makers in the field of HS is required.

### *Operationalizing the Concept of Human Security*

The operationalization of the HS concept involves the use of its basic settings in threat assessment, that is, undertaking adequate activities to mitigate threats to raise the level of security of the population and individuals at risk. This requires the creation of strategies and activities in order to protect against existing and potential sources of threat. Protecting people from violence and repression, fighting poverty, preventing epidemics and other threats that can cause unexpected accidents raises society's resilience to sudden changes in the surroundings (UN, 2016)<sup>1</sup>.

An effective approach in the process of HS operationalization is the systemic approach. This approach, founded on the principles of System Dynamics (SD), is good because it is based on status monitoring and change management on the basis of the monitoring of selected parameters (variables). For the purpose of monitoring HS, indicators are used in the process of the analysis of the situation within all seven dimensions of HS. The problem with the security phenomena is that measuring the change in different phenomena is usually not possible directly. The process is compounded by the fact that subjective experiences are part of the research, and special expertise is needed to objectify the results obtained.

From the technical point of view, the operationalization of HS and its effective implementation is possible at the level of engineering operational management thanks to the use of modern information technologies. For this purpose, Management Centers are required that make management decisions on the basis of monitoring the obtained data and their expert analysis in order to achieve the desired level of security. Due to the complexity of factors affecting the citizens' security and a large amount of data that we receive through the monitoring process, i.e. the need for a broad base of expert knowledge necessary to make adequate management decisions, the use of AI-based tools can contribute to their quality.

In terms of infrastructure, control centers should be brought about in the form of a distributed computer network, with numerous data monitoring components. The essential monitoring components are the Early Warning Systems, which are necessary to generate data for emergency management purposes. Given that data validity and reliability are important to the success of the system, blockchain technology (Bruyn, 2017) can be used to

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<sup>1</sup> Bearing in mind the limited space, we are not in a position to further elaborate on the process of operationalizing the concept of human security. Therefore, we recommend the following references for anyone who is not familiar with this topic.

establish a computer network, which provides a high level of data security and enables their fast and reliable transfer as an essential prerequisite for achieving the desired objective.

Based on the above said, it can be concluded that the operationalization of the HS requires an expert selection of topics and areas within a unified holistic approach. The basic prerequisite for the successful implementation of the HS is the recognition of the specific nature of threats to the security of citizens, as well as various options for taking action to prevent or mitigate their activities. By fostering participatory processes, HS contributes to the establishment of networks and mechanisms of cooperation between different actors, thereby contributing to the improvement of dialogue between formal state institutions and informal institutions founded by citizens. This process can contribute to increase (establish) the trust in the system and greater citizen engagement, which ultimately leads to improving social coherence.

The operationalization of HS can be efficiently achieved through the process of hybridization of political systems, which, combined with the adequate use of ICT, enables:

- Combining top-down processes, norms, and formal state institutions that include the rule of law, responsible governance, and social protection instruments, with a bottom-up approach in which democratic processes support the important role of people and local communities as actors in defining and exercising their essential rights.
- Identifying the gaps in the existing security infrastructure and determining ways and means of preventing its deficiency displaying.
- Making programs and policies sustainable to protect and improve existential conditions, as a systematic way to achieve long-term stability.
- A higher level of citizen activity in pursuing their personal and community interests.
- Increasing the resilience of people and local communities, taking into account the factors of their lack of security in the event of an accident.
- Fostering participatory processes between formal state institutions and informal civic organizations (Richmod & Michell, 2012).

#### *HYBRID POLITICAL SYSTEM*

Hybrid political system (HPS) is characterized by practices through which democratic and autocratic characteristics are manifested. It is called hybrid because it is a combination of democratic processes with features that are characteristic of autocratic political systems. In short, we can say that hybrid political systems are a special form of political arrangement that is between democratic and autocratic models of organization. HPS is present in many developing countries, especially since the end of the Cold War. In addition to the potential destabilizing factors in relation to the efficiency of public administration, so far it is shown in practice that by combining both

approaches (democratic and autocratic), hybrid political systems can ensure the sustainability and resilience of complex political entities. It is for this reason that the experience in the implementation of HPS governance mechanisms can be applied to improve the efficiency of public administration. More about the statistics and the presence of hybrid political systems in the world can be seen in more detail in the reference: *Hybrid what? - The contemporary debate on hybrid regimes and the identity question* (Cassani, 2012).

The HPS is an arrangement in which formal (state) and informal institutions coexist and participate jointly, depending on their competencies, interests, and capabilities, in the implementation of the administrative processes of a state system.<sup>2</sup> From the standpoint of development and security, formal state institutions are necessary but not always sufficient for the functioning of a complex political organization. Informal institutions can act complementarily to stabilize and support the functioning of the system, which implies a balance between formal and informal institutions and their functions.

Informal networks are present in the civil society sector, in social, cultural, political, environmental, health, education, security, and other domains. The existing informal networks and organizations achieve their special logic and rules of functioning in relation to the state structure. Although the functioning of informal networks is not always in line with strict regulatory frameworks, they can contribute to creating a stable structure across the spectrum of social practice. In order to overcome the constraints of formal institutions, local social actors can develop specific patterns of interaction and communication that emerge as adaptive responses to the constraints and capabilities of formal institutions.

The relationship between formal institutions and informal social networks is not yet adequately conceptualized, but the most rational approach to solving this is one advocating the inclusion of informal networks as sectoral subsystems within the overall governance. The hybridization within political systems can contribute to the development of political strategies in the process of democratization of social processes, raising the efficiency of public administration, stimulating economic and social development, raising the level of security, implementing post-conflict strategies, humanitarian activities, etc.

Given that hybridization supports the integration of formal and informal institutions, various variants of hybrid political order can contribute

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<sup>2</sup> In this text, we speak affirmatively of HPS. However, there are authors whose views of hybridity in the context of political order have a negative connotation. Nora Stel and Wim Naude use the term hybridity to explain corrupt practices in Lebanon (Stel & Naude, 2016). Honorata Mazepus, Wouter Veenendaal, Anthea McCarthy-Jones and Juan Manuel Trak Vásquez elaborate on the hybridity of political order through the analysis of solely, according to them, authoritarian systems (Mazepus et al., 2016).

to achieving the objectives that are the focus of HS. This assumption is based on the fact that the hybrid system, in comparison to the classic top-down government, is better adapted to the phenomena in local communities, that it can mobilize the local population and local institutions and bring about their legitimacy. That is why we believe that the implementation of HS leads to the hybridization of political systems, while HPS contributes to the operationalization of HS in the form of the so-called Hybrid Security System (HySec).

#### *THE IMPLEMENTATION OF THE HUMAN SECURITY CONCEPTS THROUGH THE HYBRID SECURITY SYSTEM*

In many developing (and/or transitional) countries the hybridization of the security system is a more appropriate model for managing the security sector than the standard state model. HySec enables the establishment of complex relationships between formal and informal, state and non-state actors in the security sector. HySec is more functional and easier to adapt to the real needs in accordance with changes in the surroundings.

The hybridization of the security system is a process in which state and non-state actors in the field of security coexist and interact, with the state distributing some of its authority and legitimacy to other entities (networks and institutions) within the existing legal framework. Functionally, HySec achieves the harmonization between state and non-state security actors by carrying out the following activities:

- The identification of relevant informal actors, institutions, norms and their roles within the existing political system.
- Achieving an increase in the capacity of informal actors and directing their activities towards linking with formal institutions to support their activities.
- The development of realistic programs and the creation of policies that should contribute to raising the level of security and the realization of human rights at the level of local communities and the vulnerable categories of the population.
- The establishing of evaluation and monitoring systems to the purpose of monitoring the situation on the ground and making adequate decisions to address security challenges and threats. This system should maximize the involvement of formal and informal actors in emergencies and in crisis management.

The concept of HySec is a new approach in the field of security management, and the significance of this concept is found in its possible positive impact on the security of people in all dimensions of HS, especially in the region of developing countries and in vulnerable areas. However, realizing this positive potential entails significant research efforts, as well as the transformation of security systems in order to make HySec operational in governance systems.



Research conducted in the territory of Bosnia and Herzegovina shows that the activities of informal networks created during the war and their links with formal structures in power are very firm in local ethnically homogenized communities. This is an example of the use of informal networks affiliated with formal institutions to protect ethnic identity in existing social circumstances, thereby enhancing the sense of security of the population (Bojicic-Dzelilovic, 2013).

More detailed research was carried out in Africa as part of the reform of the national security sector, with the aim of incorporating hybridization into public administration systems. Although most African states have sovereignty within internationally recognized borders, there exist non-state, i.e. informal institutions, in many parts of this continent that have a particular impact on citizens' security (Bagayoko, Hutchful, & Luckham, 2016).

In the conditions of internal and/or international conflicts on the African continent, often informal institutions are the only ones that survive and function. They play an important role in the security and protection of local communities, as well as in the legitimacy and efficiency of governance in the security sector. Considering the experiences of the African continent, it can be concluded that HySec is particularly important for countries in the territory of which there are conflicts or communities in the post-conflict phase (Middelkoop, 2016).

### *The Hybridization of Security Systems*

Hybrid security systems can be implemented through the process of operationalization of HS in order to increase its functionality. The particular benefit of implementing HySec is that there are numerous institutions in the HS field that deal with various security dimensions and operate largely independently of one another. Often, this multitude of institutions and NGO networks are not linked, which leads to wasting time and resources. The situation can be explained, among other things, by the arrogance of the bureaucratic apparatus in relation to civic activism, but also by the misunderstanding of the functioning of the official system of institutions by NGO activists. The idea is to create an institutional environment that will enable a partnership between formal institutions and the NGO sector, that is, informal social networks. The result of the partnership of the two sectors through the hybrid security system is the synchronization of the dynamics of implementation of security strategies and security functions in both directions, i.e. from formal institutions to informal and vice versa.

Mismatches in the dynamics of the functioning of the components and delays in the decision-making and their execution through the state administration system are the most common causes of instability and disturbance in the field of HS. The stability of the functioning of complex control systems can benefit from the study of processes by way of analysis and methodology based on SD (Sterman, 2001).

A general diagram of SD for the HS management system is shown in Figure 1.

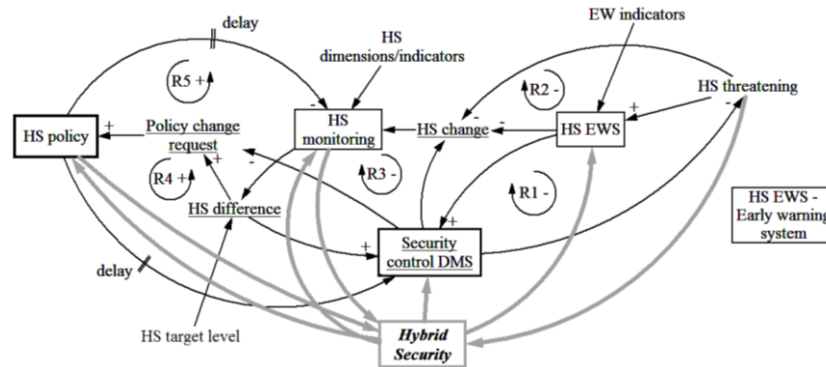


Figure 1. General diagram of System Dynamics for the Human Security management system

Source: Authors, based on Vensim software tool (Vensim, 2019).

In Figure 1, we can see how the Early Warning System (EWS) has some positive effects with regard to conventional threats to citizens' security. This is shown in the diagram by the R1 managing loops (the emergence of direct threats triggers the early warning system that sends this information to Decision Making System (DMS) that takes action under its authority); R2 (registering change of indicators indirectly signals the sources of threat and activates DMS through the EWS) and R3 (change of indicators registered by monitoring indicates the difference between the projected security state and the real situation (HS difference), leading to the instruction to activate DMS, but also requesting systemic changes). Problems arise when new threats that require changes emerge at the strategic level and such situations are presented with control-management loops R4 (HS policy - Security policy - request change policy - Security policy - HS policy) and R5 (HS policy - HS assessment/monitoring - HS difference - Policy change request - HS policy) are the causes of the instability of the management system. The main reason for this is delays in the adoption of appropriate administrative policies and decisions, as well as inconsistencies in the dynamics of implementation and execution of control activities. The stabilization of the management system functioning is achieved by the addition of a new functional block based on the principles of the Hybrid Security System (shown in gray). The hybrid security sector enables avoiding the delays in procedures that require systemic changes from the moment a problem is detected (new threats emergence) to the DMS response. Figure 2. illustrates the executive functions of each sector within the concept of hybrid security,

where the operability of the hybrid block, which ensures the synchronization of the activities of formal and informal institutions and their operational alignment for real-time management, is in its full effect.

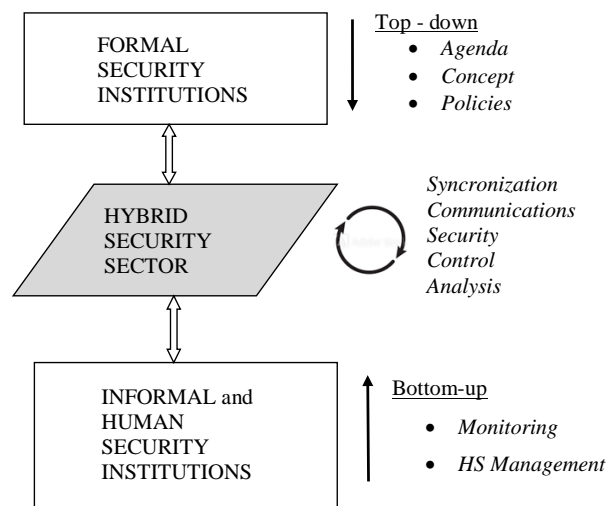


Figure 2. Executive functions of the sectors within the hybrid security system.  
Source: Authors

The role of the hybrid security sector is to enable the building of a more functional security system by aligning political directives and the needs of people as end-users of the system. Approaching the ideal situation in which the operationalization of the HS enables real-time response requires the alignment of the work of formal and informal sectors. The hybrid security sector should have two parts: the research/development and the executive part. The R&D part should work on finding models for decision making and system communications that will enable effective response based on the analysis of the situation and the observed changes in the monitored indicators. The executive part consists of various communication modules necessary for real-time activity synchronization between formal and informal actors in the field of HS management.

Elements of research / development work:

- Research and development of policy models based on HS (doctrinal documents and agendas),
- Based on policy models for the implementation of the HS, define the actors and variables of the HS management system
- Qualitative and quantitative analysis of the components of systems involved in HS management
- Static and dynamic analysis of HS management processes from the perspective of Top-down and Bottom-Up approaches

- Development of decision-making and HS management models using the potential of ICT technologies and artificial intelligence
  - Developing sophisticated forecasting models to explore new approaches to policy-making, decision-making and governance in the areas of security (in general terms) and HS separately
    - Development of models for monitoring and evaluation of the parameters of the HS management system
    - Designing hybrid security system infrastructure

Elements of the executive part:

- Interactive communication in both directions between formal and informal institutions and local HS centers
  - The synchronization of the dynamics of execution of the control processes from the aspect of Top-down and Bottom-Up approaches
    - Security protection of data, established procedures and protocols of cooperation within administrative processes
    - Control of HS operationalization on the principles of risk/resilience of engineering management.

Operationally, the Hybrid Security Sector can be infrastructurally implemented in the form of a distributed computer network connecting state institutions operating in the HS area, on the one hand, and local centers (HS1, HS2, ... HS<sub>n</sub>), which operate in different HS domains relevant to particular parts of the national territory, or to a particular dimension of HS, Figure 3. Each local HS center is connected to one of the servers (HySec1, HySec2... HySec<sub>n</sub>) within the HS network. All servers in the HySec network are interconnected on a Peer-to-Peer basis that allows

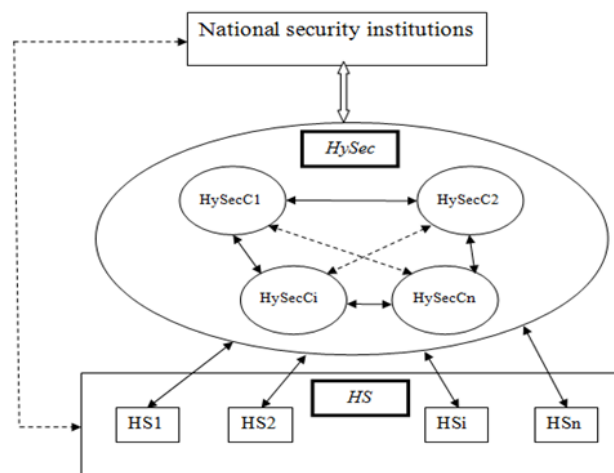


Figure 3. Proposal of information infrastructure for implementation of hybrid security in the field of HS.

Source: Authors

for the creation of a decentralized computer network in which each computer can serve as a server for other computers, allowing shared access to files and peripherals without the need for a central server. The proposed information architecture can eliminate to a certain extent the functional problems and instabilities caused by delays in the management decision making and the implementation of the decisions.

Since the operation of the Hybrid Security Sector requires a high level of efficiency in the transmission of large amounts of data (big data), as well as the need for a high degree of protection of this data, this computer network can be built on the principles of blockchain technology. Networks based on blockchain technology transfer data on a peer-to-peer basis. This network contains a distributed registry in the form of a blockchain of data that is used to record data transactions on multiple computers simultaneously so that each transaction record cannot be modified retroactively. In this way, a high degree of cybersecurity is achieved and it is virtually impossible to compromise the recorded data.

### *CONCLUSION*

The current security challenges and threats are the results of inadequate solutions and the course of events following the fall of the Berlin Wall. Instead of moving to a higher level of organization, the power centers that decide on the course of events after 1989 choose retrograde solutions, by which the historic chance of establishing a global world order that would reduce existing tensions and prevent the opening of new foci is missed. In view of the current situation, the authors of the 1994 Human Development Report promoting HS tried to draw attention to the real security challenges and threats affecting ordinary people. It is an attempt to put the existing system at the service of the interests of the citizens, not the corporate interests and obsolete geopolitical projects of global hegemony. In the meantime, contrary to the initial idea, some parts of the HS are instrumentalized by conservative circles in order to realize the projects underpinning the interests of large capital. A re-reading of the 1994 UNDP report and academic papers that elaborate on the idea of HS leads to the confirmation of the thesis that HS is focused on addressing the security challenges of the modern world. The basic idea is to put the existing state institutions and the system of international organizations in the function of the interests of people, as global citizens, which means preserving the rest of the living world on the Planet and the Planet itself as a habitat.

With the operationalization of HS through HySec, that is, the hybridization of the security system, technological advances are put at the service of the interests of citizens and their needs. The hybrid structure of the system facilitates the analysis, research, and development of new governance models, as well as aligning national strategies with dynamic changes in order to effectively manage the elements of the structure that affect the citizens'

security. Since HS is focused on those dimensions that pertain to the quality of life of people, we are also changing our relationship to nature and the living world on Planet Earth. The current state of affairs is far from satisfactory with private companies gaining too much power, creating a potential threat to the values of Western civilization. The way out of the current situation could be a return to the original concepts of democracy and the role of the state in the public space. Private initiative is good for starting new projects and raising the efficiency of the system, but the public interest is not always identical to that of profit-oriented power centers. For this reason, there must be an institutional system of control over activities that can jeopardize the interests of the majority for the personal enrichment of the minority. That is why, among other things, the HS is important, because it offers a way to improve the situation in relation to the work of institutions and their role in protecting citizens' rights. Establishing a system based on the monitoring of relevant indicators helps to identify the causes of problems in the functioning of institutions and prevents new disorders by eliminating the phenomena that can lead to them.

The implementation of HS requires the incorporation of its elements in the creation and implementation of state policy at all levels, and especially at the level of local communities. It is, therefore, necessary to involve not only state institutions, but also the broad participation of various actors, such as regional and international organizations, non-governmental organizations, local government organizations and informal groups founded by citizens. In this way, in the form of a hybrid political system, it is possible to increase efficiency in the realization of state administrative processes and create a stable system resistant to various forms of threat and potential accidents.

Regarding the fact that the area of HS covers a large number of informal institutions that are more or less interacting with formal government institutions, the implementation of HySec would contribute to a more efficient implementation of HS in practice. The presented diagram of SD and the proposed model of HS operationalization through the hybridization of security systems using the potential of ICT (especially blockchain networks) are a good basis for raising the level of citizens' security in relation to current threats. Due to their high reliability, blockchain networks are widely used in many public domains, such as managing public affairs, smart cities, etc.

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## **ХИБРИДИЗАЦИЈА СИСТЕМА БЕЗБЕДНОСТИ У ФУНКЦИЈИ РЕАЛИЗАЦИЈЕ КОНЦЕПТА ЉУДСКЕ БЕЗБЕДНОСТИ**

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### **Резиме**

Пад Берлинског зида покренуо је процесе који указују на неодрживост постојећег модела функционисања савремене цивилизације. Концепт људске безбедности је један од покушаја у потрази за решењем које би ускладило амбиције власника капитала и интересе грађана. Идеја да се стање безбедности квантификује на основу

индикатора који приказују квалитет живота грађана – представља покушај еволутивне промене доминантног неоконзервативног приступа уређењу друштвено-економских токова. Примена концепта људске безбедности у пракси захтева одговарајућу промену у институционалној сфери савремене државе.

Научно-технолошки прогрес, посебно у областима информационо-комуникационих технологија (ИКТ) и вештачке интелигенције, отворио је нове могућности за напредак човечанства. Међутим, у пракси највише до изражаја долазе ефекти на нивоу корпоративних интереса. Стиче се утисак да су изневерена оптимистичка очекивања хуманиста у односу на потенцијал ИКТ. Чињеница да су највећа достигнућа ИКТ дошла из научних институција чији је рад финансиран из приватних фондова представља део објашњења зашто су ефекти примене ИКТ највидљивији у корпоративном сектору. Јачање позиције приватног капитала у односу на моћ државе чини да су њене институције, све више, инструментализоване зарад остваривања интереса неформалних центара моћи. С обзиром на то да очекивања у правцу демократизације политичких процеса нису испуњена, све је приметнија апстиненција грађана у односу на изборне процесе.

Хибридикација политичког уређења представља покушај да се ИКТ искористе како би се активирао уздржани део грађана са правом гласа. Стављање система државних институција у функцију интереса грађана повећало би њихову заинтересованост за политичке процесе. Истовремено, вештачка интелигенција обезбедила би алат за праћење функција система и уочавање угрожавања и аномалија, односно спречила њихову појаву.

Концепт људске безбедности је добар аналитички оквир који путем седам димензија и одговарајућег броја индикатора обезбеђује могућност квантификације стања и праћење промене параметара. Укључивање неформалних друштвених мрежа у процес одлучивања кроз тзв. Хибридикацију политичког уређења – ствара услове за стварање хибридног система безбедности. Хибридни систем безбедности погодан је за успостављање система раног упозорења и брзу реакцију у односу на уочене деструктивне појаве и трендове.

Применом метода системске динамике уз употребу ИКТ (рачунарске мреже и Blockchain технологије) подиже се оперативност у раду државних институција и обезбеђују услови за правовремену реакцију на конкретне промене. Улога сектора хибридне безбедности је да омогући изградњу функционалнијег система безбедности усаглашавањем политичких директива и потреба људи као крајњих корисника система. Наведена операционализација људске безбедности омогућава реаговање у реалном времену захваљујући усклађености активности државног (формалног) и неформалног сектора. С обзиром на то да област људске безбедности покрива велики број неформалних институција, примена хибридне безбедности допринела би ефикаснијој имплементацији људске безбедности у пракси. Приказани дијаграм системске динамике и предлог модела операционализације људске безбедности путем хибридикације система безбедности уз коришћење потенцијала ИКТ – представља добру основу за анализу и подизање нивоа безбедности грађана у односу на актуелне безбедносне претње и изазове.