

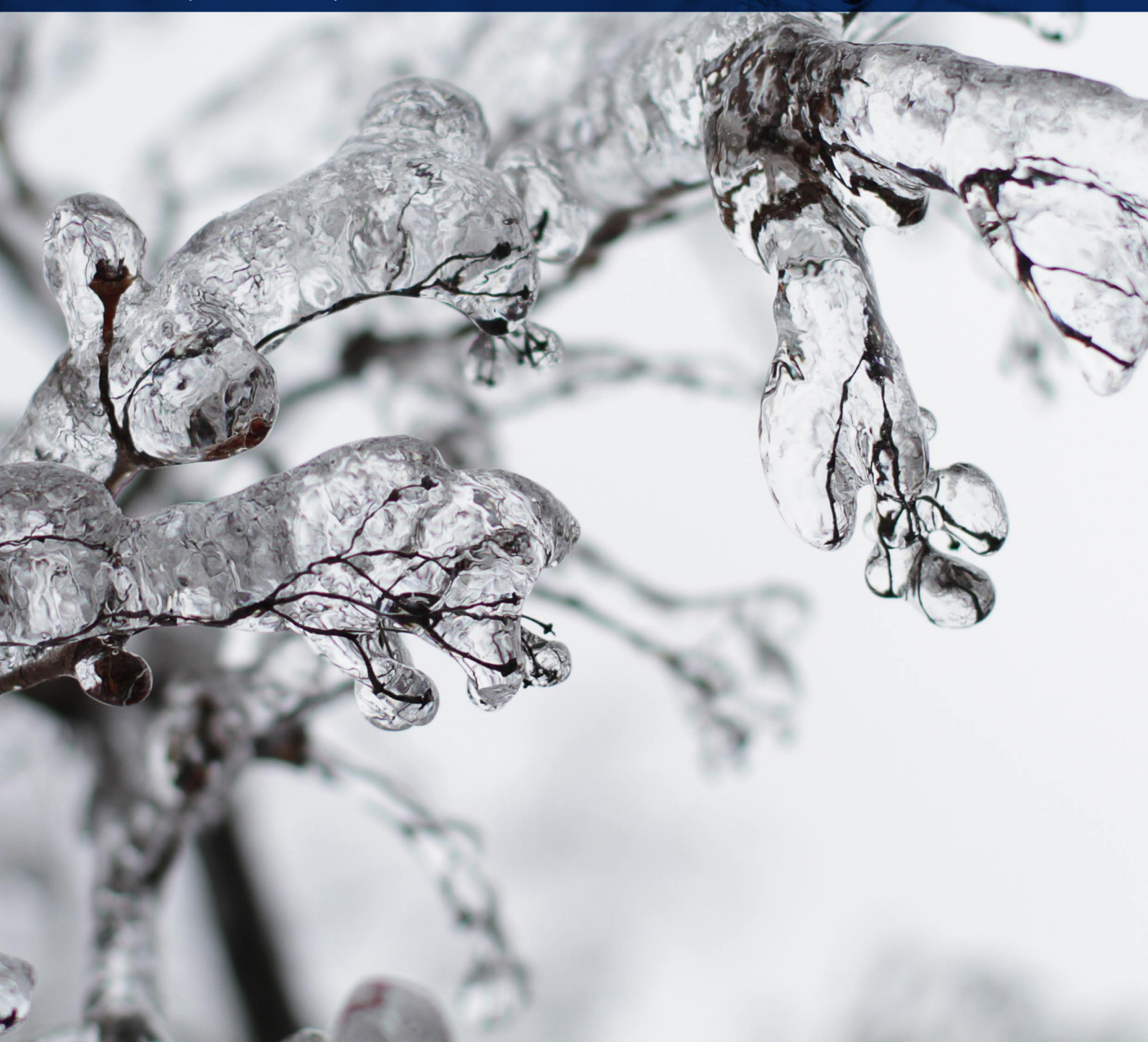
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Content:

| | |
|---|----|
| 1. Responsible investing funds structure and dynamics /Author: <i>Romanyok Tetiana</i> /..... | 44 |
| 2. The martensitic steels processing by electrical erosion /Author: <i>Ioan Badiu, Marcel S. Popa</i> / | 53 |
| 3. Implementation of science and technology in education system /Author: <i>Zoran Bajić, Marija Čukanović Karavidić</i> /..... | 63 |
| 4. The economics of climate change and managing the risk caused by the climatic changes at local level /Author: <i>Dejan Riznić, Radmilo Nikolić, Goran Stojanović</i> /..... | 74 |
| 5. The foreign capital expansion in the banking systems of developing countries /Author: <i>Ludmila P. Petrashko, Margaryta S. Tsivyna</i> /..... | 87 |
| 6. Knowledge skills and competences required for organization management /Author: <i>Snežana Urošević, Momir Grahovac</i> /..... | 93 |

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RESPONSIBLE INVESTING FUNDS: STRUCTURE AND DYNAMICS

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Summary: *The global trends in the sphere of responsible investing have been analysed. The classification of responsible investing fund market in Europe has been considered. The dynamics of European and US responsible investment funds has been researched. The geographical and structural aspects of responsible investment funds have been determined. The largest responsible investing funds in Europe and USA have been identified.*

Keywords: *responsible investing, responsible investing fund, assets, thematic funds*

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1. INTRODUCTION

One of the major trends in contemporary international economic development is financial globalization, the principal reason of which is the necessity of financial resources' accumulation for the decision of global problems of civilization development (socio-political, -economic, -ecological, human rights). The direct participants of this process are transnational corporations, which, performing the investment activity, follow the fundamental principles of sustainable development and make investment decision in the process of investment portfolio's formation, taking into account not only economic, but also ecological, social and ethical aspects, that indicates the emergence of the new strategy of investing – responsible investing. One of the mechanisms for responsible investments is responsible investing funds, the share of which in the aggregate amount of responsible investments is actively growing, and now is 27,5% (USA) and 53% (Europe). Thus the research of global trends in the sphere of responsible investing, features of responsible investing funds in European countries and USA are relevant in the context of applying this experience in Ukraine.

2. THE RESEARCH RESULTS

More recently the concept of responsible investing has not been researched by scientists properly; its nature and basic characteristics were so indefinite, that it was very difficult to understand what it meant. But nowadays there are many international organizations and initiatives, which determine the concept of responsible investing, identify its structure, study and generalize the trends in particular countries and globally, and also set principles and rules which should be held on by companies if they wanted to be involved in the process of responsible investing. Among them we could emphasize the US Forum for Sustainable and Responsible Investment (US SIF) [1], The European Sustainable Investment Forum (Eurosif) [2], the Association for Sustainable and Responsible Investment in Asia (ASrIA) [3], Principles for Responsible Investment (PRI)

[4], Equator Principles [5]. With the aim to deepen the impact and visibility of sustainable investment organizations in January 2013, the Global Sustainable Investment Alliance (GSIA) [9] was launched. It is a collaboration of the seven largest sustainable investment membership organizations in the world: Association for Sustainable & Responsible Investment in Asia (ASrIA), European Sustainable Investment Forum (Eurosif), Responsible Investment Association Australasia (RIAA), Social Investment Organization (SIO) in Canada, UK Sustainable Investment and Finance Association (UKSIF), US SIF: The Forum for Sustainable and Responsible Investment, and Vereniging van Beleggers voor Duurzame Ontwikkeling (VBDO) in the Netherlands. Simultaneously with the foundation of the Global Sustainable Investment Alliance the experts prepared the first Global Sustainable Investment Review 2012, in which they collate the results in the sphere of responsible investing in countries of Europe, the US, Canada, Asia, Japan, Australia and Africa.

According to the report the global volume of responsible investing is approximately USD 13.6 trillion as of the end of December 2012, with two thirds of total assets in European region. Combined with the United States and Canada, the three regions gather 96% of the total assets (Figure 1) [8].

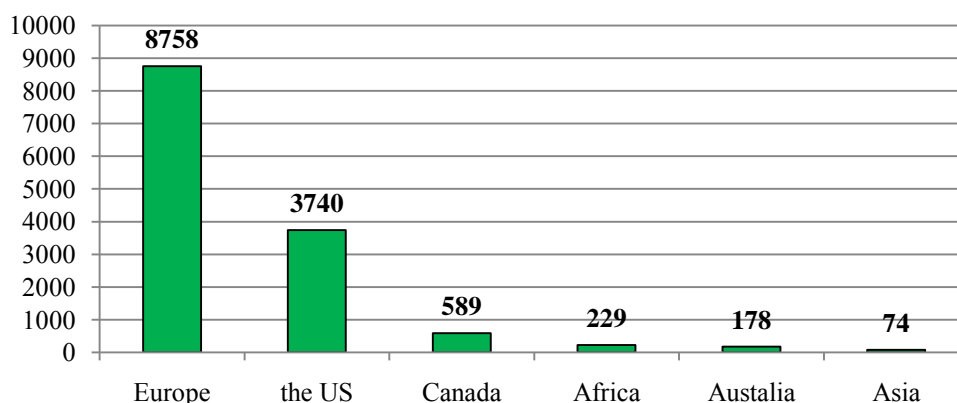


Figure 1: Global Responsible Investments by Region, 2012 (in USD billion) [8]

The global market as a whole and regions in particular, have their specific features, one of which is the segmentation of investment industry into two parts – institutional and retail investors. In Europe 53% of responsible investments are presented by responsible investing funds.

The Association of the Luxembourg Fund Industry's Responsible Investing Technical Committee in cooperation with KPMG Luxembourg prepared the European Responsible Investing Fund Survey 2013 in which they proposed to divide the European responsible investing market into two categories: cross-sectorial funds and thematic funds, according to the widely accepted concept of Environmental, Social and Governance “ESG” classification (Table 1) [7].

Table 1: The classification of the European responsible investing funds

| RESPONSIBLE INVESTING | | | | |
|--------------------------|--|---|------------------|---------------------------|
| ESG (cross-sectorial) | Esg (environment) | eSg (social) | esG (governance) | Ethics (cross-sectorial) |
| 1. RI positive screening | 1. Climate change and Renewable energy funds | 1. Microfinance funds | 1. Engagement | 1. Faith-based funds |
| 2. RI negative screening | 2. Environmental and Ecological funds | 2. Social entrepreneurship and Solidarity funds | | 2. Sharia-compliant funds |
| | 3. Carbon funds | 3. Social impact | | |
| | 4. Sustainable forestry funds | 4. Venture philanthropy | | |
| | 5. Sustainable water funds | | | |

According to this structure the responsible investing can be divided into five categories:

- ESG (cross-sectorial): the fund manager can invest in several sectors, applying both positive and negative criteria; in case of positive screening funds for the selection of investments can be used either the best-of-class approach or engagement approach; and negative screening funds use multiple-exclusion or normative approach;
- Esg (environment): the funds of this category invest a majority of their assets into equities and bonds of companies engaged in such environmental issues as new/renewable energy (biomass, wind/solar power), water supply and treatment, water technology, environmental services, mineral water, carbon emission reductions, sustainable forest management etc.;
- eSg (social): the funds of this category raise financial resources from public, institutional and private investors and invest them to support microfinance institutions worldwide, solidarity projects devolving part of their commissions raised in charitable organizations, finance education, sustainable health, food and nutrition, community development, fair trade, sustainable agriculture and sustainable infrastructure;
- esG (governance): the funds that are engaged to influence the way companies are doing business, it means to use dialogue and voting rights to be more aware of social, environmental and governance concerns;
- Ethics (cross-sectorial).

To understand the special characteristics of each category of responsible investing funds it is necessary to consider the general trends in development of the European responsible investing fund market. As the result of joint research of both organizations it was determined that in Europe the responsible investing market represented 1775 investment funds (essentially mutual funds, excluding pension fund assets, segregated managed accounts or insurance company assets) with responsible investments of EUR 237.9 billion. Since 2010, the volumes of investments increased on EUR 38 billion (19%), while the number of funds increased on 217 (14%) (Figure 2) [8]

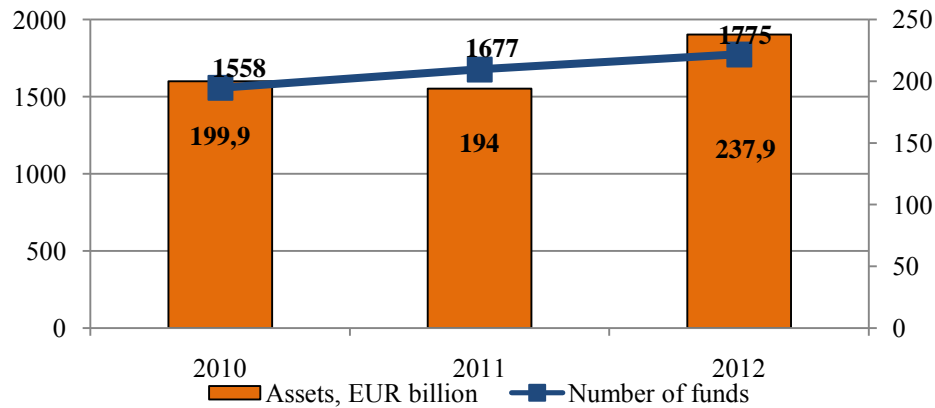


Figure 2: European responsible investing funds dynamics, 2010-2012

In USA the responsible investing fund market is presented by 720 responsible investing funds, the volume of responsible investments of which accounts approximately US\$ 1031 billion. It is 3,5 times higher than in Europe. It is important to notice that since 1999 the amount of responsible investing funds in USA has increased by 4 times with investments increased almost by 7 times (Table 2).

Table 2: The dynamics of US responsible investing funds, 1999-2012

| USA | 1999 | 2001 | 2003 | 2005 | 2007 | 2010 | 2012 |
|---|----------|----------|----------|----------|-----------|-----------|-----------|
| Number of RI funds | 168 | 181 | 200 | 201 | 260 | 493 | 720 |
| Investments of RI funds, billion dollars | 154 | 136 | 151 | 179 | 202 | 569 | 1 031 |
| Share of RI funds at RI market, % | 7,1% | 5,9% | 7% | 7,8% | 7,5% | 18,5% | 27,5% |
| Investments of all investment funds, billion dollars | 5 525,21 | 6 964,63 | 6 383,48 | 8 095,08 | 10 397,94 | 11 120,15 | 11 621,60 |
| Share of RI funds in investments of all investment funds, % | 2,8% | 1,9% | 2,4% | 2,2% | 1,9% | 5,1% | 8,9% |

* Calculated by the author based on [11-12]

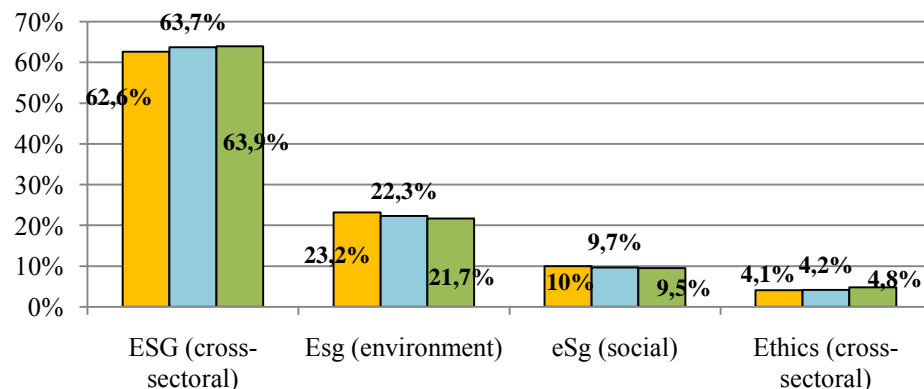


Figure 3: Responsible investing in number of funds, 2010-2012 [7]

In the structure of the European responsible investing fund market almost two thirds of the total number of funds use either positive or negative screening, rather than separate thematic criteria (e.g. environmental, social, ethical) (Figure 3).

Their share in the total amount of assets in 2010 amounted 80%, and in 2012 increased to 83%. The share of thematic funds (environmental, social, ethical) in total responsible investments is significantly less and composes only 12% in 2012 (Figure 4) [7].

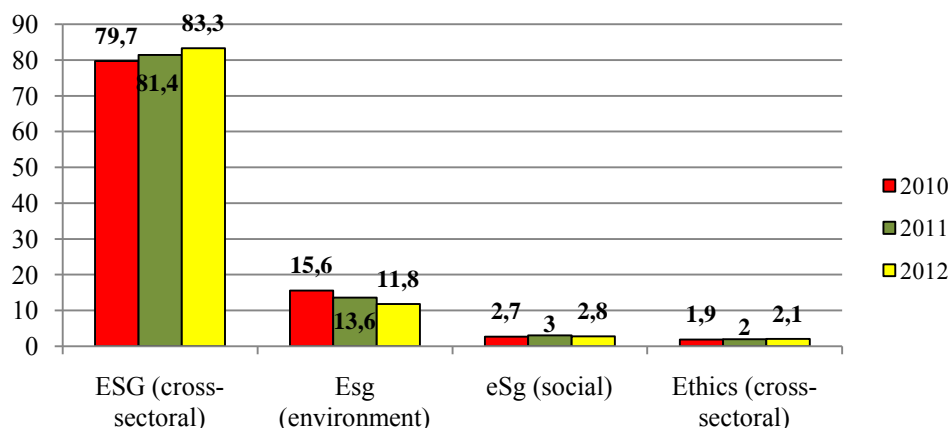


Figure 4: The dynamics of shares of responsible investing funds in total responsible assets, 2010-2012

And the distinctive feature of the thematic funds' development is that the majority of investments are accomplished by the environmental funds, mainly by those engaged in carbon emissions reduction and renewable energy sector (Figure 5). But during the period 2010-2012 the investments of environmental responsible investing funds decreased from EUR 31,4 billion in 2010 to EUR 28,1 billion in 2012 that was caused by a set of factors including regulatory uncertainty, difficulties in financing infrastructure projects and also a structural overcapacity of the various environmental and energy sectors.

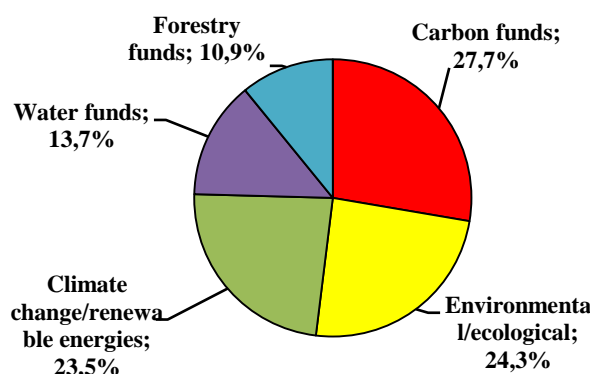


Figure 5: The structure of environmental responsible investing funds by criteria (% of bln.EUR), 2012

The eSg (social) category represents 2,8% of the total responsible investing assets. It is the biggest group of funds which combines 168 funds with the assets of EUR 6,6 billion. The assets of this category largely increased during the financial crisis (by 22%). In terms of sub-categories, Microfinance funds represent the largest share of this group with approximately 60% of billion euros.

The Ethics (cross-sectorial) category is the smallest of all categories, both in number of funds and assets with 86 funds in total and assets of EUR 4,9 billion. But despite its small size this year it demonstrated the significant increase (by 32,4% from EUR 3,7 billion in 2010 to EUR 4,9 billion in 2012) [7].

In the geographic structure of investments of European responsible investing funds dominate the countries of Eurozone in particular. The largest number of funds is concentrated in Luxembourg (28,2%), in France (14,3%) and in Belgium (10,4%), the same situation can be seen in the distribution of responsible investing funds' investments (Figure 7 and Figure 8).

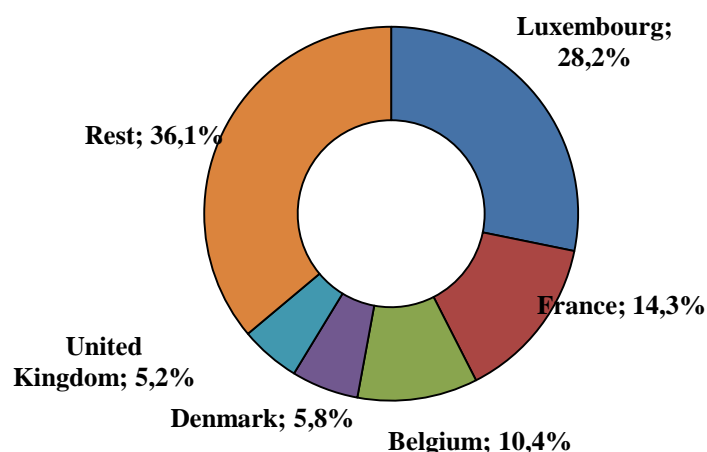


Figure 7: The geographic structure of responsible investing funds (% of number of funds), 2012

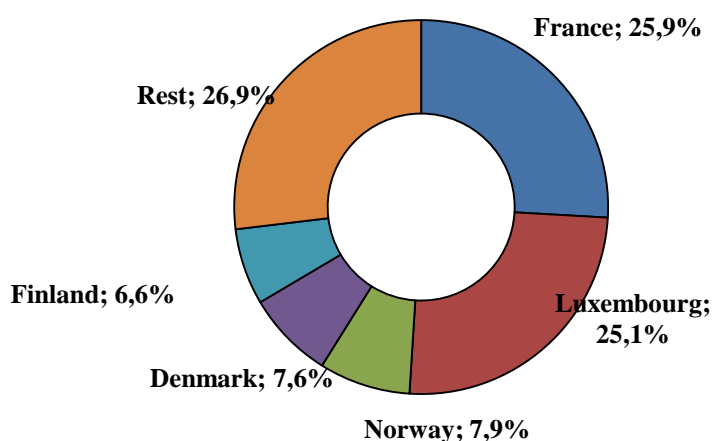


Figure 8: The geographic structure of responsible investing funds' investments (% of bln.EUR), 2012

In responsible investing funds, investments in equities amount up to 41% of the total investments in 2010; however, they have suffered a significant decrease since then and now amount just up to 34% of the total billion euros at the end of 2012. Financial resources invested in bonds steadily increased and represent 27% of the total investments

in 2012. As for money market funds, their share remained stable around 22% of the total investments from 2010 to 2012 [8].

According to this data 10 largest environmental, social and ethical funds were identified in 2012, BNP Paribas Mois and Amundi Tresor EONIA ISR hold the most significant amounts of assets (Table 2).

Table 3: 10 largest green, social and ethical funds in Europe (by million euros) [10]

| Rank | Asset Management Company | Fund Name | Country | Assets, million euros |
|------|------------------------------|-------------------------------|---------|-----------------------|
| 1 | BNP Paribas Asset Management | BNP Paribas Mois | FR | 4,995 |
| 2 | Amundi | Amundi Tresor EONIA ISR | FR | 4,852 |
| 3 | Natixis Asset Management | Fonsicav | FR | 2,685 |
| 4 | Macif Gestion | Macif Court terme ISR | FR | 1,695 |
| 5 | OFI Asset Management | Ofi Tresor ISR | FR | 1,531 |
| 6 | Friends Provident Pensions | Stewardship Pension Fund | UK | 1,407 |
| 7 | Amundi | Atout Euroland | FR | 1,405 |
| 8 | Amundi | Atout France | FR | 1,289 |
| 9 | Natixis AM | Natixis Impact Aggregate Euro | FR | 1,208 |
| 10 | Edmond de Rothschild AM | EdR Tricolore Rendement | FR | 1,087 |

Among the most profitable responsible investing funds in USA we can identify Parnassus Equity Income Fund, Calvert Equity Portfolio, Ariel Fund, Neuberger Berman Socially Responsive Fund, Ariel Appreciation Fund and others (Table 4).

Table 4: 10 largest responsible investing funds in USA (by million dollars)

| Nº | Fund Name | Assets, million dollars | Share of equity in RI, % | Share of bonds in RI, % | Share of other securities in RI, % |
|----|---|-------------------------|--------------------------|-------------------------|------------------------------------|
| 1 | Parnassus Equity Income Fund | 8 091 | 95,5% | 0% | 4,5% |
| 2 | Calvert Equity Portfolio | 2 965 | 97,43% | 0% | 2,05% |
| 3 | Ariel Fund | 2 516 | 99,9% | 0% | 0,1% |
| 4 | Neuberger Berman Socially Responsive Fund | 2 393 | 98,2% | 0% | 1,8% |
| 5 | Ariel Appreciation Fund | 2 108 | 98,4% | 0% | 1,6% |
| 6 | Pax World Balanced Fund | 1 988 | 62,4% | 34,9% | 1,4% |
| 7 | TIAA-CREF Social Choice Equity Fund | 1 810 | 99,56% | 0% | 0,44% |
| 8 | CRA Qualified Investments | 1 557 | 0% | 95,38% | 4,62% |
| 9 | Calvert Balanced Portfolio | 612,54 | 60,78% | 35,67% | 3,55% |
| 10 | Domini Social Equity Fund | 942,3 | 99,4% | 0% | 0,6% |

* Calculated by the author based on [13-22]

3. CONCLUSION

Nowadays the responsible investing is considered as the innovative strategy of investing, which is increasingly being used by investors both in developed and developing countries, having taken into account not only the possibility to receive financial profit but also creating the positive social, ecological and ethical effect. According to the Global Sustainable Investment Review 2012 the global volume of responsible investing is approximately USD 13.6 trillion as of the end of December 2012, with two thirds of total assets in the European region. It is necessary to mention that in Europe 53% of total responsible investments are presented by responsible investing

funds. The Association of the Luxembourg Fund Industry's Responsible Investing Technical Committee in cooperation with KPMG Luxembourg prepared the European Responsible Investing Fund Survey 2013 in which they proposed to divide the European responsible investing market into five categories: ESG (cross-sectorial), Esg (environment), eSg (social), esG (governance) and Ethics (cross-sectorial) funds. The most widespread is the ESG (cross-sectorial) funds' category, which amounts approximately up to 63,9% in total responsible investments. In USA responsible investing funds count only 27,5% of total responsible investments, but during 1999-2012 their number increased by 7 times, so that we can say that the role of this type of funds in the process of responsible investing is actively growing.

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THE MARTENSITIC STEELS PROCESSING BY ELECTRICAL EROSION

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Summary: Martensitic stainless steels and ferrite-martensitic steels are part of chrome and alloy composition characterized by $C = 0.08\% \dots 1.0\%$, very low content of impurities $S \leq 0.015\%$, $P \leq 0.04\%$ and mass concentration of chromium assigned to one of the following recipes: $Cr = 11\% \dots 13\% \dots 17\%$ $Cr = 18\%$, the composition of these steels can be added in various concentrations and other items: silicon $S \leq 1\%$, aluminum $Al \leq 1.5\%$ molybdenum $Mo = 0.6 \dots 3.0\%$, nickel $Ni = 1 \dots 8\%$, niobium $Nb = 0.3 \dots 0.6\%$ and / or vanadium $V = 0.1 \dots 0.2\%$ to increase the refractoriness and creep behaviour of (Al, Si, Mo), to improve toughness and machinability by plastic deformation Ni, to improve corrosion resistance in certain environments (Al, Cu) for grain finishing, increasing hardenability and precipitation hardening this alloy (Ni, Cu, Nb, V) in order to avoid the phenomenon of presented above, as shown in the following examples: X12Cr13; X20Cr13; X46Cr13; X50CrMoV15; X70CrMo15; X90CrMoV18; X105CrMo17; X5CrNiMo13-4 X4CrNiMo16-5-1-4 X5CrNiCuNb16; X7CrNiAl17-7, X8CrNiMoAl15-7-2.

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1. INTRODUCTION

These steels have sufficiently low concentration of chromium in relation to the concentration of carbon that allotropic transformation $Fe \gamma \Leftrightarrow Fe\alpha$ is suppressed and the alloy shows the phase transformation in the solid state (in terms of thermodynamic equilibrium are possible transformation of austenite type ferrite), and fry in air receiving a ferrite the martens structure or - martensitic, in steels with high carbon concentration $C > 0.2\%$ the conditions are easier to be met, while steels containing low carbon $C < 0.1\%$ to provide cooling air to the martensitic structure is necessary to their additional alloying nickel and sometimes copper. In most cases these classes of structural steels used in the metallurgical condition of the TT conferred by the application of hardening tempering. Return processes occurring structures hardening of these steels (alloyed high chromium and other alloying elements) differ from the processes taking place at the return of non-alloy hardening structures thanks to the recovery and stability phenomena of secondary hardening and the mechanical characteristics of the structures may indicate the presence of recovery of embrittlement phenomena comeback. Steels with low carbon content $C < 0.08\%$ and high contents of chromium $Cr 15 \dots 17\%$, further nickel alloy $Ni 3 \dots 8\%$, copper $As 1 \dots 5\%$ and aluminum $Al 0.7 \dots 1.5\%$, molybdenum ($Mo 0.6 \dots 1.0\%$) and or niobium $Nb 0.3 \dots 0.6\%$, showing a particular capacity to increase mechanical strength characteristics by applying hardening martensitic make a special subdivision of martensitic stainless steels (with the symbols of X4CrNiMo16-5-1; X5CrNiCuNb16-4 hardening).

2. MARTENSITIC STEEL PROCESSING TECHNOLOGY

For the realization of the experiment was used electrical erosion machine AF-1100 (figure 1).

Examples of processing technology using electrical erosion machine is shown in figure 2 (3D rendering) and figure 3 (helicoidal machining).



Figure 1: Processing machine electrical erosion AF-1100

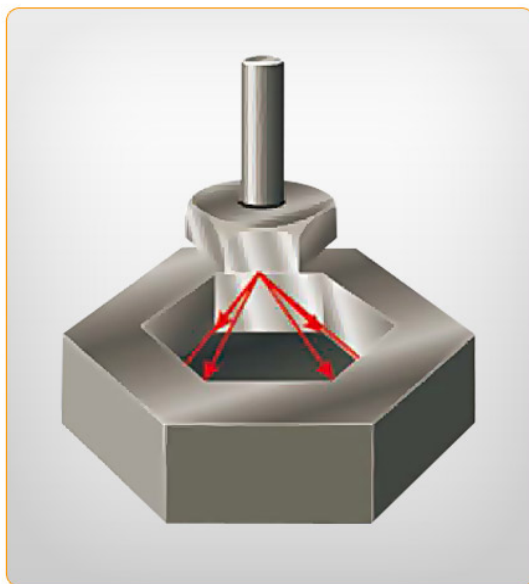


Figure 2: 3D rendering

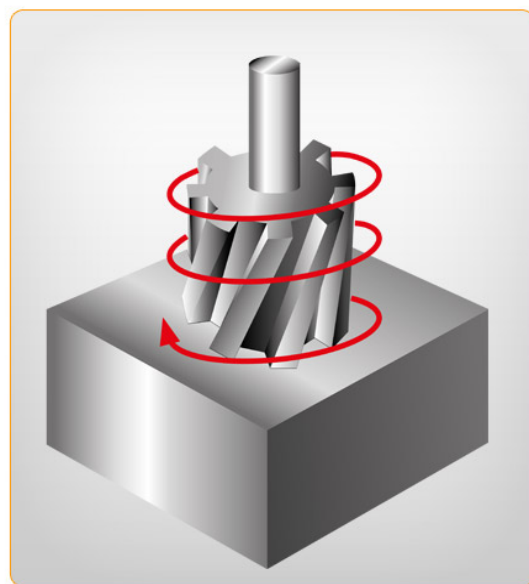


Figure 3: Helicoidal machining

3. THE STRUCTURE OF MARTENSITIC

In figures 4-13 are shown in the various structures of tempered martensitic steel processed on electrical erosion machine AF-1100.

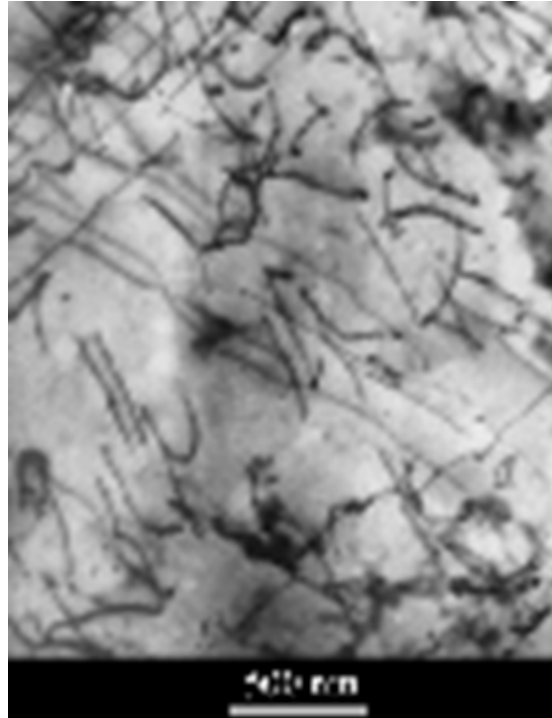


Figure 4: Martensitic steel structure is treated and cooled fast Fe, C 0.2, Mo 4.

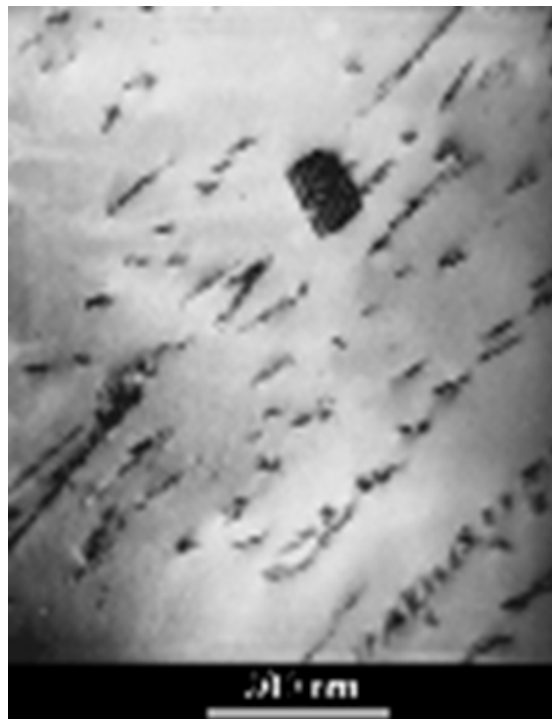


Figure 5: Tempered martensitic steel structure with precipitation of Mo -Fe, C 0.2, Mo 4.

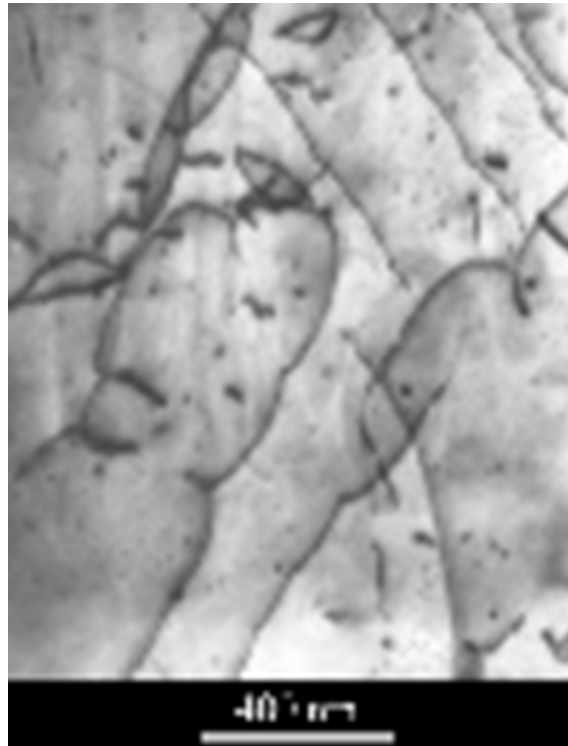


Figure 6: Tempered martensitic steel structure with precipitation of Mo -Fe, C 0.2, Mo 4.

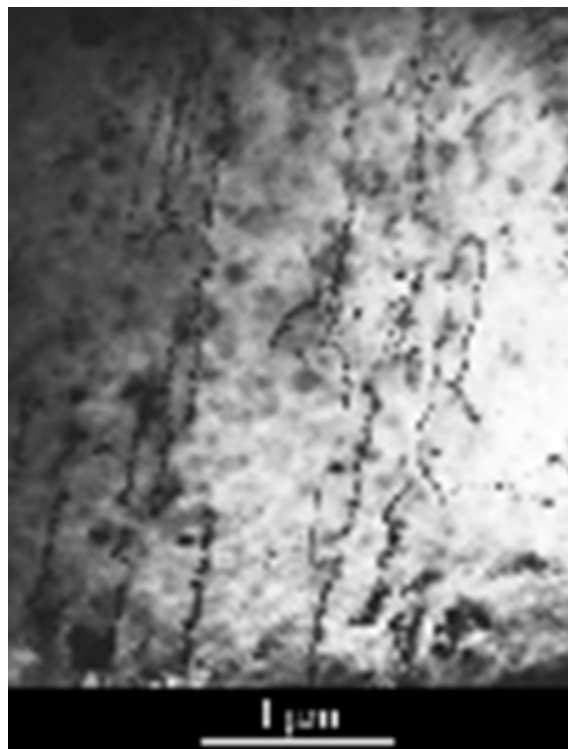


Figure 7: Tempered martensitic steel structure with precipitation of Mo -Fe, C 0.2, Mo 4.



Figure 8: Tempered martensitic steel structure with precipitation of Mo -Fe, C 0.2, Mo 4



Figure 9: Tempered martensitic steel structure with precipitation of Mo -Fe, C 0.2, Mo 4.

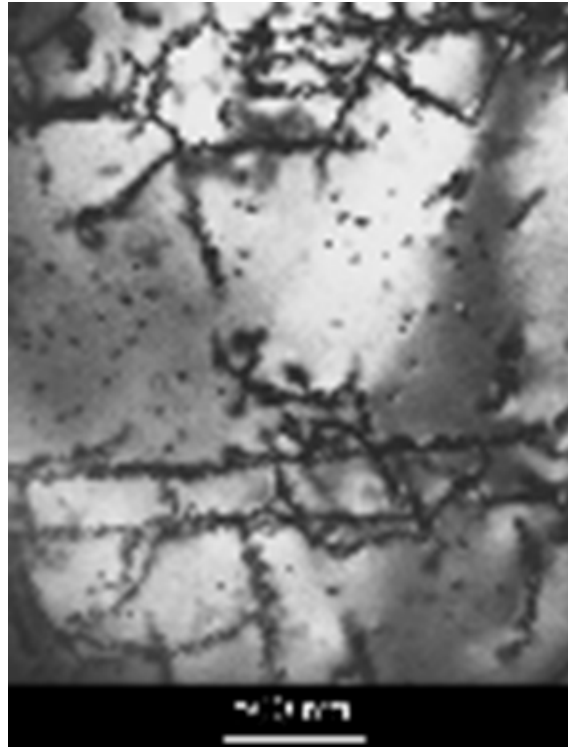


Figure 10: Tempered martensitic steel structure with precipitation of Mo -Fe, C 0.2, Mo 4.



Figure 11: Tempered martensitic steel structure with precipitation of Mo -Fe, C 0.2, Mo 4.



Figure 12: Tempered martensitic steel structure with precipitation of Mo -Fe, C 0.2, Mo 4.

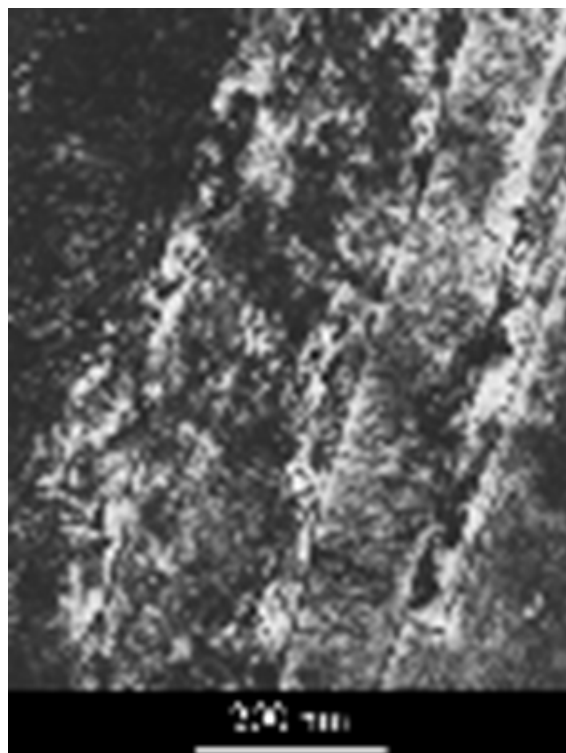


Figure 13: Tempered martensitic steel structure with precipitation of Mo -Fe, C 0.2, Mo 4.

4. CONCLUSION

Ni steels pH = 3 ... 5% MS> you and the after quenching (air or oil from $t_i = 1025$... 10500°C) a martensitic structure with low carbon content, characterized by mechanical strength low and high plasticity, by applying a recovery heat treatment (at $t_i = 470$... 6300°C , and $\tau_m = 1$... 3 hours), the martens structure occurs precipitates of intermetallic compounds which form additional alloying elements (for MoNi₃ type, NbNi₃) and produces an effect of hardening (aging) important characteristics registering significant increases strength ($R_{p0,2} = 800$... 1200N/mm^2 and 1300N/mm^2 , $R_m = 1000\text{N/mm}^2$, without unacceptable damage to the characteristics of toughness (breaking energy is maintained at levels KV = 40 ... 60 M and corrosion resistance. PH steels with Ni 6% ... 8% yours and the (to you) after quenching (in air at $t_i = 950$... 1050°C) austenitic structure, which can in turn martens (the low carbon content, having low mechanical strength and high plasticity) by applying a low-temperature tempering heat treatment.

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IMPLEMENTATION OF SCIENCE AND TECHNOLOGY IN EDUCATION SYSTEM

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Abstract: *The third and fourth upcoming scientific - technological wave is so powerful that it enhances the incorporation of science and technology in the education system and the world will soon be less divided into West and what is not West - East and South, and more into people (regardless of the part of world they live in) who are competent and those who are not. We live in a digital age that has radically changed the educational system in many countries of the world. Multimedia learning systems are being introduced, e-learning and other modern technologies. Economic survival is increasingly being dependent of solving the complex relationship between scientific and technological progress and educational innovation. Knowledge in the function of creativity is a key component in all societies of the modern era.*

Keywords: *scientific and technological progress, education system, multimedia technologies, e-learning, lifelong learning.*

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1. INTRODUCTION

The term “education” derives from the word cheek. Semantically speaking, it could be the core of the problem. In the scales of philosophical anthropology still in the period of ancient Greek (especially during the learning of Sophists, Socrates, Plato and Aristotle – 4th century BC) activity, the enlightenment is given a place of honour in the system of social activities. The Sophists have freely taught people with occupations of importance to the state, its prosperity, prestige, advancement. The famous Hellenistic ruler named Pericles, whose reign is called the golden age in the history of the Hellenic world, encouraged and rewarded efforts of the sophists - educationists, who were able to produce educated people for the whole society. The powerful philosophical minds of ancient Hellas have felt that how much influence and power for the state and society make the educated people. As long as it was such - progress was inevitable. When an education on such ideals began to dry up and the power of the Hellenic State is headed for collapse [1]. This is a historical record of inestimable value because it confirms the importance of how high is the status of education for the prosperity of society.

Historically dating, from ancient times to the present, in various epochs of development of society the importance of education has experienced its ups and downs. Today, the importance of education for further prosperity of social development has reached unimaginable proportions. Nowadays, education - science - knowledge, are the pillars of further development of the company and the investment in them economically is the most justified investment.

Implementation of science and technology in the education system cannot be understood outside the context of rapid and dramatic changes in the modern world in general

and, in particular, the achievements of the scientific - technological progress, which move with unsuspected speed. The scientific knowledge that was yesterday in practice applicable, is not same any longer. According to world-renowned futurist Alvin Toffler (in his book "Future Shock") [16], we are in a train that is moving with unsuspected speed of the railway that has a myriad of switches in an unknown direction. In a word, there is a smaller number of competent people for information, those who cannot follow this constant tide of information. The focus of the world's power shifts towards that group of people.

An unexpected rapid development of science and technology has brought unexpected changes in all spheres of life and work, and, consequently, in the field of education. For decades, the postulated thesis of "lifelong learning" today (in the first decades of the 21st century) is becoming a reality. Because, in most developed parts of the world every day increases the number of people who work in jobs that assume permanent monitoring of the achievements of scientific - technological progress. Archbishop of Canterbury (in his address to the principals of the United Kingdom, 18 September 1990.) says that the time which is not spent actively is considered to be lost, the silence is considered frightening, a reflection and competence for its own purposes - an extreme. Activity and alertness simply oblige us for dramatic tide of information in this third and upcoming fourth scientific - technological wave. "More information is collected in the last 30 years than in the previous 5.000 years" [13]. When it comes to implementation of science and technology in the educational system, the general hypothesis could be expressed:

Economic survival in the information and post-information era puts us in the task of solving the complex relationship between scientific - technological progress and educational innovation. It is an imperative of the time. Companies that are able to solve this task go further, through prosperity, and those that are not able go to the margins.

We will, at first, after the introduction, in the first part of this paper, from a broad milieu of experiences choose only some in the most developed countries of the world, and to illustrate the implementation of science and technology in their educational system in the late 20th and early 21st century. Briefly said, we will point out significant radical reform of the education system in these countries.

The second part of the paper is the central part. We will discuss there the impact of multimedia information technology to the education system - new ways of learning and their advantages compared to traditional teaching.

And, finally, in the third part of this paper we will point out the new opportunities and challenges in involving multimedia technology into the educational system.

2. THE EXPERIENCES OF SOME OF THE DEVELOPED COUNTRIES OF THE WORLD IN LATE 20TH AND EARLY 21ST CENTURY IN THE IMPLEMENTATION OF SCIENCE AND TECHNOLOGY IN THE EDUCATION SYSTEM

There is no doubt that the digital age is radically changing the way of learning, i.e., acquisition of new knowledge. The focus is the central role, the use of multimedia systems. The eve of this upcoming fourth scientific and technological wave are the derived radical reforms in the education systems of the most developed countries in the world in late 20th and early 21st century.

The reform processes in some of these countries have a strong tendency toward decentralization of the education system, and in some countries there are still centralized processes, i.e. decisions are made neither at the municipal nor at the regional, but at the national level. We can even say that in those countries that have a strong tendency toward decentralization, the top of the state (government) usually seeks to experience its influence over these processes, and stream them according to the general national interest.

2.1. Reform endeavours in the development of the education system of the U.S.A

When we talk about the American education system, we cannot help but start from the so-called. "Boom period", i.e., an ambitious American educational and scientific discipline called "progressive education", which had the greatest impact in the period between the two world wars. The focus of this ambitious and courageous radical approach of education was the idea "to achieve real contact between research, practice and education (emphasized by Z.B.). The laboratories should have collaborated with regional educational institutions and university researchers, thus creating a link between the needs that were felt in the school and the general research efforts of the University" [11]. This reforming had a regional character. However, in 60-ies, 70-ies of the 20th century was apparent pressure from the top to draw the line from concentration of the regular problems, and that the entire program takes the national character. In fact, from the top of the state was made an influence to give priority to those projects for which the state considered to be important. "Laboratories that have continued to take into account the regional characteristics were not particularly popular in Washington. Washington wanted a wide distribution of the "product" in accordance with market demands, regardless of the kind of knowledge the laboratories came in their work" [11].

However, the most comprehensive "systemic education reform took place in the period from 1990 to 1994, but the reform of American education actually began in 1981, when the federal secretary formed the National Commission for Quality Education, which was supposed to compile a report on the quality of education in America, titled "Nation at Risk" published in 1983, in which American education was presented as utterly inadequate and out-dated and therefore is entirely ready to undergo systemic reforms" [10].

The conclusion is that in American society all ambitious initiatives in the education system to create real contact between research, practice and education, to create a true space for the implementation of science and technology in the education system, suffered a setback. The American educational system in its essence was and still is, says the author of a challenging text on "Boom period in the study of education in America", Kjell Eide, practical system with its own life, regardless of what the research in this field suggests - in which direction should be directed.

2.2. Canadian education system

Canada is a federal state. Its education was placed under the jurisdiction of provinces with the British - North American pact of 1867, was not changed with the Constitution of 1982. The provinces of the federal government receive money to fund education and are not required to submit a report in which way the funds were distributed. That means, according to John Denison, "it is impossible to write about the Canadian system of higher education, because in fact there are twelve separate and remote systems that educate a broad constellation of institutions, do not have the structure to support and encourage a sense of national purpose" [7]. John Denison, in the article stated a hypothesis which widely can be accepted that the economic survival in the information era assumes solving of the complicated relationship between technological growth and educational innovation. In an economy, based on information, he says, a growing number of people making a living with works that include creating, processing and distribution of information and, in the same way, a high percentage of business revenue comes from these activities. This ascertainment was entirely confirmed by the third scientific - technological wave and fourth upcoming, whose motto is: "Knowledge is a function of creativity".

Higher education in Canada is faced with two challenges if it wants to play an effective role in the amortizing of the implementation of new technologies. The first

challenge is the way in which young people must be prepared if they are to survive in a technologically managed workplace. The second is to provide opportunities for employees to their intellectual arsenal, if they want to effectively adapt to changes in technology advances" [7]. The author of the text refers to "The Economist", which indicates that the largest number of people (four-fifths - 80% of employees) will have to go back to school to learn "how". Unfortunately, Canadian universities are not organized to provide an opportunity to periodically integrate study and work - practice. Colleges and technical institutes are somewhat flexible, they tend to come in relation to the experiences of current scientific - technological process.

The Canadian education system has a very good relationship with general education. "If we want education to prepare individuals to be able to adapt to rapid changes of conditions, arisen by technological changes in the workplace, a fundamental approach is of crucial importance. Regardless of the level and function for which the student is prepared, general education component must be included in the program" [7]. This primarily refers to: First, the ability to communicate: Primarily, the latest scientific - technological wave requires a multidisciplinary elementary literacy. Then, the service sector ("tertiary"), in which moves human work assumes a high level of interaction between people, as well as an understanding of intellectual distinction and motives.

Second, critical thinking: It is a prerequisite to be able to judge the facts in a new era in which their number day by day increasing, we would say, moving to infinity.

Third, axiological and ethical skills: Especially in the world of biotechnology, cloning of the human species is becoming a major ethical problem.

Of course, these are just the columns required for general education in an era of dramatic scientific - technological progress, which is, again, at the end of the 20th century indicated a Canadian education reform. It should be noted that in Canada was committed numerous efforts to fit the general education into vocational - technical programs, but, unfortunately, these efforts were unsuccessful.

2.3. Western European education system

Historically, in Western European countries have always been two diametrically opposite approaches to education. The first approach is typical for the Anglo-Saxon countries (English-speaking areas) where until a few decades, the education system was not regulated by normative acts of government - state. The foundation of the education system was custom - common law. Another approach to education refers to Western European countries where the content of the curriculum is determined by state law - the so-called centralized education system.

2.3.1. Educational model in Anglo-Saxon countries (English-speaking areas)

Until a few decades in Anglo-Saxon countries, the educational program "was drafted after consultations among members of the teaching staff and applied very freely in the framework of a flexible system marked by strong local autonomy and without real intervention of the central government" [8]. This, however, does not mean that the education system, due to the broad freedom of local autonomy, has become chaotic. On the contrary, "a complex and structural interactions of society, combined with the filter effect of the process of planning activity, books with texts used the debates about education, created a joint program with acceptable contents, in which the real differences between individual institutions and individual school students were relatively small" [8]. So it is essentially that in an indirect way was realized national approval in the education system.

2.3.2. Western European model of education governing by state law - the so-called centralized education system

This model of education is characterized by a wide range of Western countries, almost all non-English speaking areas. However, it should be noted that in these countries for a few decades more and more disappear strictly centralized control of the curriculum from the top of the state. In a word, introduces "a series of activities variously defined as a possible alternative of freedom, which is a dedicated part of the curriculum" [11]. It is intended to be an optional activity curriculum to students more flexible - to leave room for their own creations.

In the group of those countries in particular it seems interesting the Swedish education system. It is a visible attempt to harmonize the goals of general, vocational and permanent education. It is an effort to establish a dialectical relationship between theory and practice. Very soon, unfortunately, has been ascertained that "the integration of the two parties becomes difficult because the theory is organized in specific disciplines, while the practice of problem-oriented" [12]. Either way, however, is the fact that the Swedish made numerous attempts to achieve a more coherent relationship between theory and practice, particularly in medical education. One could even say that in the beginning the professional sector was exaggerated, i.e. putting more emphasis on research than on teaching.

At the end of the nineties of the 20th century, the development of Western European education, as said by Slavko Karavidić in the book "Management Education", received a new impetus and direction. "The foundation stone was laid by the" White Paper on Education "(adopted by the European Union in 1996), a document whose main objective is the harmonization of education, training system ... and their further development in terms of the overall future development of Europe" [10].

Although the "White Paper" essentially marked the beginning of changes in the education system in the European Union countries, however, the specific directions for the future, "the joint action of the European Union in the field of education for the period 2000-2006 was set forth in the document, which was soon followed -" Towards the learned Europe ", the promotion of wider access to education and its continuous improvement and modernization" [10]. In creating such an open and dynamic education, says Slavko Karavidić, especially the three dimensions were separated: knowledge, strengthening the rights of citizenship and competence - ability. "Accordingly, the European Commission by the end of 2000, has prepared a comprehensive, a basic document," Memorandum on Education ", which offered a working definition of the concept of lifelong learning as a deliberate learning activity that is true, and aims to improve the knowledge, skills and competence" [10]. Memorandum identifies three types of learning. The first is the classic - formally, which is implemented in educational institutions. The second is an informal, accomplished outside of these institutions. The third is a daily learning, which is the essence of the man's own effort to continuously increase the knowledge and skills in order to be in constant contact with the enormous tide of information and daily newspapers in scientific and technological wave that swept the world in the early decades of the 21st century.

2.4. Japanese educational model

Japan, in the late 20th century brought a third radical reform of education in the history of its education system. The third education reform is the most radical because it has an "ear" for dramatic scientific - technological wave, which is, here, swept the world in the early decades of the 21st century. In fact, this Japanese education reform did not include only the

school system but the whole range of educational activities, some of which people do in their own homes.

It is widely known that modern Japan exists from the "media restoration" of 1868. Before that, the government more than two and a half centuries maintained and strengthened policy of "closed doors", especially to what was happening in Western Europe. In a word, more than two and a half centuries Japan was under a feudal political system. In 1868, after decades of unrest within the country and pressure from the United States and developed European countries, Japan is leaving politics of "closed doors" and is included in an international match of scientific and technological achievements with the developed countries of the world.

The third radical system of education was introduced in Japan in 1872, with the publication of "fundamental code of education." The aim of this first radical education reform in Japan, first of all, was that it directly contribute to the modernization of society and participation in scientific - technological progress in the planetary scale. Already, "with the ending of the second half of 1960 - Japan managed to catch up a step with the industrialized nations of the West. Its gross domestic product is about a tenth of the world total, and it was only behind the United States. School education has been scoring continuous upward line, leading a high national level of scientific research. Percentage of students who are enrolled in the University has reached 37%, a high figure, the first after those in the United States "[15]. The reform of the Japanese education is based on three basic principles:

First, the development of structures for lifelong teaching is no longer just about raising the school, extracurricular education and research capabilities to the higher level, but also on ensuring the conditions and their own house to be a place of lifelong learning. Second, respect for individuality in education. It involves the establishment of a separate system of teacher training.

Third, creation of a system of education is open to changes. It is about addressing the dialectical relationship between the role that education should play in the third (IT) revolution and how its positive results can be used in education.

3. New multimedia information technologies in education system – new Ways of learning and advantages compared to classical teaching

The digital age imposes as a necessity the need for radical changes in the education system in general. There is a high degree of correlation between the relationship towards new knowledge and information that is sent by the third and upcoming fourth scientific - technological wave and changes in the education system. To put it simply, the digital age as the imperative demand for faster and deeper changes in the educational system. Innovations in teaching must first find a more appropriate place in the education strategy, and then in the educational curricula.

In fact, in the classical teaching, the so-called "ex cathedra" teaching, the role of the teacher is dominant, the most important form of work is frontal. The teaching process is usually verbalized, to students often incomprehensible and thus acquired knowledge has little chance of implementation in practice. On the other hand, "multimedia programs designed for personal computers provide us a variety of options for creating electronic books with text, images, animations, sound and movies, so that students can independently make progress in mastering the curriculum content, may be coming back to the contents that are not clear enough, to receive feedback and additional information" [13, pp. 2]. Teacher takes on quite a new role. He has to become a counselor, organizer and manager of the work of students who are taught to seek knowledge for themselves (emphasized Z.B.). The teacher more often will have to tell the student, "I have something I want to give you what you might be able to use

it." When it comes to students, their knowledge and education they will need to understand that the less important is the diploma they possess. Everything will be more important what after they obtained the diploma what they know and what they can do on their own.

3.1. New ways of learning

We live in the era of mass application of Internet and electronic sources of knowledge. For several decades, the Internet and information technology has changed our overall life. Information technology has an increasing application in the field of education. In a word, there are many new ways of learning that are based on the new information technology.

3.1.1. Technological supported learning

Today, the lectures are "holding through multimedia programs (video screen), students use educational software for learning. Use online services for faster access to the materials, while the examination is performed by software testing" [4, 17-18]. In years to come this way learning will be more frequent.

3.1.2. Distance learning and e-learning

Distance learning is a very old way of learning, which is conditioned, first of all, by the impact of location distance. To mention only that a thousand years before our era, King Solomon used carrying pigeons to transmit messages. Today, most often distance education means of communication is through technology - e-learning.

"Within the framework of e-learning there're four different disciplines: 1 Distance Education (current world concept learning involves the use of textual materials, video conferencing and multimedia presentations), 2 Education at the right time (employees are periodically sent to the advancement of the certain discipline), 3 education using the Internet (with the help of the resources that are on the internet) and 4 Education throughout life (the concept of "lifelong student" who is constantly changing jobs and perfected)" [4]. All these stated disciplines are already applied in almost all developed countries.

3.1.3. Learning via the Internet

The main prerequisite for this type of learning is to have a computer with Internet access. At many universities around the world are increasingly practicing professors to teach in their respective faculties and it is transmitted over the Internet to other faculties, which significantly reduces the material costs of education. For, if it's not so, those professors would have to travel from the parent faculty to many other colleges including the significantly distant locations.

3.2. Advantages compared to classical teaching

Regardless of the fact that the implementation of science and technology slowly included in education, in relation to the production, the more you can hear the request of the young generation (pupils and students) multimedia systems to be introduced in education, distance learning, etc., because they are more creative and therefore increase the creativity of students in the educational process compared to traditional teaching.

Advantages of the new ways of learning, the implementation of science and technology in the education system are manifold. We shall mention only the most important.

3.2.1. Individual teaching contributes to creating opportunities for pupils (students) make progress in accordance with their mental and perceptual abilities

Computers are approaching to the abilities and interests of each student. The software helps millions of people to be more productive and creative. They can significantly improve the system of education. In such circumstances, the teacher takes on a quite new role. The role of the teacher is more advisory and incentive. He encourages students to seek knowledge themselves, according to their physical and perceptual abilities. Because of this completely new role a teacher must constantly be improving - to monitor new educational - scientific developments in his field.

3.2.2. Increased commitment and creativity of students

Using multimedia system "creates the preconditions for engaging all the senses in the process of acquiring new knowledge, develop students' creativity in teaching and learning" [3, 4]. Therefore, developing critical thinking, as well as increasing memory and imagination in students, in particular, it develops an abstract way of thinking.

3.2.3. Students receive instruction to solve the set problems

New educational technologies enable not only the students can return to contents which are not clear enough already, and receive instructions for solving the set problems. Perhaps, this is one of the biggest advantages compared to traditional teaching.

3.2.4. The computer is fair – does not make discrimination among the students

In traditional learning, as long as the teacher tried to be objective in evaluating the work of students he could not entirely be. There was at least some element of subjectivity. In front of the computer all the pupils are absolutely equal. The students do not complain about the grades on their work obtained by computers.

3.2.5. Equalizes the level of knowledge, not only in schools, municipal and regional but also at the national level

In the classical (traditional) education system almost always students of underdeveloped areas were lagging behind in knowledge of students in urban areas. Now this is no longer the case. New multimedia educational technologies enable the exchange of experiences, harmonizing and complementing knowledge of teachers and students' knowledge not only from schools in the territory of the municipality and the region, but from all schools national level. Innovation applying by any of the schools at the local level quickly becomes available to all schools at the regional and national level.

4. NEW OPPORTUNITIES AND CHALLENGES IN INVOLVING MULTIMEDIA TECHNOLOGIES INTO THE EDUCATIONAL SYSTEM

Traditional education which is still significantly present in educational institutions is not a small number of countries around the world (we said that education as a rule slowly opens in relation to new technology) is not much different from education in past centuries. The traditional form of teaching is based on the fact that the teacher is the centre of teaching and the only source of information that the student receives. Due to modern society, the way of life - high standard of living in it, making a new way of receiving information (information constantly coming from all sides in various forms), there was a "gap" between mode of receiving information in the educational system and a new way of life of people in the modern era. This difference in the teaching of students creates monotony and inaction - inaction. The pace of life of the modern era used them in easily accessible and quickly understandable information.

Inclusion of multimedia technologies in educational process primarily, exceeds the problem of monotony and inactivity of students in the classroom. In computer simulations (physical, chemical, biological and other processes) provides the opportunity to influence in a positive or negative outcome of experiments. This opens opportunities for students to their critical - abstract thinking and creativity to come up with new ideas [5, 6].

We are witnessing the development of software for computer simulations in all areas of life and work, and these simulations quickly find application in the education system. Today, thanks to the simulation, it provides an opportunity for students to learn the theory as part of teaching and apply it in practice. The costs of education is reduced, primarily in material savings. All we need is a computer and software. So today, for example, the student of technical science can create and control the production process, testing and operation of certain technical products; All this in a virtual simulation. Or, a medical student can perform heart transplant, without any risk to the patient, because thanks to modern computer technology he conducts it virtually, i.e. with computer simulation.

Thus, new opportunities to incorporate multimedia technology into the educational system are, primarily, in a number of ways of simulation - auto visual adapting of teaching materials, tempo of life of the modern era.

5. CONCLUSION

Strong trend implementation of new information technology in the education system will soon, as said by Bill Gates, speaking at the Government Leaders Forum in Berlin on 22 January 2008, large numbers of people, regardless of where they live, open incredible opportunities to become a part of global economy. Soon, he says, highly educated young people in China, India or any other developing country, will have better prospects for the future, then uneducated young people in Europe or the United States. Computers and the Internet, already in the next half century have been changing our daily lives, the total world around us. In the years ahead, they will have an increasingly important role in the education system of any country. The digital age more radically changes the whole education system in many countries of the world. The multimedia learning systems are introduced, electronic learning (e-learning, online education, education for a lifetime) and other modern technologies [5, 6]. To all of the important information can be reached by using a browser on a global computer network. More is talked about books in electronic format. Of course, this kind of strong development of information technology and constantly innovating educational technology causes immediate and radical changes in the methods and forms of teaching, and an imperative need for the new role of teachers. The teacher becomes increasingly advisor,

organizer and manager of the work of students who are taught to seek knowledge themselves. There is a growing number of countries whose education systems, curricula, teacher is only recommend contents. The teacher has the freedom to choose, and, in particular, finds new content matching the achieved level of implementation of science and technology in the educational system, the function of the outcomes to be achieved. This new role of the teacher instructs his permanent improvement. Constantly innovating educational technology increases student engagement and creativity, which contributes to the development of their critical and abstract thinking. In a word, the student becomes more equal participant in the educational process [5, 6].

Controversial thinking still exists regarding the place and role of general education in the new radicalized education systems - the educational system to be agreed with the third and fourth scientific - technological wave. We think that it should still be present, in particular, to develop students' communication skills, critical thinking and axiological and ethical skills.

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THE ECONOMICS OF CLIMATE CHANGE AND MANAGING THE RISK CAUSED BY THE CLIMATIC CHANGES AT LOCAL LEVEL

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Abstract: *It could be said today, more than ever before, that we are living in a world of changes in the society, starting from the economy and to the natural environment; these changes are so big that the past is not and could not be a reliable guide for the future. Climatic changes illustrate this the most because the climate has changed and it is certainly going to change rapidly, therefore it is necessary to evaluate the climate risks we are facing today, and also the climate risks in the future, in order to make decisions what we should do about them. Climate risks affect all the aspects of society starting from the direct impact on people's lives, to the indirect impact on the economy through the price of primary products, supply chains, all kinds of markets and the national economy; adapting to these changes and raising the resistance to risks that may arise is the long-term economic, but also social investment.*

Serbia is a member of the Intergovernmental Panel on Climate Change (IPCC), a working body founded in 1988 at the United Nations, which has so far published five reports about changes of the Earth's climate - but the people and the domestic economy are not informed about them. In conclusion, the report warns that the Earth's climate is changing and that change will be characterized with an increase of the average temperature and the growth of intensity and frequency of extreme weather events. Droughts and floods - they will happen (and already have happened, since we have witnessed floods this year) on average every three years at the beginning of this century, and by the end of the century it would become a standard form of climate each year.

Developing strategies for disaster risk management within the context of climate change requires a variety of approaches and tasks in specific local circumstances. Impacts of climate extremes and weather events can pose a threat to human security at the local level. Vulnerability at the local level is attributed to the social, political and economic conditions and programs, including localized environmental degradation and climate change. Solving the disaster risk at the local level requires attention directed towards much broader sustainable development issues. While structural measures provide specific protection from disasters, they can also create a false sense of security. Current regulations and levels of creating structural measures may not be adequate under conditions of climate change.

The integration of local knowledge and additional scientific and technical knowledge, can improve disaster risk reduction and adaptation to climate change. Local population document their experiences on climate change, especially extreme weather conditions, in different ways, and this type of self-generated knowledge, encourages discussion of proactive adaptive strategies, and can detect existing capacity within the community. Ecosystem management and restoration activities, which are directed to resolving the deteriorating environment conditions, are essential in the protection and maintenance of the livelihood of people in the light of climate extremes. Providing better access to and control of resources will improve the livelihoods of the people, and the ability to build long-term adaptation. Such approaches have been recommended in the past, but were not included in the construction of economic entities, till today.

Key words: *economy, climate change, managing the risk, local level*

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1. INTRODUCTION

We are living in a world of changes, starting from the society, the economy and to the natural environment, these changes are so big that the past could not be a reliable guide for the future. Climatic changes illustrate this at most because the climate has changed and it is certainly going to change rapidly, therefore it is necessary to evaluate the climate risks we are facing today, and also the climate risks in the future, in order to make decisions what we should do about them. Climate risks affect all the aspects of society starting from the direct impact on the lives of people, to the indirect impact on the economy through the price of primary products, supply chains, all kinds of markets and the national economy. Adapting to these changes and raising the resistance to risks that may arise is the long-term economic, but also social investment.

Serbia is a member of the Intergovernmental Panel on Climate Change (IPCC), a working body founded in 1988 at the United Nations, which has so far published five reports about changes of the Earth's climate - but the people and the domestic economy are not informed about them. In conclusion, the report warns that the Earth's climate is changing and that change will be characterized with an increase of the average temperature and the growth of intensity and frequency of extreme weather events. Droughts and floods - they will happen (and already have happened, as we have witnessed it this year) on average every three years at the beginning of this century, and by the end of the century it would become a standard form of climate each year.

Developing strategies for disaster risk management within the context of climate change, requires a variety of approaches and tasks in specific local circumstances because the impacts of climate extremes and weather events can pose a threat to human security. Vulnerability at the local level is attributed to the social, political and economic conditions and programs, including localized environmental degradation and climate change. The integration of local knowledge and additional scientific and technical knowledge, can improve disaster risk reduction and adaptation to climate change. Local population document their experiences on climate change, especially extreme weather conditions, in different ways, and this type of self-generated knowledge, encourages the role of proactive adaptive strategies, and can detect existing capacity within the community.

2. ECONOMIC ASPECTS OF ECONOMY ADAPTATION TO CLIMATE CHANGE

Today, the term "climate change" is most commonly used when we talk about climate changes that are happening since the beginning of the twentieth century, and that occurred more as a result of human activities. By the beginning of the industrial revolution the climate change has happened as a result of the changes that occurred by natural circumstances, but today, the global warming is mostly a consequence of anthropogenic impact. At this time the average temperature on Earth is 0.8 degrees higher than it was before the Industrial Revolution, and the rise of temperature above 2°C would lead to dangerous climate change and devastating impact on plant and animal communities.

Whether the climate change is part of a natural cycle or the scary stories about them are only part of the scenario for another good profit at the expense of human gullibility? There is an undeniable connection between the economy (economic) development and the environmental state with the necessary natural balance, including climate change with the global conditions of life. Even the elementary definition of the

notion of economy and ecology indicate inevitable conflicting relations, but also certain integral elements in models of economic and environmental development. The main task of the economy in relation to the environment is reduced to finding technologies and methods that ensure the most efficient processing of natural resources in goods and services for human needs, while the goal of environment is to keep the natural environment and resources protection and preservation unchanged. From an economic perspective the environment has the character of a composite good, because it supplies the economy with raw materials that are transformed into final products. This transformation allows the energy that the natural environment provides, but the environment also provides a range of final products to people - clean air, drinking water, but also the aesthetic and recreational value of the natural landscape.

Defined opposite of economy and environment is reduced to the problem of finding a mechanism for allocation of (natural) resources which will along with the maximizing economic efficiency also ensure a maximum preservation of the ecological balance. The realization of the concept of sustainable development requires a whole range of new activities: a new technical and technological solutions, new legal and institutional arrangements, new forms of public communication and interaction at the national and local levels, adequate financial solutions, education and promotion.

The impact of global warming is evident from the equator to the poles: forests are retreating upward - a cooler location, the glaciers are melting on every continent, and increase the level of the sea. The impact of climate change will be complex and with great consequences for life on Earth. One of the areas that are fastest heated on the Earth is a region in which we live today, the Danube-Carpathian basin and the impact of climate change is evident in Serbia (changes in temperature and changes in the distribution of rainfall). In 2012, Serbia was hit with an unprecedented severe drought that halved agricultural crops and caused enormous damage to the economy - but it led to the awakening of the population and the local authorities against the dangers of global climate change.

Catastrophic floods which hit Serbia in May 2014, found the country unprepared and have caused, along with human sacrifices, enormous material damage. The conclusion is that it is largely the result of the irresponsibility of the government (national or local) authority in relation to the threat posed by climate change in a multi-year period. Great responsibility lies with the local media who ignore the documents of the UN and other international and national organizations and do not communicate the information about climate change from the foreign press. We can conclude that as a nation, but also as a state, we learn very slowly and pay attention at this kind of events only when we have a problem that literally has hit us.

We have the knowledge and the technology to try to avoid the disasters that are anticipated as a result of climate change. Many citizens, governments and industries are ready to face the challenge. United Nations Framework Convention on Climate Change (UNFCCC), an organization whose member is Serbia too (addressing practical programs for mitigating climate change and adapting to them), even in 2012 issued an instruction for adjustment of the economy and other sectors of society to these changes (National Plans adjustment), but neither the citizens nor the Serbian economy are familiar with it. [1]

Serbia is a member of "Intergovernmental Panel on Climate Change" (IPCC), established at the United Nations (IPCC - www.ipcc.ch) and founded with intention to assess the facts about global climate change and its effects on life on Earth. This intergovernmental body consists of 195 countries worldwide, and in the preparations work of its five voluminous reports, which talked about the state of the climate change on

earth, as well as a number of recommendations to mitigate these changes and adapting to them, thousands of professionals have participated, as well as representatives of governments of the member countries. It is practically the most significant and most authoritative international body dealing with climate change on Earth. [2, 4, 5] Reports of the IPCC, risk assessment climate change, they conclude, in short, that the world faces two major risks: further increase in the temperature on earth (global warming) and dramatic changes in the steady state of the climate, i.e. it is faced with climate chaos and extreme weather, that will, in the first place, cause enormous damage to food production i.e. agriculture, but also other macro and micro-economic parameters.

The uncertainty related to climate change is wide and hard to predict, to such an extent that the standard tools for decision making in a state of uncertainty are totally inadequate. Projected climate change alerts Serbia. If the average temperature in Serbia continues to rise, the country could be hit by another major drought, food shortages and tropical diseases, according to a report published by Ministry of Environment and Spatial Planning regarding the climate changes which was adopted by the government [3]. The report also states that the long summer drought could be interspersed with short periods of heavy rainfall, which is enough to cause floods in certain parts of the country, as we have witnessed in the recent years. We do not have three summer months with temperatures between 25 and 30 degrees Celsius, but instead the temperatures are over 40 degrees, accompanied by more days of increased precipitation.

As a result of climate change, cases of droughts and floods have become increasingly common, serious and expensive. The biggest victim of all the ever-present climate change is agriculture. In many areas, the increase in temperature and drought will limit agricultural production, which is one of the most important sectors of the Serbian economy. Water for drinking, industrial and agricultural use, is becoming scarce, because the temperature rise jeopardizing even further the already affected groundwater resources in Serbia. Forest fires are more frequent and more severe, and is also expected a reduction of snow cover and the length of the winter period, which affects the water reserves in the soil. The impact on biodiversity, plant and animal species, became so significant that their movement can serve as an indicator of the warming of the planet. They are silent witnesses of the rapid changes taking place on the Earth.

Serbia could also be affected by a great number of large fires, as a consequence of drought and high temperatures, and the most serious consequence could be a decline in the yield of grain and agriculture, which has so far been the most successful part of the country's exports. More frequent and intense droughts in recent years have caused severe damage to agriculture. During the drought yields in some areas were up to 40 percent lower than in periods without drought and a further climate change will only contribute to further reduce of yields of wheat, potato, sunflower and soybean.

The scientists predict that climate extremes will amplify the intensity and frequency (particularly high temperature and precipitation i.e., floods), and that the effects of climate chaos with cold or hot waves when their time is not, will occur on average every three years at the beginning of this century, and that would become the standard weather pattern every year by the end of the century. In short, the distinct characteristics of the seasons are losing (season sowing, ripening, harvesting), and weather changes will become less and less predictable or certain, so as we can see today in Serbia.

Here we should especially mention one of the recommendations from 2012 - Risk management of extreme events and disasters for better adaptation to climate change – [6] "Example of adaptation measures and criteria for assessment in agriculture": to provide forecasts and information about water supply; improve management of water resources;

improve irrigation; better planning in the use (purpose) of land; develop a better type of seed and establish seed banks; introduce a system of agro-forestry (to mitigate the effects of high winds, snowdrifts and mitigate high temperatures in summer) and boost the local human and technical capacity;

At the same time, climate change would bring new diseases in humans and plants. People would be more likely to suffer from cardiovascular diseases and tropical infections, such as malaria. As of today, we have to make changes to adapt to economic and agricultural policies and to prepare citizens for the new situation. These adaptation measures should include the construction of new water supply systems, new systems for land irrigation, selection of new plants that will grow in this new climate, increased flood protection, and changes in the health system.

Climate change will be a lot more serious than it was previously predicted in what we have assured during this year. One of the critical importances is to reduce emissions of the greenhouse gas. "Greenhouse effect" is very important when we talk about climate change as it relates to the gases that keep the Earth warm and enjoy the most credit for the existence of life on it. Some of the gases (carbon dioxide) that make the greenhouse effect people produce in their daily activities. This additional amount of carbon dioxide is the main suspected for increased greenhouse effect and for Climate Change (catastrophe). Reducing greenhouse gas emissions can be achieved primarily by saving energy - energy that is saved does not have to be re-built.

Serbia has great potential for energy savings. As energy prices continue to rise, saving energy means saved money and the planet also. We must turn to cleaner, renewable energy sources, such are geothermal energy, wind, sun and water [14, p. 1127]. The biomass, which is created in our forests and agricultural land, is also very suitable for the production of energy. The main objective is to raise the awareness about how everyone can impact on reducing greenhouse gas emissions that cause greenhouse effect and thereby help the mitigation of climate change by saving on the energy resources. The United Nations Convention on Climate Change recommended all countries to work on education and raising public awareness about climate change and energy conservation, which is the goal of the campaign "Global warming is a local problem," that WWF is leading in many countries of the world.

An essential role is played by the political and economic decision-makers, which are expected to rationally manage the natural resources in order to reduce the economic risks and provide for the protection of human life and property. The Department of Sustainable Development and Climate Change in the Ministry of Energy carries out activities related to: the development of strategies and plans for environmental protection in the field of energy for sustainable development, as well as implementation and monitoring of environmental protection measures in the energy sector, particularly in terms of decreasing influences of the energetics on climate change.

Cities today have to prepare for climate change, as well as to invest in the protection of natural disasters. For this purpose, they should build canals and dams for flood; they must be prepared for other extremes, such as droughts and heat waves, which will also become more frequent. Preventing the disaster is expensive, but who would say what the excessive development is and who can forbid the mayors of the local governments in Serbia to adopt measures that will result in emission reductions, primarily in terms of transport and energy products?! None of the projects intended for this purpose is that expensive compared to the consequences.

Few people know that the construction sector consumes 40% of world energy consumption, and generates 30% of total emissions of greenhouse gases, even more than some other factory. The support must be in industrial ecology and innovation (such as

developing the clinker which produces less carbon dioxide, new clinkers contain less limestone and can be warmed at lower temperatures, which allows the reduction of carbon dioxide by 25% to 30% as well as improvement of processes that efficiently exploit energy, optimize the composition of concrete and improve recycling.

The entire cement industry generates about 5% of CO₂ emissions globally. There are two reasons for this relatively high level of emissions, the first and most important is that the cement is a product that has multiple uses and is widely used. The second reason relates to the methods that are used for the production of basic components of cement, clinker, which requires physical-chemical transformation at high temperatures. Cement production generates CO₂, but it is the case with the production of all building materials - steel, aluminum, brick, and even wood, as it is with all other products.

Lafarge, one of the largest manufacturers in our country, develop and implement a comprehensive strategy to prevent climate change. The Group has successfully achieved the goals set for 2012 a year in advance, and gave themselves three new objectives for 2015 and 2020, within the framework of the ten year long partnership. Lafarge in Serbia also has an important role in achieving these goals, because Lafarge is committed to reducing CO₂ emissions globally by 20%. This decrease is almost four times greater than the one required by the Kyoto Protocol for industrialized countries. At the same time, in order to reduce the amount of fossil fuels that are used in the furnaces, the company has launched an ambitious program to replace fossil fuels with alternative, mainly industrial and municipal waste.

Climate change may also affect the tourism in many ways: Variable and unstable weather conditions will make difficult the functioning and planning in tourism; Natural weather disasters can harm tourism infrastructure, natural and cultural treasures and local communities: Many tourist infrastructure is located in sensitive areas; Climate change may affect the level of comfort of tourists, as well as the number of activities; The increase of the sea level and sea temperatures jeopardize coastal and island destinations, as well as port cities; Climate change can affect natural habitats and biodiversity, which are a major attraction for ecotourists and nature lovers; Changes in precipitation and the hydrologic cycle may affect the availability of freshwater resources in the destination, which is the basic need of tourists; Reducing snowfall has a direct impact on the mountain and ski tourism. Many tourist activities (skiing, swimming, wildlife, nature-based tourism) require specific weather conditions. A small increase in winter temperatures, for example, would eliminate the ski centre on the lower slopes of the Alps. Response of tourists to climate change can be a negative impact on the attractiveness of the destination (for example, dead coral, scarcity of species, loss of habitat).

Although the pollution in tourism affects many aspects of tourism activities, the main problem is related to the exploitation and use of means of transport, especially in passenger and air traffic. In the broader context of sustainability in tourism development, the impacts of tourism on climate change can be linked to water consumption and energy consumption per capita, as well as the impact that tourism can have on the flora and fauna. Tourism contributes to the creation of carbon - dioxide, primarily through transport, heating and cooling facilities for accommodation, wherein the fossil fuels are mainly used. In order to reduce the negative impacts of tourism, it is necessary to adopt environmentally managing techniques and technologies. For a tourist destination, it is important to respond to climate change by introducing various strategies such as greater energy efficiency and the use of fuels with less carbon.

Plans for adaptation to climate change should be made starting from the regional and national, municipal and local, to those according to the type of hazards (droughts, floods) as well as the type of endangered sectors (agriculture, industry, energy,

transportation networks, etc.). The British economist Nicholas Stern published a report in 2006, known as "The Stern review: The Economics of Climate Change", that deals with the influence of the global warming (climate change) on the global economy, where he claims that the climate change on earth is the biggest failure of the market economy in history and calls for significant investments in order to mitigate and prevent further climate change. He finds that the investments in this project, no matter how large they are, would be significantly paid out. [7]

3. MANAGING OF THE RISK CAUSED BY CLIMATE EXTREMS AT LOCAL LEVEL

In the context of this paper, the term "local" refers to the extent of the city (municipality, city, province, and region), control structures, institutions, grouping, conditions and a set of the experience and knowledge that exists on the scale below the national level. It also includes a variety of institutions (public and private) that maintain and protect social relationships and those relationships that have some administrative control over the spatial resources. The term "local" is important, because the locals always tempt a disaster at first hand, they retain the local and traditional knowledge valuable for disaster reduction and adaptation plans, and in the end they do not implement the adaptation plans by themselves.

Local data systems and knowledge are often neglected in disaster risk management. There is significant potential for adaptation to the system of geographic information, including the knowledge at the local level for support of disaster management activities. Indirect losses are quickly transferred to the account as important factors in accelerating the negative economic consequences. Adjustment costs, through a difficult estimation, could be reduced if the adaptation to climate change is integrated into the existing catastrophic risk management and development strategies.

Integrated disaster risk management in policy and practice, provides key lessons relating to climate change adaptation at the local level. Problem solving refers also to the approach in the multi-hazards planning and actions in the disasters and in the short time makes it easier to adapt to climate extremes over a longer period of time. The main challenge for local adaptation to climate extremes is to implement a balanced portfolio, as a "one size fits to all strategies." Successful measures simultaneously consider the main issues related to the improvement of the local collective actions, and the creation of access at national and international levels, to complement, support and legitimize such local actions.

First of all, disasters occur at local level and affect the local population. These impacts can have national and international implications and considering this, as a result, the responsibility for managing such risks requires connecting on local, national and global level. One of the possible options for disaster risk management in these cases are the strategies from the bottom and upwards, designed by and for the local places, while the other management options represent a product of global negotiations at all levels, which is then implemented through the national institutions at local level. We must not lose sight that some communities are able to cope with the risk of disaster, while others have limited resilience to disasters and lack of capacity (human and financial) to cope with the risk of disasters, and to adapt to climate variability and extremes.

Local communities routinely perceive the danger of climate impacts, with many cases of extreme weather and climate events. The importance of the analysis from a local perspective is that extreme weather and climate conditions will vary from place to place, having in mind that not all places have the same experience, particularly when such

conditions have come true. Research shows that experience with disaster affects the behaviour proactively in preparing and responding to the next event. The research shows that the experience with a disaster has an impact at the future behaviour in terms of proactive approach in preparing and responding to the next event. Local places are different according to their experience, who is and what is in danger, and also, to the potential geographic extent of potential impacts and responses towards stakeholders and the people who make decisions. Local places have much experience with short-term responses of survival and adaptation to catastrophic risks, as well as the long-term adjustments, such as the establishment of local flood defence, the selection of crops that are resistant to drought conditions but also the seasonal or longer migration of one or more family members.

Disaster risk management must involve struggle from day to day, in order to improve livelihoods, social services, and environmental services. Local reactions and long-term adaptation to climate extremes will require a disaster risk management which recognizes the role of climate variability. This may involve the modification and extension of the principle of local disaster risk management, as well as experience through innovative organizational, institutional and government policies at all levels of jurisdiction (local, national, international). Given the large differences, it is clear that only one solution for managing disaster risk is not possible (there are differences between urban and rural communities in the terms of disasters and vulnerability to climate change and disaster risk and options for adaptation). In order to make the hazard vulnerability in relation with the climate changes effectively reduced, there is a need of coordination between different levels and sectors, besides the inclusion of a wide range of stakeholders at the local level.

It is important to know that while the climate change may alter the volume and/or frequency of some climate extremes, some other processes as ecological, social, political or economic processes (many of which are global in scope) affect the ability of communities to cope with disaster risks and climate-sensitive dangers. Efficient communication is necessary in the entire cycle of disaster management: reduction, readiness, response, recovery, particularly at the local level, where the communication constraints and opportunities are especially faced. It has increased the research field of obstacles by communicative impact of climate change in order to motivate constructive behaviour and policy choice. Communicating likelihood of extreme impacts of climate change also represents an important and difficult challenge. Climate Research Communications deals with the issue of the way how information can be designed, and the mechanisms and timings of their distribution.

Structural measures can be used to minimize the effects of climate-related events, such as floods, droughts, coastal erosion and heat waves. Structural interventions that reduce the effects of extreme events are often employed in engineering jobs, to provide flood protection, such as dams, levees, sea walls, modifications to river channels, flood gates and tanks. However, structural measures also include those for strengthening the building (during construction and repairs), for improved water harvesting in areas affected by drought (e.g., roof catchments, water tanks, wells), as well as the impairment effects of heat waves (e.g. insulation and cooling systems). Although many of these structural interventions can successfully reduce the impact of disasters, they may also fail due to lack of maintenance, age or because of extreme events that exceed the level of engineering design. In the case that the frequency and magnitude of extreme events increases as a result of climate change, a new design level may be necessary. Technical considerations should also include issues of local social, cultural and environmental.

The benefits of early action are several times greater than the costs, and ignoring of climate change will eventually harm economic growth. If the action is taken before it will be more cost effective. Developing countries, such as Serbia, largely depend on agriculture, which is most vulnerable to climate from all economic sectors. Because of this economic structure, low income and higher sensitivity to all impacts, including climate, climate change adaptation is especially difficult.

The costs of mitigation of around 1% of GDP are small relative to the costs and risks of climate change that would be avoided. [8, p. 33] There is no more time to waste, preventive measures should be taken as soon as possible to avoid further damage and future costs. Financing of natural disasters risk and insurance programs are good practices that can be defined as a financial protection against natural disasters, and there are increasingly more of such programs. The management of knowledge in all areas and capacity building are needed to build the internal capacity of staff through the sharing of knowledge and experience (implementation of integrated measures to adapt to climate change and the management of environmental risks and natural disasters).

The aim of the project (program) lays on generating local action plan for adaptation to climate change, environmental risk management and response to natural disasters, and the development of capacity of local communities of affected communities to adapt to climate change, management of environmental risks and response to natural disasters, as well as beginning of the realization the plan.

The importance of climate change is growing from year to year. Climate change impacts on the environment are growing, while the negative effects of natural disasters are increasing. In this region, the changes are most present and the average seasonal temperatures and changing rainfall patterns and intensity are in increase, which is reflected in more extreme droughts and floods. Damage, mostly from the flooding and drought are estimated in the hundreds of million dinars each year. In most cases, the most affected are the poorest parts of the population. Natural disasters slow down the economic development, thus weakening the social capital.

Policies of adaptation to climate change are one of the most important environmental policies. One of the priorities of the Danube strategy within the pillars of environmental protection is the management of environmental risks. Environmental risks are a direct threat to human health and quality of living space. Natural disasters are relatively rare, but are remembered by their social, health, financial and environmental consequences. Danube River is a particularly sensitive area, with high exposure and high fragility and aquatic ecosystems.

Most municipalities do not have an Action Plan of adaptation to climate change, environmental risk management and response to natural disasters, nor the institutional and sector capacities are developed enough for this challenge in the future. Assessment of vulnerability of municipalities in the future should not be left to an ad hoc approach, nor should the consequence of climate change in the coming years be taken lightly. The specificity of these projects can be seen in the fact that the Action Plans contain a significant number of non-investment measures (and lack of capital works will not be an obstacle to its realization), as well as the components of the Action Plan that will represent not only the instruments of protection, but also the instruments of local human, infrastructure and economic development.

First of all, it is necessary to define methodology and formation of expert working groups. The main activity should therefore be associated with the assessment of vulnerability on the territory of the municipality from environmental risks, natural disasters and climate change. Activities related to the development of the Local Action Plan and the development of capacities for local communities in order to adapt to climate

change, environmental risk management and response to natural disasters: Involvement of the local community; Presentation of Action Plan to the public; Adoption of the Action Plan; Activities related to the implementation of the Action Plan; Activities related to the introduction of the system management of changes in local government; Activities related to the inclusion of components and priorities of the UN Framework Convention on Climate Change in local sector policies.

Different economic sectors show different sensitivity to natural disasters and unfavourable weather events. As one of the most sensitive sectors stands out the agriculture, and beside it other sectors that show significant sensitivity are the energetic, waterpower engineering and air transport. Participation of sectors that are dependent on weather conditions in the gross national income Serbia is significant, and that in 2005 amounted to 47.18% [World Bank, 2005].

4.ECONOMIC AND ENVIRONMENTAL ASPECTS OF ENVIRONMENTAL PROTECTION, ECONOMIC ACTIVITIES AND CLIMATE CHANGES

The permanent increase in the intensity of the use of natural resources with the primary objective of meeting the increased needs of a growing population has caused a number of irreversible adverse changes in the environment and nature, which increasingly represent a source of certain environmental and climate problems. It is necessary to examine the connection between economic goals and environmental protection objectives of natural environments that is to say to define the development coordinated with the requirements and limitations of nature. The protection and environmentally sustainable use of biological diversity (biodiversity) is completely ignored and unjustly neglected in many countries, but also here. Interaction of the economy with nature has entered a phase which requires the permanent monitoring and active measures to ensure the smooth functioning of the economic process and reduction of the impact on the climate changes.

A new environmental ethic has appeared, ecocentrism, which places the eco system in the centre and makes the human as one with all other forms of nature, and the only thing that distinguishes it is the responsibility for the preservation of "life" in general as well as the human species and inanimate nature. Responsibility is derived from the fact that only a human being is endowed with a highly developed awareness and the ability to be the bearer of the moral values. The human on this planet can be saved if he takes into account its life and life in general, respect its life as well as life around him, because he often puts his daily needs for prosperity and increasingly perilous conformity of any kind above human life and health.

Therefore, a new view of a man's relation to nature and society has appeared. Environmental ethics or learning about good and proper action, learning about the business dealings which do not destroy nature, the economy is only a part of the human activities which include the manufacture, distribution and commercial movement of goods for the satisfaction of human needs, including luxury consumption. We are talking about a new product of the environmental ethics which puts nature into the ethical focus, eco-system, not a man or a human (consumer) society. Validity of the ethics is now expanding to the rest of the living world, but also to inanimate world (natural resources and raw materials), that is to say on the world in general, where human responsibility and knowledge that a man is given a responsibility as a conscious being to be a guardian of all forms of nature must have its place. From the perspective of environmental economics, natural capital should be seen as the basis for the production of which is, at least, as important as the capital created by humans. [10, p.137]

In environmental terms, the economists must also strive for the principle of taking precautions - they should strive for minimal interference with the functioning of natural systems, especially when we cannot predict the long-term environmental and climatic effects. To determine how the environmental rationality is applied in our organizations a study is conducted where 104 companies were interviewed, some of which are in the private sector and some state-owned. The survey was conducted in companies in the Timocka krajina region, Jagodina, Pirot, Niš and Leskovac. To the question: Do you have employees who deal with environmental issues? 65.5% of the companies surveyed responded positively, and 34.5% negative. The results are not satisfactory, because the percentage of those who do not have employees engaged in environmental issues should be much smaller.

To the question: Are, in your opinion, the environmental function and the function of production management in the enterprise connected? A large number of respondents, 85% replied that they are related, which is true, and it can be concluded that business people understand the importance of the role of environmental rationality. To the question: What is the environmental rationality? Over 54% of respondents said they knew what the environmental rationality is. Due to the importance of environmental rationality today, this percentage should be much higher. A large number of respondents (37.5%) said they did not know and 8.3% responded that the environmental rationality is a secondary production function that is not very important.

To the question: In which direction you plan to develop your environmental rationality? A large number of companies (about 73%) give great importance to environmental rationality and consumers, which is an encouraging fact. People and organizations understand the role of the environmental science and its importance in the company, and plan to continue to regularly train professionals and staff. Only 11% of respondents are satisfied with the current situation, and they do not want to change anything, and about 16% is not thinking about the further development in their company. It is evident that business organizations need to strengthen their efforts in environmental marketing research and based on them, define a strategy for further development.

China is now investing huge money in green technology and is slowly becoming a leader when it comes to using solar energy and wind energy. In Germany, when it comes to clean energy, over three hundred thousand jobs have been opened due to the trend of green economy and the use of sustainable energy resources, and our country, although rich in thermal mineral springs, do not make sufficient use of this comparative advantage. Thermo mineral spring in Serbia provide economic benefits through comparative advantages of renewable energy and environmental benefits due to the reduction of global warming and the impact of climate change. Geothermal water could have significant application in highly intensive production of healthy (organic) food, for heating greenhouses and livestock farming, and other needs (air conditioning - heating and cooling buildings, etc.).

Benefits obtained by using geothermal resources are multiple and numerous, and can be divided into three main groups: socio-economic, environmental, technical and technological. Geothermal energy is local, autonomous source and does not depend on anything. Its exploitation and utilization is independent from the international political, economic, war and other crises. The exploitation and utilization of geothermal energy does not depend on the import. Its use does not create the conditions for political and financial blackmail or conditioning of historic enemies in the world, as is the case with the import of oil. The use of this energy is not affected even by the weather conditions, nor floods, earthquakes, drought, storm, or its accumulation, cannot be destroyed.

The structure of energy consumption in Serbia, low-temperature thermal energy makes up about 30-35%, and is covered by coal, wood, electricity, oil and gas. Coal is environmentally harmful, wood and electricity is a shame to waste for heating, and oil and gas we do not have. Serbia may cover 25-30% of the total heat consumption from geothermal sources. Thermo-mineral water with the use of heat pumps can have broad application in the industry. Hidden costs in the exploitation of fossil energy sources are a big unknown, it is impossible to predict them or to express them because they, mainly, originate from the adverse impacts on the environment (rehabilitation of opencast mines, reclamation of tailings impoundment - ash, mud strewn accumulation, relocation of settlements, roads, deforestation, destruction of fertile land) and as a result of all said above the climate change also, etc. The latest economic requirements, as a condition of high competence, give the use of this energy become a matter of prestige in terms of quality of life on the domestic and on the world market and it becomes a key postulate of national economic systems [11, p. 137].

Environmental strategy of society is not a matter of politics in the narrow sense, nor could it be subject to the current orientation of government. It is adopted and implemented in cooperation with economic interests, technical capabilities, and environmental, domestic and international standards, taking into account the experiences of environmentally advanced economies and in accordance to the findings of the experts' projections. With the help of social marketing it is necessary to take an active economic and environmental policy, with eligible measures and instruments, adapted to the economic system, the initial economic state, but also to the culture and traditions of the nation. People are increasingly demanding information about the social responsibility of companies and institutions of the system and their responsibility towards the environment, and environmental awareness cannot be achieved by birth, but systematically created through the entire system of education, science, culture and (environmental) education. Nations which are not aware of that have a special responsibility for the future of the planet.

5. CONCLUSION

The basic definition of the term's economy and environment indicates the necessary adversarial relation, but also certain integral elements in models of economic and environmental development. Since the protection of human environmental is planetary problem, the problem of all people, perhaps not equally expressed in all areas, but, if it is not solved on the global and local levels, it will certainly expand and create larger problems. If the protection of nature and environment has become a civilization problem, and economic profit motive of business manufacturers and other business entities, then one cannot ignore any of these questions. Practice has proved that this is a job for the state and its local institutions.

The term "local" influences the context of disaster risk management, the experience of disaster, states, and actions and adaptation to climate change. The classical understanding of economic wealth is changing; experts thought patterns are occurring in the valuation of natural resources and environmental factors. Environmental rationality has to become an integral part of economic theory and business practice. Alternative development opportunities for a large part of humankind are the development of alternative technologies, raw materials, energy, and mineral fuels. Despite some contradictions, and environmental and economic goals, each responsible nation must have a strategy for environmental protection and sound and sustainable development, and that

strategy must be based on objective, expert determination of state, economic principles and opportunities, both at the national and local levels.

The use of geothermal resources in Serbia must be an important basis for economic development. Social, technological and economic advantages or benefits of their use are still significant compared to other energy sources, and may gain more if the value of concern for the increase of CO₂ in the atmosphere leads to economic measures that will discourage the use of fossil fuels. Geothermal energy does not increase the natural greenhouse effect and does not cause climate change, does not destroy the ozone layer and does not cause acid rain. It is necessary to increase the knowledge on sustainable economic development and environmental economics, as they are in the service of environmental rationality (increase of the interest, awareness raising, long-term research and monitoring of its implementation). This approach requires the application of the principles of environmental economics and action plans in the local economy, but also the proposition of the audit of calculating national income accounting system, so as to incorporate the amortization of natural capital and the application of the principle of taking precautions, especially when you cannot predict the long-term effects of climate change.

From the research it is evident that the task that is set in front of the theory and practice of environmental management and economics is not easy at all, but fortunately, the talent, creativity, imagination, intuition and science knows no boundaries in both the achievements and among people locally and globally.

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THE FOREIGN CAPITAL EXPANSION IN THE BANKING SYSTEMS OF DEVELOPING COUNTRIES

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Annotation: *The globalization extent of national banking systems of developing countries, the foreign banks presence influence on the development and stability of their financial systems were identified.*

Keywords: *financial globalization, foreign capital, banking capital, banking system, foreign bank*

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1. INTRODUCTION

The financial sector globalization leads to the national banking systems integration into a single global architecture through their consolidation around the leading international banking groups. The transnational capital expansion at the markets of developing countries is an objective manifestation of financial globalization, which, on the one hand, is necessary to be recognized as the obvious and irreversible, and on the other, as uncertain and dependent on the political, economic and social development of the national states.

Taking into account the current world trends, it can be confidently said that the volume of transactions related to the monetary-credit and the financial sectors, prevail over international trade. The foreign capital liberalization, which became common from the 1990s, opened up the great opportunities for banks with foreign capital to spread their presence in the region with countries that are at the stage of economic establishment and require significant amounts of financial resources. Thus, the foreign banking capital movement has become an integral part of the present phase of financial globalization in the world. Key factors of stimulating the financial integration development are: the irregularity of economic development and distribution of financial resources among countries; the countries' balance of payments imbalance; the lack of one's own resources in most countries for investment projects and socio- economic transformation; the need for resources to compensate the budget deficit and debt performance for internal and external borrowing; mergers and acquisitions of companies and banks; the modern electronic technology introduction to improve operations in the real time.

2. RESULTS OF THE STUDY

The banking capital concentration and finding the directions of its augment and savings from depreciation due to inflation, in our view, are the main factors that drive the globalization, including stimulation the expansion of banks with foreign capital in transition and marginal economies.

Thus, financial globalization is a complicated and controversial process. Firstly, it stimulates economic development, and secondly – increases the risk of international financial transactions, which, in turn, promotes the effects of the local financial crisis on global financial markets.

It should be noted that today the foreign banking capital movement between the economically developed countries had not obtained such a wide scale as if it is moving from developed countries to countries characterized by economic changes in all economic spheres. These tendencies are determined by the ability and willingness of the banks with foreign capital to get additional profit, to reduce the level of expenditures and to expand their presence in other regions that is practically impossible to reach into the already formed and distributed between certain participants of the financial sector of the country, that is part of the top 15 economically developed countries.

Being an important part of financial globalization today, banks with foreign capital become the impetus for the national banking system development and the country economic growth. Banks with foreign capital create more competition for the local banks, having in mind the expansion of new technologies in the field of banking. At the same time, financial globalization in terms of the foreign banking capital movement can be characterized either as the free penetration of foreign banks in the domestic banking system, or as the existence of certain barriers that can be created primarily by governmental agencies and the existence of the informal constraints such as customer preferences in serving only in the local banks, the impossibility of penetration based on the market situation and so on.

An efficient financial system is an essential part of the sustainable growth mechanism and the poverty reduction. A number of economic studies have proved that the foreign capital expansion in the banking systems of developing countries and countries with transition economies contributes to creating more efficient and stable financial systems in these countries, accelerating the state banks privatization and expanding the access to financial services [1,5,6,7].

The developing countries (with the low income) also benefit from these tendencies, despite the much lower level of foreign participation in their economies compared to the most developed countries and countries with transition economies. The banking systems of developing countries, in terms of the size inferior to the corresponding systems of developed countries, if not to identify them as the offshore financial centres. This thesis is proved by comparing the amounts of money of the relevant countries ... [2,3,4]. It should be noted that the size of the banking systems is a simple reflection of the scale of their economies. For statistical sample survey 81 developing countries: the money amount of the 61 countries was less than 10 billion U.S. dollars with GDP on average – 5 billion U.S. dollars, in 20 countries with the volume of money over 10 billion USD GDP on average, was 221 billion U.S. dollars, which is 40 times more. [4].

The small size of the developing countries' financial systems cause the capital markets liquidity constraints, the risk diversification opportunities, the access and use of innovative financial technology and products of banking risks management, the high costs of brokering financial transactions.

During the period 1995-2012, the presence of foreign banks and the value of their assets have increased significantly in a number of low-income countries. The key reasons for such processes are, firstly, the established historical ties between the countries, secondly “open economies” in several countries. The foreign capital expansion brings certain benefits to national banking systems: the reduction of costs for the services of financial brokers, the increasing of their efficiency and stability. The analysis of a number of economic studies proves that the foreign banks presence in the low-income countries economy is not itself a sufficient condition to achieve the national banking system efficiency [1,4,6,7,9,10]. The combination of a high level of the foreign banks presence in the domestic banking systems with the policy of open economy regime conservation is necessary for achievement of the most benefits and effects.

Foreign banks also bring more effective risk management technologies, systems of monitoring the financial activities by importing them from the regulatory environment of the parent country that in result strengthens the banking systems of low-income countries.

3. PRACTICAL RESULTS OF THE STUDY

The increase of the competition in the domestic financial sector can lead to the reduction of the customer base of banks which are already operating in these countries, which can lead to financial instability. Therefore, the state’s reaction on the levelling of certain tendencies should be the policy of an adequate banking sector control, while many developing countries face more difficulties and problems while creating their own reliable legal and institutional infrastructure of the banking system. Finding the ways of solutions to these problems should be with a greater use of competitive advantages that foreign banks bring in domestic business environment, while focusing on the efforts on creating an effective institutional infrastructure in the key areas. These ways would be more effective from creating a full-scale unit of government regulation and financial sector control.

The benefits of the foreign capital presence in the national banking system should also be considered in the terms of scientific and technological progress, which allows providing financial services on a global scale freely using the system of “electronic finance”. In addition, some developing countries have the opportunity to receive some kinds of financial services directly from the foreign sources that allows them to reduce the need of expanding the government sphere of regulation and control.

The shock of the global financial crisis has proved the high risks of financial globalization for national banking systems and the stability of the potential of risk counteraction of the less integrated banking systems. The researches have shown that normatively regulated and less open domestic banking system could function during the global financial crisis relatively well. Therefore, the national banking structure preservation in the terms of international financial instability may provide important competitive advantages, than foreign banking capital the presence. [see fig. 1]

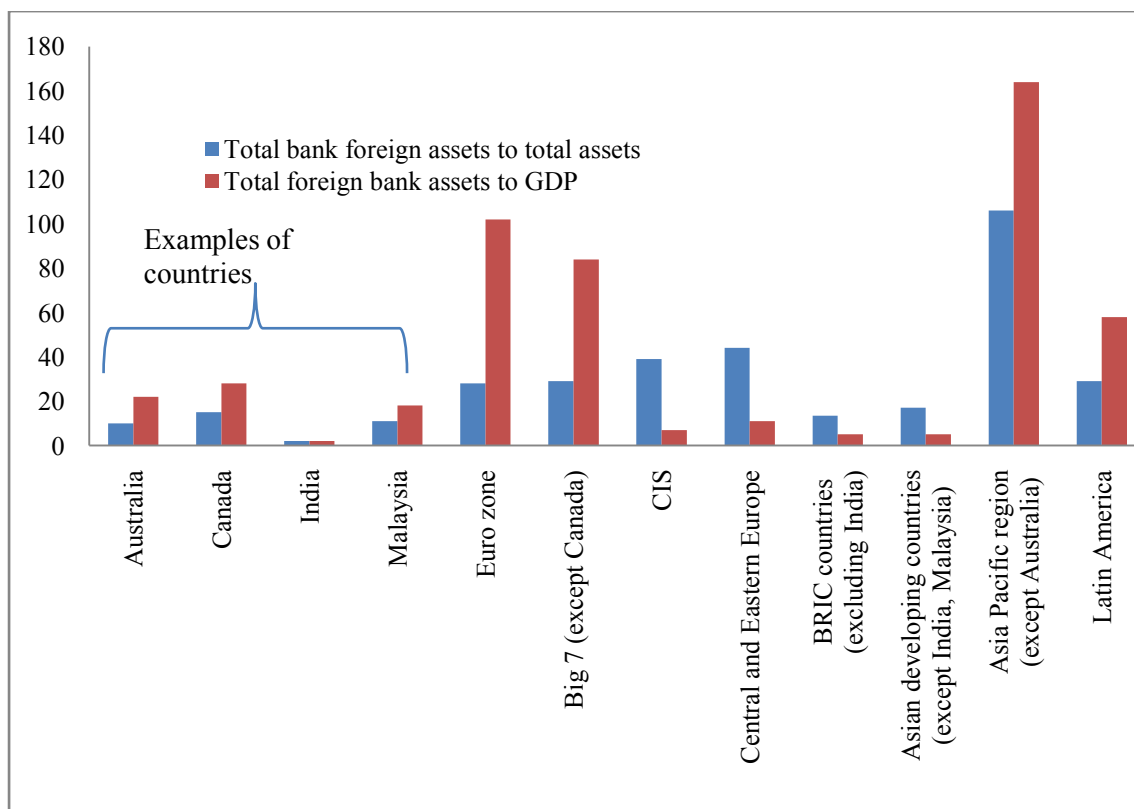


Fig. 1. The level of banking systems globalization: foreign assets, 2011 (percentage ratio of foreign bank assets to total assets, the ratio of foreign bank assets to GDP), [6, p.107]

According to economic estimates, Australia, Canada, India and Malaysia have a relatively low degree of international bank capital influence on the national banking system that helped them to avoid the worst effects of the global financial crisis. This conclusion is based on the studies of measuring the degree of national banking systems globalization of these countries on the basis of estimates of the number of foreign banks in the banking system, the measuring of the ratio of foreign bank assets to total assets and the ratio of foreign bank assets to GDP. This approach has helped to define the global independence of the national banking systems of Australia, Canada, India and Malaysia from the international bank claims and liabilities adoption.

Australia and Canada are limited in foreign banks presence in the national banking system and the foreign claims are low in comparison to the Euro zone and Asia. [see fig.1]. However, in the case of the use of foreign resources by their banks the international integration is becoming more influential on national GDP. However, Australia and Canada have less dependence on foreign liabilities to the crisis than most countries in the study group. While comparing to the banking systems of BRIC (Brazil, Russia, China, excluding India) the external isolation from foreign equity is typical for India and Malaysia for all the parameters: the low foreign banks presence, the low level of foreign assets and the low reliance on external liabilities. [see fig.1].

The policies of national banking sector regulation in Australia and Canada have some features that limit the level of global integration of their banking systems. These features include: a de facto prohibition of mergers among the major domestic banks, the main aim of this regulation is to preserve the competition in the domestic financial sector. At the same time, such a prohibition on increasing the size of banks prevents the national banks competition in the global business environment and becomes the factor of limiting

the international activities of national banks in these countries. In both economies, Australia and Canada, there are limitations to share ownership in the context of the domestic and foreign banks acquisition, although the creation of subsidiaries or foreign banks branches is not limited, except for “reasonable basis”. In Canada there is a widespread rule prohibiting single shareholder of the domestic or foreign bank to own more than 20 percent of the voting in the board of the bank. In Australia the exceeding 15% of voting rights requires the special permission

India and Malaysia also restrict the foreign banks entry in the domestic banking systems, although today there has been a policy of slight easing of the appropriate regulation. Such restrictions are common for the countries with market economies of the Asia-Pacific region. However, a number of foreign banks that were included in the national banking system of Malaysia before the crisis make significant transactions in the country and make up a relatively high share towards the total national banking assets. These studies suggest that prudential regulation of restricting the entry of foreign banks in the domestic banking systems could be less important for financial stability than the funding structure of domestic banks. The analysis shows that banking systems, less dependent on external financing, have shown a higher rate of credit loans growth for five years from the global crisis beginning. [8]. Thus, the positive experience of four countries (Australia, Canada, India and Malaysia) is explained not only by their regulation approaches, but by the formation structure of the banking system assets.

Thus, we can conclude that the foreign banks’ impact on the national banking systems is controversial and is mainly determined by the socio-economic situation in the country, the degree of banking development, the national interests and the interests of the owners of foreign bank that is planning to operate in the host country.

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KNOWLEDGE, SKILLS AND COMPETENCES REQUIRED FOR ORGANIZATION MANAGEMENT

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Summary: *The manager is a person who is responsible and accountable for achieving the planned goals of the organization or of the part of it. He is responsible for certain tasks that lead to more effective completion, that the coordination of personnel and administration of the influence to effectively complete the tasks. In general, the main task of managers is to ensure the survival and development, and to ensure the achievement of key objectives and strategic enterprises, which mainly involve the CEO or top managers in the company. At lower levels of task managers to manage specific jobs in a part of the company or certain business functions in-house. Depending on the type of manager, or the level of the place where the manager is, may be defined in different jobs and tasks performed by managers. Managers' competences can be defined as a collective ability of managers to lead the development of the organization along with the development of their own managerial resources, knowledge and abilities, in a way which helps the organization to fulfil the short term and long term goals. Having in mind the nature of manager's job, and its level of responsibility, the individuals who are managers have to have certain managerial competences.*

Key words: *manager, manager development, knowledge, skills, competences*

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1. INTRODUCTION

Turbulent changes in the global environment require appropriate adjustments and changes in business organizations that decisively influence the shaping of modern human resource management. Especially interesting are the globalization of world economy, technological progress, sectorial changes, changes in the labour market and institutionalization. On the other hand the organization of modern enterprises due to all the pronounced changes in the environment trying to find new organizational forms, new structural solutions that are sufficiently flexible and necessary adaptable (Tanasijević, 2006).

The transition process should ensure that the economic entities in the country in transition to enable the independent market performance, a healthy competitive fight for business in the international field. This implies significant changes in the organizational structure of enterprises, and in the thinking of management and employees in organizations. Key role in this process is on the executive management and domestic owners of capital who need to establish a sound market base of operations, based on continuous improvement of skills of the workforce and productivity.

Changes in the role and functioning of today's business systems, as basic subjects of economic activity, caused a radical change of role and importance of their employees. In this sense, they need new, modern managers who, in conditions of great economic uncertainty, rapid technological changes, the dynamic transformation and change of

ownership, can provide effective exercise of the goals of business and development policy.

Accelerated economic development requires new knowledge, which must be in accordance with the innovations in the environment, because it is one of the essential conditions for survival in today's volatile global markets. The current economic paradigm is called knowledge economy, because the resource is contained in the knowledge becomes the foundation of economic development and a source of wealth. Competitive position of any business system in such a business environment depends on its flexibility, creativity, inventiveness, innovation and focus on the quality of their employees (Arizanović, Krstić and Bojković, 2006).

Unfortunately, the practice clearly points out that most of the countries undergoing transition, and therefore our country are in a situation that can be characterized as a state of chronic crisis. Realistically, this situation is normal and very logical in light of the size and complexity of changes brought by the transition, but it is also unusual because of our crisis period breaks all theoretically known and recognized terms of the crisis (of about 5 years). The organization is in such a situation, is forced to change, to resort to new ways of dealing with problems, to seek new solutions and new mechanisms to organize the company and harmonize its operations. Therefore, the crisis is a natural and expected consequences of each, and successful business. Major crisis brought a dramatic change in which an individual remains the only stable individual to whom it can be counted. In the redistribution of financial strength, resources, decision making, and above all knowledge and human resources, many feel helpless. Experiences in transition, in many ways resembles the current crisis, were able to confirm only those who had the courage for timely action.

The question is whether managers are prepared and armed with knowledge and skills to emerge from the crisis even better and stronger. Operations in times of crisis require taking timely measures. Manager in those times should be fighting for the survival of their companies and effectively manage changes. In times of crisis, organizations with better management easier cope with crisis.

Therefore, the employees and the management have to be ready for changes for which they can prepare. Managers have to have certain knowledge, skills and competences which would help them make adequate business decisions in order to manage the organization successfully.

2. MANAGER DEVELOPMENT

If management is considered as a system of government, or as a group of people who have the authority to manage processes and people, it is necessary that this group is further analysed and defined. These people are managers and are the holders of management as a system of government, and also provide performance management and managerial processes in a company or other organization. Management development, different status manager, became preoccupations of modern enterprises and the primary activity of human resource management. Providing quality managers and their continuing development is a major strategic and competitive advantage. In modern changing and uncertain conditions dominated organizational development in which development manager has a central place. Managers in all these dimensions of organizational development have a key role, because it is logical that organizational development in large part relates to the very development of managers, a change in their knowledge, skills and abilities in general monitoring and implementation of change.

Management development is a process by which managers get the necessary skills, experience and attitudes needed to become or remain successful leaders in their organizations. It is any attempt to improve current or future performance of the management of knowledge acquisition, changing attitudes and increasing the skills and abilities, increasing managerial effectiveness and flexibility. The ultimate goal is to increase current and future competitive advantage and organizational performance.

According to the understanding of most authors who have dealt with research management, in order to accomplish the goals and objectives at all levels of management need appropriate knowledge, skills and abilities with appropriate experience. Specifically, expertise and skills include knowledge of the methods and techniques in specific areas, such as finance. Domain of interpersonal relationships involves abilities and skills to work with people, includes incentives to work, creating a suitable atmosphere for the development of group work and directing efforts to achieve the set goals. Conceptual skills include the understanding of the whole business, the relation between the parts among themselves and with the patient, conceptual skills related to understanding the place and organization in the market and its relationships with other organizations (Urošević and Arsić, 2009).

The biggest challenge for nowadays' organizations is to find and keep the productive manager. The manager's success and motivation does not depend on material conditions and awards he gets, but also on the conditions for his development provided by the organization. Peter Drucker, the guru of modern management said: The development of the manager is directed towards an individual. His aim is to enable the individual to fully develop his abilities to their finest. Nobody can motivate an individual to self-development. Motivation has to come from within. Superiors and the company, however, can to a great extent discourage even the most motivated individuals and to mislead their development. In order to have a productive development of a managers, superiors and the company have to actively take part in his development and to support and guide him (Drucker, 1977).

Organization's objective is to, based on its future goals, define what kind of managers are required and with what skills and abilities, and to make a selection of managers which are to be supported based on these plans.

The development of managers can be done by using different programmes and there can be two groups:

- Programmes within the organization,
- Programmes out of the organization.

Programmes within organizations are methods used by organizations for developing their managers based on knowledge and experience of senior managers or methods of job shifting and acquiring knowledge from the fields in which they lack experience. These programmes have their advantages, time wise, cost wise and because of adjustments of managers in comparison to programmes out of house. The disadvantages can occur if the managers' capabilities acting as mentors are limited.

Out of house programmes are intended for development of managers and they are most often organized at faculties, in other organizations or special agencies. The objective of these programmes is to improve the skills of managers which will help them achieve the organizational goals, and also their personal and professional development.

Skills which are a subject of development depend on the level of management to which the manager belongs and there are three levels of manager's development:

Beginners level –young managers who have just got the position need the knowledge and experience from the field of management and manager's role with the focus on special skills;

Medium level- middle management is being developed and the main aim of this level of development is to broaden the views of managers and improving their skills; Advanced level – development of managers with a lot of potential by perfecting their knowledge and skills in order for them to get the top and the most responsible positions in the organization.

It is very important for the organization, after the completion of programmes, to continue supporting managers to further develop, because their development is not finished if a programme finishes, but it represents the process of lifelong learning.

3. MANAGER CHARACTERISTICS

Features are starting qualities that represent the characteristics that an individual possesses. Every manager in general should have very good physical and mental characteristics. A good manager should have the following characteristics and that is diligent, intelligent, honest, ambitious, energetic, enthusiastic, flexible, imaginative, optimistic, courageous, aggressive, strong and stable personality. Peter Drucker (Drucker, 1996) said that the answer to the question what are the characteristics of successful managers is simple. Successful managers and leaders are applying the same eight principal approaches or activities which include:

- They ask, 'What should be done'?
- They ask, 'What is good for business'?
- They have developed and written in concrete action plans.
- They take responsibility for decisions.
- They are responsible for the activities and processes of communication.
- Pay more attention to opportunities rather than problems.
- They organize and lead a successful meetings, and
- They prefer to think and say 'we' rather than 'I'.

The first two activities provide to them a basis to develop knowledge and facts they need. The following four activities, numbered 3, 4, 5 and 6, are enabling them to implement their knowledge in effective and efficient action. The last two activities give them the opportunity to transfer responsibility to the entire organization so that all employees take responsibility for agreed and adopted plans and activities.

In the first step, the successful leader is not asking the question 'What do I want to do?', the real question is 'What should I do?'. The answer is, almost always, needs to be done many different and urgent tasks. This means you must define a priority list. Successful leaders decide to work on one job, one the most important and urgent tasks, the degree of priority. Everything else is left until after the first and most important job. After that, when complete the task with highest priority, then the priority list is reviewed again and again to decide what is most important at the moment to do so. So, the question is 'What must we do now? ". When defining the list of priorities, the effective leader is to decide on what kind of jobs will it work and for which he is best prepared and qualified. Other tasks are delegated to other members of the management team. Therefore, activities are coordinated, delegated in relation to specific knowledge, skills and natural areas within the management team.

The next important question is 'What is good for business?'. So, does the question 'What is good for me? " or "What is good for owners, shareholders, employees and all other interested parties? '. They know that if a decision is not good for the company then it cannot be good for anyone else.

The Action Plan is a document with clearly defined purposes and goals, which still does not mean total agreement for execution. Therefore, action plans must be reviewed, modified and supplemented for each success brings new opportunities, and every failure brings a new danger. The same principle applies here and the changes that come from the business environment - political, economic, social, technological, legal and environmental factors and variable factors that stem from internal factors, such as employees, assets, cash flows, budget, because Plans must have built and provided the flexibility mechanisms. In addition, each action plan must have a system of performance measurement and monitoring of the planned and expected activities.

Leaders take responsibility for the decisions because the decision is not made until the employee does not know: (1) the name of the person responsible for its implementation, (2) the date of execution, (3) the names of people who will one way or another be affected by such a decision, because it is very important that they understand the heart and the consequences of decisions, to agree and that is radically called into question, and (4) who should be notified of the decision taken, just that this decision does not affect them directly. It is important to review the decision from time to time, i.e. to monitor the effects and consequences. This is especially true of critical and important decisions, particularly those relating to the acceptance and promotion of employees.

In the responsibility for tasks and processes of communication, effective leaders are doing everything that employees understand the essence and importance of information and action plans. This means that they share, share and take into account the opinions of the return of its associates, employees, subordinates and superiors. The flow of information is provided from top to base and vice versa. Must also provide cross functional flow of information between the basic management functions. They well know that every employee must have all the information that the deal could not perform effectively, quality and on time. Optimal approach is that every leader and manager should identify the information they need and to insist that he was available in the form and format that best helps in the decision making process.

Successful leaders aren't burdened with problems, but give the full consideration to opportunities and good possibilities. Of course, the problems were not neglected and they are solved, but priority is given to new opportunities. Each change is treated as an opportunity, not as a threat. The process of change in the business environment is considered and evaluated, but the sets and the real question 'How do the changes we can use for the benefit of our company? '.

In the following seven cases, successful leaders are always looking for solutions that are seen as a new opportunity for growth, development and prosperity. These are those situations:

1. The unexpected success or loss, a bad move or failure in their own company, a competitive company or sector and business operations,
2. Identified differences between inputs and outputs in the process, products or services. That is, how and in what way the current situation can be improved and enhanced
3. Innovation in processes, products or services, either within or outside the company or the business sector,
4. Structural changes in industry or market,
5. Demographic changes,
6. Changes in consciousness, value orientations, perceptions and meanings, and
7. New knowledge and new technologies.

Successful leaders must organize successful, short and effective business meetings. Research shows that almost half of each working day is spent in meetings. The

key approach is to correct for any meeting pre-evaluate and define the essence, purpose, length and score.

Successful leaders are increasingly using the word 'WE' instead of the word 'I'. They know that they are responsible for the tasks they perform. This responsibility cannot be divided or to be delegated. They have the power and authority in the organization only if they believe employees. To achieve this level of confidence are successful leaders and managers, think first, what is good and what needs to be firm, and only then, think of themselves, their needs and opportunities (Urošević, Pantić and Dašić, 2011).

No matter what job they do, all the managers and leaders have the same obligation, and that is to bring jobs to the region, or that the results of their work visible. To achieve this, but it must have a high level of organization, the talent that a good plan and delegate tasks, it is also very important and to be ready to take action and move their employees. It is this initiative and the ability to turn ideas into action is essential for success. Managers should not wait for perfect conditions if they want to achieve good results. There is an ideal time to begin working, but it is necessary to take action now and deal with all the obstacles that arise. Each obstacle is in fact a challenge that should win. On the other hand, since each manager is expected to work hard. Although many believe that the job of managers to think about new possibilities and create new ideas, organize and delegate work, they also have themselves to work on the realization of his ideas (the job). The longer you think about ideas, and how or what to do, lose more than they receive. Any idea without action is useless (Slavković).

4. MANAGER KNOWLEDGE, SKILLS AND COMPETENCES

Successful managers need to have excellent formal education which means that they should have finished certain universities, specialist, postgraduate and even postdoctoral studies. However, this kind of education loses its application over a certain period of time since the managerial practice is being exercises in the turbulent environment; business flows are fast and unpredictable, so the knowledge managers have should be constantly innovated, their experience should be enriched by various experiences. Just a half a century ago, people thought that formal education combined with respective working experience was sufficient for somebody to become a manager. Experience and intuition were sufficient for somebody to manage the company successfully. The development of science and technology during 50s spontaneously formed the opinion that permanent education of managers is needed, especially in the production. There is less and less time for managers to adjust to new accomplishments and self-study (Urošević, Pejčić and Sorak, 2013).

Necessary knowledge and skills, the manager can acquire by:

- full-time education,
- additional education and
- practical work.

Generally speaking, a manager should possess the following skills:

- technical skills,
- knowledge in the field of social sciences and
- conceptual.

Technical skills are those skills that allow the manager conducting with the use of specific techniques and procedures. Examples of technical knowledge are:

- Engineering,
- IT,
- accounting and other.

Knowledge in the social sciences, are those skills that enable a manager to lead the staff managed to coordinate their work. This knowledge is also used to analyse the relationship between people, improve communication among individuals, analysis of individual and group interests, conflict resolution and others.

Conceptual knowledge enables managers to analyse and consider the organization as a whole, as a separate system that consists of multiple subsystems and associated with the environment. More broadly, the manager should have a large body of knowledge in various fields such as technology, information, organization, management, planning, finance, marketing, psychology, human resources, law. From the standpoint of modern management theory, a manager should have:

- functional,
- systematic, and
- knowledge in situational analysis.
- The core competencies of managers:
- control,
- organizational, and
- leadership abilities.

Managerial knowledge includes two main categories: knowledge about human behaviour in the organization and knowledge of how organizations work, on one side, and knowledge of the contents of the organizational work, on the other side. Regardless of the organizational level to which they belong, all managers must have a sufficient level of managerial know-how.

Managerial knowledge can be classified in the four domains:

- managerial and operational knowledge - a form of knowledge that includes knowledge of the role that managers should play in planning, managing, controlling and communicating with other people, as well as knowledge of the functional areas of business such as production, marketing, human resources, research and development, etc.,
- managerial technical knowledge - knowledge about methods, processes, procedures and techniques specific to each functional area,
- corporate managerial knowledge - knowledge about the reasons of the organization and knowledge of the stakeholders that the organization creates value,
- managerial knowledge of the environment - knowledge of the providers of external resources, and knowledge about consumer preferences, competition and macroeconomic development.

Operational management special emphasis should be placed on functional knowledge and technical skills, while the corporate knowledge of the environment and less important due to the fact that decisions taken generally do not require prior knowledge of events in the region and the needs of stakeholders. For the middle level of management, technical expertise, but loses its significance cannot be completely ignored, or corporate knowledge. But the manager of the centre line to the right to come to the fore and functional knowledge of the environment. Corporate knowledge and knowledge of the environment are crucial for top management. Given that decisions with long-term implications for the future of the organization of their responsibility for these two domains of knowledge increases (Slavković).

A competency is a term which is becoming increasingly common nowadays, in various disciplines and fields as well and also in management where it represents a key word in the context when organizations are going through transition and changes. The

demands to comprehend competences as something essential for individuals to find their place within the society are increasing.

Competences are defined as sum of knowledge (what is acquired through education), skills (what is acquired through work, at workplace and in everyday experiences in social life), and abilities (possibility to apply those experiences and knowledge) (Argyris, 1993). Competences are also a collection of characteristics which enable us to be successful when interacting with others within the community. Competences have a very important role for individuals concerning his professional and personal development. The collection of numerous competences is a necessity of every individual in order to survive in the contemporary work market. A competency envisages:

- Cognitive competence (tacit knowledge) – which encompasses the use of concepts and implicit knowledge generated through experience;
- Functional competence (ability, know how) – required for performing a certain task;
- Personal competence – related to one's behaviour in a certain situation;
- Ethical competence – encompasses personal and social values.

If we were to discuss the structuring and defining of competences, then competences can be divided on objective competences and generic competences.

Objective competences represent competences related to a special field or study programme. They are comprised of knowledge and skills acquired through education. Generic competences or transferrable competences, represent a collection of knowledge, skills and responsibilities which can be widely used within various fields. Generic skills have a special role in generic competences. Generic skills are skills which support lifelong learning, and apart from literacy and mathematical skills as basic skills, encompass communication skills, problem solving skills, teamwork skills, decision making skills, creative thinking, computer skills and continuous learning skills (Bjornavold and Tissot, 2000). Generic competences can be:

- Instrumental competences are abilities of analysis and synthesis, organization and planning, collecting and managing information, verbal and written communication in mother tongue, knowledge of a foreign language, problem solving, decision making, computer literacy, understanding and the use of ideas.
- Interpersonal competencies are individual abilities with which he expresses feelings and critical thinking and self-criticism. Also, interpersonal skills, teamwork and work in interdisciplinary teams, international environment and respecting differences and multiculturalism, ethics.
- Systematic competencies are abilities and skills which encompass the whole system. Systematic competencies require previously acquired interpersonal and instrumental competencies. Systematic competencies are the ability to apply knowledge in practice, ability to learn, investigate, adapt to situation, independent work, creativity, leadership, initiative and entrepreneurial spirit, etc.

European Commission Directorate General for Education and Culture Implementation of Education and Training in 2010 defined eight key competences which each individual should have by the end of his schooling in order to continue developing and improving his competencies. EU lists the following key competencies:

- Communication in mother tongue,
- Communication in a foreign language,

- Basic competencies from the field of mathematics, natural sciences and technology,
- Digital competencies,
- Learn how to learn,
- Interpersonal and civic competencies,
- Initiative and entrepreneurial spirit,
- Cultural competencies.

These key competences represent multifunctional knowledge, skills, abilities which individuals need for achieving personal fulfilment, development, professional mobility and employment. Achieving these key competences enable the realization of three basic tasks of every individual:

- Personal fulfilment and professional development (cultural capital),
- Active citizenship (social capital),
- Employment (human capital).

Manager's competences can be defined as collective abilities of a manager required for leading the development of the organization through one's own coordinated development of managerial resources, knowledge and abilities in a way which helps the organization achieve short term and long term goals (Sanchez, 2003). Having in mind the specificity of manager's job and the level of responsibility, the individuals doing the job need to have certain managerial competences. A manager should have the following competences:

- Administrative competences,
- Monitoring competences,
- Communicative competences,
- Cognitive competences.

One of the required competences for managers is the communication competence. It envisages abilities to express thoughts, feelings, facts in written form and verbal form. Also, it includes the skill of listening and objective comprehension of information, ability to take part in the conversation about everyday subjects, ability to read different kinds of texts and reading materials. Also, it encompasses the sensitivity to cultural differences and interest in international communication. The importance of the communicative competence was presented by Hederson in his research which involved 500 managers. The conclusion was that the communicative competence had significantly contributed to the productivity and content of the employees (Henderson, 2008).

Competences have a very important role in the process of creation of a successful career. They enable an individual to advance within his profession and career, to achieve affirmation within the society and make contribution to the community. By developing and increasing the number of one's own competences an individual at the same time makes the base for his own development and for improving his career. The career success can be viewed as subjective and objective success. In objective success the main factor for success are indicators such as position in the organization and achieved promotion, while the subjective success is measured through personal perception of employees and their personal success based on the estimate of personal achievements and possible outcomes in the future (De Vos, De Hauw, and Van der Heijden, 2011).

5. CONCLUSION

Doing business in contemporary conditions requires certain measures. The successful economy requires of managers to adjust very fast and easily to the shifting needs of the world around them. Managers should fight for the survival of their companies, provide required logistics though knowledge and experience which would help achieve efficient change management and the required rationalization. In order for the managers to fight for the success of their companies and to seriously manage the companies, they need managerial skills which are usually directed towards human resource management, motivation, leadership, teamwork, communication, but the difficulty and the responsibility of their jobs lie in the efficient everyday decision making. The managers need to have wider knowledge and skills, flexibility, multidisciplinary approach, teamwork, problem solving and project management skills. Manager's competences play an important role in his professional and personal development and the generation of numerous competences is a must for each manager so that he and his organization can survive in today's market. Of course, he needs knowledge from the field of economy as well; the understanding of micro economy, theory of cost management, economic analyses, accounting and finance management. Also, he needs to have skills which any manager should have in order to lead his organization successfully – in prosperous periods, but also in the times of crisis.

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SUMMARY

Second page needs to contain paper summary, 200 words at the most. Summary needs to hold all essential facts of the work-purpose of work, used methods (with specific data, if possible) and basic facts. Summaries must have review of underlined data, ideas and conclusions from text. Summary has no quoted references. For key words, at the most, need to be placed below the text.

CENTRAL PART OF THE ARTICLE

Authentic papers contain these parts: introduction, goal, methods, results, discussion and conclusion. Introduction is brief and clear review of problem. Methods are shown so that interested a reader is able to repeat described research. Known methods don't need to be identified, it is cited (referenced). Results need to be shown clearly and logically, and their significance proven by statistical analysis. In discussion, results are interpreted and compared to existing, previously published findings in the same field. Conclusions have to give an answer to author's goal.

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Quoting references must be in a scale in which they are really used. Quoting most recent literature is recommended. Only published articles (or articles accepted for publishing) can be used as references. Not-published observations and personal notifications need to be in text in brackets. Showing references is as how they appear in text. References cited in tables or pictures are also numbered according to quoting order. Citing paper with six or less authors must have cited names of all authors; if seven or more authors' wrote the paper, the name of the first three authors are cited with a note "et al". If the author is unknown, at the beginning of papers reference, the article is named as "unknown". Titles of the publications are abbreviated in accordance to Index Medicus, but if not listed in the index, whole title of the journal has to be written. Footnote-comments, explanations, etc., cannot be used in the paper.

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Tests used for statistical analysis need to be shown in text and in tables or pictures containing statistical analysis.

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USE OF ABBREVIATIONS

Use of abbreviations has to be reduced to minimum.

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