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PARADIGM OF SUSTAINABILITY IN THE CONCEPT OF HUMAN DEVELOPMENT

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Abstract: *The concept of human development combines the production and distribution of goods. The use of income is as important as its generation. There are four components of human development: equity, productivity, competence and sustainability. The paper considers the sustainability paradigm as a component of human development. Sustainability, in short terms, signifies a responsible attitude toward future generations. Namely, future generations should have the same development opportunities as the present generation, that is, the opportunity to enjoy the level of well-being of the current generation should not be denied to them. Equal opportunities must be provided for intragenerational and intergenerational justice. Based on the nature of the answers about the substitutability of certain forms of capital in the process of generating economic growth, four versions of sustainability can be defined; very weak sustainability, weak sustainability, strong sustainability and very strong sustainability. The authors came to the conclusion that the concepts of very poor and poor sustainability are not in agreement with the basic idea and goals of the concept of human development that concerns expanding the possibility of choosing. On the contrary, the concept of strong and particularly very strong sustainability expresses a responsible attitude toward future generations and functions in expanding opportunities for people as well as maximizing the level of their well-being in the long run.*

Key words: *economic growth, economic development, human development, nature capital, sustainability, very weak sustainability, weak sustainability, strong sustainability, very strong sustainability*

JEL Classification: *O15,Q01,Q56*

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PARADIGMA ODRŽIVOSTI U KONCEPTU LJUDSKOG RAZVOJA

Sažetak: *Koncept ljudskog razvoja objedinjuje proizvodnju i raspodelu dobara. Upotreba dohotka je važna koliko i njegovo generisanje. Četiri su komponente ljudskog razvoja: pravičnost, produktivnost, osposobljenost i održivost. U radu se sagledava paradigma održivosti kao komponenta ljudskog razvoja. Održivost, u širem smislu, označava odgovoran odnos prema budućim naraštajima. Naime, budući naraštaji treba da imaju iste mogućnosti za razvoj kao i sadašnja generacija, odnosno, ne sme im se uskratiti šansa da uživaju u onom blagostanju koje ima aktuelna generacija. Jednake mogućnosti moraju obezbediti intrageneracijsku i intergeneracijsku pravednost. Na osnovu prirode odgovora u vezi sa zamenljivošću pojedinih oblika kapitala u procesu generisanja ekonomskog rasta, mogu se definisati četiri verzije održivosti: vrlo slaba održivost, slaba održivost, jaka održivost i vrlo jaka održivost. Autori su došli do zaključka da koncepti vrlo slabe i slabe održivosti nisu u saglasju sa osnovnom idejom i ciljevima koncepta ljudskog razvoja koji govore o širenju mogućnosti izbora. Naprotiv, koncept jake održivosti, a posebno koncepti vrlo jake održivosti, izražavaju odgovoran odnos prema budućim naraštajima i u funkciji su širenja mogućnosti za ljude, a takođe i maksimiziranja nivoa njihovog blagostanja na duži rok.*

Ključne reči: *ekonomski rast, ekonomski razvoj, ljudski razvoj, prirodni kapital, održivost, vrlo slaba održivost, slaba održivost, jaka održivost, vrlo jaka održivost*

1. INTRODUCTION

At the beginning of the last decade of the previous century, a kind of affirmation of a comprehensive approach to development through the concept of human development appeared. The concept of human development seeks to harmonize the quantitative and qualitative development side. According to this concept, the goal of development is to increase the number of options that are man-made. Human development implies equal opportunities for all, and continuity in terms of responsibility for future generations, which should have the same chances for development as the present generation. The concept of human development has gained popularity during the last decade of the previous century. The essence of this approach is to consider increase income as important means of development, as well as the expansion of the possibility of human choice, which ultimately represents the final goal of all development efforts (Sen, 1999).

The concept of human development has a double meaning (Jovanović-Gavrilović, 2013). First, the concept can be used to indicate the process of expanding the choices for people. Secondly, the concept is used in the sense of

explaining the achieved level of human well-being. These two sides of human development must be balanced. Human development combines the production and distribution of goods. Therefore, it is extremely important that economic growth and human development are supported because otherwise developmental imbalance can occur.

There are four key components of human development: equity, productivity, competence and sustainability. (Ul Haq, 1995). Although they are interconnected in some way, in this paper the emphasis is placed on the component of the category of human work that refers to sustainability.

Creating the conditions for future generations to enjoy an unprecedented level of well-being implies that the current generation will leave the inheritance to the next generation the total capital that generates growth in an amount that is no less than what it possesses. This becomes the rule of sustainable development that requires respect for equity in the transfer of capital between people over time.

The concept of sustainability can be considered as an aim and as a process (Atkinsons, Dietz and Neumayer, 2007). Based on the nature of the answers concerning substitutability of certain forms of capital, in the process of generating economic growth, four versions of sustainability can be defined: very weak sustainability, weak sustainability, strong sustainability and very strong sustainability (Dragulanescu and Dragulanescu, 2013).

The subject of the work is the paradigm of sustainability and the concept of human development. The aim is to understand the importance of key messages of different versions of sustainability for the concept of human development. The research used general scientific methods and elements of logical approach: analysis and synthesis, inductive and deductive methods, as well as the method of qualitative analysis.

After the introduction, the second part of the paper presents the genesis of economic development from economic growth to the concept of human development. The third part of the paper is dedicated to presenting economic growth as an important assumption of the concept of human development. In the fourth part, key messages of different versions of sustainability (very weak, weak, strong and very strong versions of sustainability) are analyzed in order to improve human development.

2. FROM ECONOMIC GROWTH TO HUMAN DEVELOPMENT

Economic growth represents an increase in the value of production of one country over time. The largest number of countries in the long time interval had an average growth rate of real gross domestic product between two and three

percent. The average growth rate of gross domestic product per capita over a longer period is around two percent (Cvetanivić and Mladenović, 2015).

Economic development covers a spectrum of very different economic and social changes in the qualitative sense which are characteristic of the process of continuous transformations of the economy and society. In addition to the content of economic growth, the phenomenon of economic development includes complex structural, institutional, organizational and technological changes in the economy enabling the increased production to be realized and distributed within the national economy and beyond it (Smith and Todaro, 2017). Economic development is a necessary premise of social development, and its content itself is also expressed in a certain way in social development. Conversely, a large number of social phenomena, such as historical heritage, tradition, culture or religion, for their part, become a very important component of economic development (Dragutinović, Filipović and Cvetanović, 2016)

Papers have recently emerged in economic literature expressing serious doubts on account of dynamic economic growth in highly industrialized market economies. There is a great concern about the depletion of natural resources and pollution of the environment. Economic growth and industrialization cause a number of negative phenomena such as excessive pollution, large industrial noise and waste, deterioration of the appearance of cities, frequent traffic collapses, and so on. In a society that has reached a high standard of living, environmental economists are of the opinion that any further economic growth basically means satisfying insignificant needs and an undue disturbance of the ecological balance (Bettencourt and Kaur, 2011). In that sense, environmental economists write about the imperative of a moderate slowdown in economic growth. Critics of economic growth at all costs argue that the problem of poverty is primarily due to inadequate distribution rather than insufficient production. They believe that in order to solve the problem of growing inequality in the distribution of income, political courage and will are necessary, and that, on the other hand, the intensive growth of gross domestic product is not necessary (Dragutinović, et al., 2016).

The sustainable development paradigm implies linking economic development, environmental protection and social responsibility. The need for the realization of this concept has been influenced by many phenomena: 1) the rapid growth of the population; 2) increased depletion of renewable natural resources; 3) exhaustion of non-renewable natural resources; 4) the rapid destruction of certain parts of the environment; 5) destruction of biological diversity, genetic wealth and ecosystems 6) pollution of the atmosphere, water and land (Črnjar and Črnjar, 2009).

Economic growth measured by increasing gross domestic product per capita cannot be a synthetic indicator of human well-being. If we rely on it, an increase in human well-being could also be the growth of gross domestic product per capita, which leads to even more inequalities in the distribution of such a product, which is in contrast to the criterion of greater equality in distribution as an expression of an improved quality of life. In this way, two sets of objectives should be distinguished in the analysis of the evaluation of the development results - direct and indirect. The former relate to the area of consumption that is to satisfy specific human needs. The latter economic goals are related to the growth of production value. Therefore, indirect goals represent a means to achieve immediate goals.

The improvement of human well-being implies a growing satisfaction of human needs, ranging from existential to those related to the versatile development of human personality and the creation of general conditions that encourage the creativity of man, his role in production and social life, and his ability to decide on his own destiny (Santiago, Vásquez and Ng Henao, 2017). Creating the conditions for future generations to enjoy an unparalleled level of well-being implies that the current generation leaves the heritage to the next generation which is at least the total capital in an amount that is no less than what it has at its disposal in order to provide for those who come to achieve at least the same level of well-being. This solution can be summarized as the rule of constant capital. It becomes a rule of sustainable development, a development that requires respect for equity in the transfer of capital between people over time (Jovanović-Gavrilović, 2013).

At the beginning of the last decade of the previous century, there has been a kind of reaffirmation of a comprehensive approach to development through the concept of human development. The concept of human development combines the production and distribution of goods. It is therefore of utmost importance that economic growth and human development are supported, as otherwise developmental imbalance occurs. In short, this concept seeks to harmonize the quantitative and qualitative development side. According to this concept, the goal of development is to increase the number of options that are related to people. Human development implies equal opportunities for all, continuity in terms of responsibility for future generations, which should have the same chances for development as the present generation (Jovanović-Gavrilović, 2013).

The concept of human development can be used to explain the process of expanding the possibilities of choice for people, and the most important of them are: to live a long and healthy life, to be educated and to enjoy a standard of living. Additional choices include political freedom, guaranteed human rights

and self-esteem. Thus, income is important, but it is not a sufficient indicator for all human choices, where the undisputed fact means that a higher income presents the process of expanding the choices (Sen, 1999; Anand and Sen, 2000). The concept is used in the sense of explaining the achieved level of human well-being. Concerning human well-being, human beings are viewed more as the beneficiaries of the development process and not only as adjudicators in it. It also emphasizes the importance of distribution policies. These two sides of human development must be balanced.

The most commonly used measure of human development is the Human Development Index (HDI, which tracks the available opportunities of an individual in society (Figure 1). The individual's features represent a list of things that a person can have or things that can be available in his life. This refers to the individual's ability to achieve his "freedom to get different alternatives between which he can choose" (Luigino, 2008, p. 23).

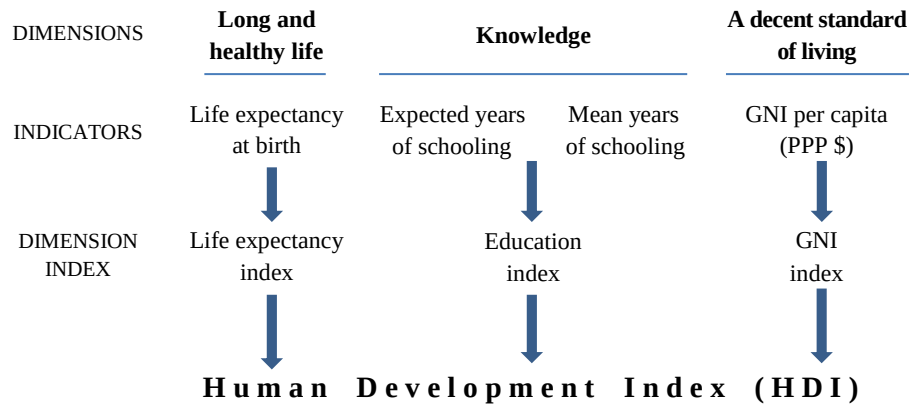

Figure 1 Human Development Index

Note. United Nations Development Program - UNDP, 2010. p. 215.

Figure 1 shows that the human development index includes three options that are crucial to each person: long life, knowledge and a decent standard of living. Longevity is measured by the length of life of newborn children; knowledge is measured by the attainment indicators in the fields of education, and living standard is measured by income per capita.

Measuring human development involves quantifying the process of expanding opportunities for people, on the one hand, and recording the achieved level of their well-being on the other. This helps to differentiate clearly two sides of human development; the formation of human abilities and the exploitation of

these abilities for productive purposes, cultural, social or political events, as well as leisure (Fukuda-Parr and Kumar, 2004).

3. ECONOMIC GROWTH AS A CONDITION FOR THE PROMOTION OF HUMAN DEVELOPMENT

Economic growth is the condition for the improvement of human development (Sen, 1999). The main drivers of economic growth are anthropogenic (production) and natural capital. Produced capital consists of physical capital (buildings, equipment, machinery, etc.) and human capital (knowledge and experience, health status, etc.). Natural capital consists of natural resources and ecological capital. In particular, natural capital consists of available land and resources, including air, water, soil, fishing forests, minerals and environmental systems that support living. Ecosystem services - nutrient circulation, water purification and soil stabilization, as well as services used by people and supporting production. Natural capital contributes to the growth of human well-being not only as a source of resources that are necessary for the production and storage of its remains, but also for natural landscapes, rich flora and fauna and the like (Cvetanović, Leković and Mladenović, 2013).

Economic growth depends on capital funds and the intensity of technological changes. Taking everything into account, economic growth is an important condition for human development (Dewan, 2009). There are four developmental components of human development: equity, productivity, competence and sustainability (Jovanović-Gavrilović, 2013).

Equity means that every individual must have equal access to the opportunities offered. The ability to choose individuals or groups of people must not be detrimental to the ability of other individuals or groups of people. Also, one should keep in mind the fact that equality in the circumstances does not imply equality in distribution.

Productivity as a component of human development implies investments in the development of human resources, as well as creating a stimulating macroeconomic environment for people to use their own potential.

Empowerment means that people have the opportunity to choose among many offered possibilities, according to their own will.

Unlike the standard theory of economic growth, sustainability points to the boundaries of macroeconomic scope. Instead of predicting unlimited growth rates for the future, now these rates are set to a maximum level based on the capacity of the area (Haris, 2009). Sustainability is a responsible attitude towards future generations. Briefly, future generations should have the same development opportunities as the present generation (Georgescu-Roegen, 1971;

Cleveland, Costanza, Hall, and Kaufmann, 1984; Hall, Tharakan, Hallock, Cleveland and Jefferson, 2003; Murphy and Hall, 2010).

4. THE VERSION OF WEAK AND STRONG SUSTAINABILITY AND CONCEPT OF HUMAN DEVELOPMENT

The concept of sustainable development requires that the principle of economic efficiency, which prevails in the traditional economy, should be complemented by social and environmental considerations. This means that economic growth must follow not only the achievement of environmental quality objectives, but also the distribution of capital. This is of primary importance for the proper distribution of benefits and costs that a given division can bring. Proper distribution of resources between countries and generations requires each country to define and implement its development policies, to consider not only the connection between the needs of its people and people of other countries (within generational equality), but also the connection between the needs of the present and future generations (intergenerational equality) to ensure that future generations are at least prosperous in terms of prosperity, such as current generations, which in economic terms is a matter of intergenerational equality, and not just efficiency.

Based on the nature of the answers about the substitutability of certain forms of capital in the process of generating economic growth, four different versions of sustainability can be defined: very weak sustainability, weak sustainability, strong and very strong sustainability (Dragulanescu and Dragulanescu, 2013). In fact, in order to keep the consumption level constant per capita ("the low limit of sustainability"), "the total capacity of the economic system" should not be reduced.

A version of very weak sustainability is characteristic of orthodox neoclassical economic theory (Solow, 1986). It represents the approach by which economic concepts are applied to the environment. The important application of neoclassical theory refers to the allocation of non-renewable natural resources over time, which can also be applied to renewable resources. The basic principles of neoclassical economic analysis can also be applied to common resources and public goods. In the approach of neoclassical economic analysis of the environment, the central place belongs to the concept of externalities, that is, the category of external costs and benefits. The theory of externalities provides an economic framework for analysing the cost of environmental damage caused by economic activities or social benefits generated by economic activities that improve the environment (Haris, 2009).

Understanding sustainability of development refers to sustainable growth and an unparalleled level of consumption. The definition by which sustainability

assumes unnecessary human well-being or unnecessary potential welfare over time is acceptable to many economists. The concept of very low sustainability assumes that the reduction in natural resource stocks and the disturbance of the balance in the environment can be distorted by an increase in investments in anthropogenic (human-created) capital (Samuelson and Nordhaus, 2009). Also, this approach ignores issues related to the key determinants of the prosperity of future generations.

Very weak sustainability is affected by two points. The first relates to the assumption of a change of different forms of capital, and the second focuses on economic growth, ignoring the issues of equality in the distribution of wealth and income, as well as the quality of the environment. In other words, growth is not a phenomenon of purely economic nature. Growth and development can be conflicting goals. The fact that the level of income or consumption per capita remains unchanged or increases over time does not mean that the quality of life or the standard of living remain the same or parallel. The concept of very weak sustainability affects the ecological position, defined as the "ecocenter of abundance" and is associated with the "anti-green economy" model. The only goal is to increase gross domestic product by utilizing resources, assuming that free markets and the category of technological change provide absolute substitution, in order to mitigate constraints resulting from the scarcity of natural resources and environmental pollution.

The low viability version stems from a review of the conservative neoclassical model, highlighting its critical points, such as blind faith in the market, the equilibrium price logic, the potential of technological change, the ability of the system to maximize growth, the presumption of perfect substitutability of particular forms of capital. In short, the main critiques of neoclassical theory have been accepted purely to preserve their own philosophy. The critical "inside" process has been implemented by neoclassical economists to create the current environmental economy as a new branch of economics. Weak sustainability is defined as relative to total capital. It implies that the potential welfare of people determined by total capital does not decrease. This welfare, in addition to maintaining a constant level of consumption, includes many sizes related to the values of life, heritage and recreational ecology. The change in comparison with the concept of very low sustainability is reflected in the introduction of the upper limit of the capacity of assimilation, or the absorptive capacity that implies the ability of the environment to absorb and degrade harmless by-products of human activity, and the lower limits of the level of natural capital reserves that can support sustainable development. (Haris, 2009). Weak sustainability permits the replacement of one form of capital by others in order to maintain the value of total capital, but this substitutability is not absolute since this is actually possible only within certain limits. In fact, it

recognizes the existence of minimum levels of some natural resources and the environment, known as "critical natural capital". Critical natural capital signifies elements of a natural capital for which there are no substitutes that humans can make, such as water sources, pure air (Haris, 2009). Therefore, the requirement to preserve the value of total capital was imposed by introducing the sustainability limits, which are directed at preserving at least one part of natural capital, in order to maintain the proper exploitation of resources for the stability and resilience of the ecosystem. According to some researchers, the limitations that promote a more rigorous version of sustainability should be viewed as an expression of "precautionary principle" and similar to "safe minimum standards". This concept is an attempt to find possible solutions to the social agreement between generations, to reach a compromise between the use of current resources in order to achieve economic benefits and preserve resources for the future. This would mean that, through an adequate cost-benefit analysis, a natural capital threshold is formed below which it is not advisable to go. Critical natural capital would reach that level of natural capital under which operating costs incurred would be too high compared to benefits, but this arises the question of the ability to evaluate economically the benefits and costs arising from environmental relations without "the missing elements in the economic calculations ". Also, the substitution of critical natural capital should not be allowed, because in this case (assuming that the benefits from which we should give up are too high) "produced equity capital has taken the place of natural capital."

The view that natural capital cannot be generally replaced by anthropological capital and that, in the same way, certain levels of natural capital should be maintained is referred to as strong sustainability in the literature. Similar to the concept of weak sustainability, it is possible to distinguish between two versions of sustainability - the concept of strong sustainability and the concept of very strong sustainability.

The concept of strong sustainability is part of the eco-economics research, whose supporters have a clear view that versions of weak sustainability permit a reduction in the quality of the environment and the availability of natural resources. The focus is on missing elements in economic budgets that are the basis of weak sustainability. Most ecosystem functions and services can be adequately evaluated in an economic sense, but others are out of monetary estimates. The emphasis is on the principle of maintaining the quality of the environment, which is presented as a function of the stock of biological resources, the space of the ecosystem, the availability of nutrients, as well as other components of the environment necessary for the integrity of the ecosystem. According to this approach, the preservation of capital is not enough if viewed through the prism of total capital. This is due to a) high risk of

irreversibility of the destructive process of over-exploitation of natural resources; b) the existence of uncertainties in the functioning of the ecosystem and the total value of their services and the irreplaceable character of some components of natural capital; c) loss-of-repulsion, which many people feel when processes of environmental degradation become apparent.

Supporters of a strong sustainability version suggest that the next generation must inherit a natural capital stock not less than the stock it inherited from the previous generation. Preservation of the amount of natural capital, and not total capital, can provide effective protection of natural resources that threaten economic growth by destruction. In short, any reduction in total natural capital for this version of sustainability is unacceptable.

Strong sustainability rejects the possibility of substitution between natural and produced capital and argues that these forms of capital must be maintained separately over time, without the exchange between one and the other, since they are complementary. However, a strong sustainability version allows the possibility of substitution of individual components of the produced and natural capital. In order to specify the version of strong sustainability, some authors have translated the rule of constant natural capital into a set of ecological criteria (safe minimum standards of sustainability) that are determined by the dynamics of regeneration of renewable resources and the capacity of assimilation of the environment (Dragulanescu and Dragulanescu, 2013).

In the concept of strong sustainability, the optimism of technological progress and its effects on capital substitutability concerning the changes in consumer's behaviour towards a sustainable lifestyle is not justified. In essence, the strong sustainability affects sustenance from increasing the size of production in the future, as well as the zero growth of the population. Strong sustainability animates the ecological position defined as the "eco-centric society" and follows the "deep green economy" model that is concentrated on protecting natural resources.

A version of very strong sustainability implies that each component of natural resources and the environment is preserved. The sustainability of the ecological system is a priority. Very strong sustainability animates ecological positions defined as "extremely ecological". "Deep ecology," a bio centric vision, argues that there is certain irreplaceability between natural capital and manufactured capital that is based on ethical criteria. In fact, a version of very strong sustainability is based on a strict environmental ethics whereby each ecosystem component has the appropriate "rights". Moreover, if economic activity crosses a critical point and when it is evident that those natural resources are exhausted and that an absorptive life-threat appears, the strategy of reduced economic growth may become necessary. A very strong sustainability version advocates

respect for the principles of a "strict green economy" (Dragulanescu, and Dragulanescu, 2013).

5. CONCLUSION

The research about the development has crossed the long path during the last half century. First, it was focused on economic growth, and then the problems of employment and income distribution became of great importance. Over the past twenty years, the focus of numerous development debates is based on the paradigm of sustainability and the concept of human development.

The concept of human behaviour is directed to harmonize the quantitative and qualitative development side. According to this concept, the goal of development is to increase the number of options that are before man. Human development implies equal opportunities for all, continuity in terms of responsibility for future generations, which should have the same chances for development as the present generation.

There are four components of human development: equity, productivity, competence and sustainability.

The sustainability component points to the boundaries of the macroeconomic scope. Instead of predicting unlimited growth rates for the future, now these rates are set to a maximum level based on the capacity of the area. Sustainability is a responsible attitude towards future generations. In other words, future generations should have the same development opportunities as the present generation.

Based on the definition of capital and restrictions on substitution considered in the production function, four versions of sustainability can be defined: very weak, weak, strong and very strong sustainability. The first two versions of sustainability are in theoretical sense fully based on the premises and messages of neoclassical economic theory which basically stems from the substitution of some forms of capital in the process of accelerating economic growth, while the other two are related to the so-called " the ecological economy", which has a far more critical attitude to the possibility of substituting the work of acquired and natural capital in the production process.

A version of very weak sustainability starts from the assumption of the existence of unlimited possibilities of substitution of natural and anthropogenic capital in the process of economic growth. According to this, it is only necessary to channel the entire rent based on the exhaustion of non-renewable resources into the increase of anthropogenic capital funds. Thus, this approach completely ignores the fact that the destruction of certain types of natural capital, which are of essential importance to the entire ecosystem, permanently

undermines its balance with numerous negative repercussions, which cannot be eliminated by the work of created capital. It is realistic to assume that a private owner will always make a calculation by which a less valuable natural resource substitutes a more expensive resource.

The weak sustainability version allows for the replacement of one form of capital by others to enable the maintenance of the value of total capital within certain limits. Unlike the version of very weak sustainability, it recognizes the existence of minimum levels of certain types of natural resources and the importance of preserving the environment. At its center there is a category known as "critical natural capital". Briefly, it is about the elements of the natural capital for which there are no substitutes that humans can make, such as a water source or clean air. State intervention, in the context of weak sustainability, is necessary in cases where private owners do not accept the full environmental value of natural capital, when ownership rights over natural resources are not precisely regulated, when private property owners do not take into account long-term consequences and when it comes to irreplaceable resources (extinction of certain species of living organisms, limited water reserves in arid areas).

Although the rules of very weak and weak sustainability were applied by many countries when deciding on investments in different types of capital, there was less precise quantification of how much to invest and what should be the relationship between private sector investment and investments that are assumed to be sufficient for unnecessary consumption of natural capital for future generations. Therefore, these approaches completely ignore the possibility of the disappearance of certain types of natural capital, which are of fundamental importance for the whole ecosystem, and more consistently for the entire economic and social system. In this way, the versions of very weak and weak sustainability are incompatible with the key idea and objectives of the concept of human development that is related to expanding the possibilities of choice, that is, what people should have, should be and should do in order to secure their own Existence.

Supporters of strong and very strong sustainability suggest that the coming generation must inherit the natural capital stock not less than the stock it inherited from the previous generation. By preserving the amount of natural capital, and not total capital, effective protection of unsustainable use of natural resources in the process of generating economic growth can be ensured. Versions of strong and very strong sustainability have the function to ensure fairness in terms of equal opportunities in the intergenerational sense. Thus, these versions of sustainability express a responsible attitude towards future

generations and are in the function of expanding opportunities for people as well as reaching the level of their well-being in the long run.

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