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Content

Fault Tree and Failure Mode and Effects Analysis in Woodworking Enterprise Process Quality Improvement

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Abstract

Woodworking is a complicated branch not only from the point of view of managing the technological processes of manufacturing, but also in terms of the organization of work and risk factors of the working environment. This industry has been recognized as one of the priority branches of the Latvian economy and is undergoing steady development, modernization and improvement. In latest years many organizations in Latvia have tried to improve process management in order to gain competitiveness and produce quality products. Fault Tree Analysis (FTA) and Failure Mode and Effects Analysis (FMEA) have been chosen for this research to be used in the quality management improvement of the processes of woodworking. The aim of the research was to analyze the improvement of the process quality management before and after the introducing automation and ergonomic solutions in the manufacturing processes of the woodworking enterprise in the raw material manufacturing line and the finished product manufacturing line.

Keywords: woodworking, fault, analysis, quality, improvement.

Introduction

Every woodworking enterprise manages various manufacturing processes. It is a complicated branch not only from the point of view of managing the technological processes of manufacturing, but also in terms of the organization of work and risk factors of the working environment, including the ergonomic ones. In the modern view process management allows for increasing the operation efficiency and production quality of any organization and decreasing its costs [Besterfield, 2004]. Consequently, we can state that no business is possible without processes and their quality management [Asfahl, 2004]. This is particularly important in the conditions of competition when the enterprise management must actively engage in the acquisition of the latest information and trends for continuous improvement of the existing and creation of new processes. Thus nowadays enterprise management must devote particular attention to the implementation of quality processes, process assessment, establishment of process management criteria as well as constant process control and supervision.

To provide for the above-mentioned, well-considered action processes must be introduced and correctly managed that would advance the implementation of specific tasks and jobs in a logical sequence and it must be done by avoiding the possible errors that may affect the quality of the products. On the whole, it creates preconditions for the increasing of the organization performance efficiency [Freivalds and Niebel, 2009].

Fault Tree Analysis (FTA) and Failure Mode and Effects Analysis (FMEA) have been chosen for this research to be used in the quality management of the processes of woodworking industry which has been recognized as one of the priority branches of the Latvian economy and is undergoing steady development,

modernization and improvement. The industry involves the processing of the products acquired as a result of logging: manufacturing of saw-timber, veneer and plywood, grain and wood particle boards, safety matches, furniture, architectural elements and other products [Economic Development of Latvia. Report, 2009]. Disregarding the current economic recession, the industry employs a significant number of employees and its added value accounts for almost a fifth of all production of the manufacturing industry of Latvia.

The production lines chosen for the research are the raw material (plank) production line and the ready product (furniture construction material) production line in an average Latvian wood-working enterprise "AZ". The enterprise operation is mainly connected with sawing timber, its sorting, drying, packaging, assembling of the ready production and selling. At the moment the enterprise employs 150 employees. The research was made in the period before and after the automation of the above-mentioned production lines and introduction of ergonomic solutions in the manufacturing processes.

The aim

The aim of the research was to analyze the improvement of the process quality management of the woodworking enterprise in the raw material (plank) manufacturing line and the finished product (furniture construction material) manufacturing line by applying the FTA and FMEA methods.

Materials and methods

FTA represents a quantitative method that allows for establishing the unfavourable errors in the operation of equipment or machinery as well as faults in the technological and other processes and determines the causality of the unfavourable event. The method was first used by BELLA Telephone Company in 1862 for the assessment of the likely communication disturbances in the Boeing firm planes of the US air force. Currently the method is used in various branches of economy for the assessment of the frequency of various events and assessment of the probability of accidents, explosions and fire as well as in the quantitative analysis of car safety and similar events [Mearns, 1965].

FTA is a graphical method that depicts in the form of a diagram the possible mutual combinations of technical defects, human errors, natural phenomena etc. that can lead to a specific unfavourable event. The method is based on the establishing of logical connections among elementary events by using the likelihood or probability of separate events (P = 0...1) [Freivalds and Niebel, 2009; Lee et al., 1985].

The analysis is assumed by defining the main unfavourable event and determining the logical connections to powers 1, 2, ...n up to the initiating event. FTA diagram develops by connecting the elementary events of the risk scenario with symbols "and" and "by". In the schemes various symbols are used which are entered in software to make calculations and create a diagram – a tree that envisages the likely sequence of events and priority of particular events.

In the research for the assessment of the likelihood of accidents or faults (for example, stopping of equipment) caused by ergonomic risks in wood-processing the computer software FaultCat [Dehlinger and Lutz, 2006; Burgess, 2009] was used.

In the flowchart the software applies several symbols, for example, the so-called "gates – and, or" which denote the likelihood of events and their combinations under various conditions of inducement [Devore, 2003; Freivalds and Niebel, 2009]:

AND – the gates are used in cases if the initiating event is simultaneously determined by several conditions (for example, they can simultaneously influence the final result) or some event does not significantly influence the final result. In such a case the aggregate probability P is calculated as a multiplication of separate probabilities P_A and P_B:

$$P = PA \times PB \quad (1)$$

OR – the gates are used in cases if the cause of the event (fault) is determined by several mutually independent conditions. The aggregate probability P then is established as a sum of all probabilities $P_{A,}$ P_B etc. or is expressed in the combinations:

$$P = P_A + P_B \text{ or } P = P_A + P_B + (P_A \times P_B);\ P = P_A + P_B - (P_A \times P_B); \quad (2)$$

The basic event (element) is shown with a circle. It characterizes the initiating of the elementary (or starting) event and is used to describe the event that affects the final result and there is no need to look for a further cause.

Undeveloped event is shown with a diamond. It describes the event the cause of which cannot be found for a variety of reasons; there is insufficient information, the information cannot be grounded or it is considered insignificant.

Switch (external event) shown as a house. It is used to describe an event the influence of which is expected from outside; however, it significantly affects the final result.

Intermediary event or final result is shown as a rectangle. It is used to show the sum of all events and their influence on the final result.

The probabilities P which have been used in this research refer to one likely event per day (see Table 1).

Table 1. Probabilities (P) refer to one likely event per day

Events (faults, mishaps) according to 1 accident per day	Probability (P)		P, percentage per year
Every day	360/360 =	1	100
Every second day	180/360 =	0.5	50
Twice a week	96/360 =	0.26	26
Once a week	48/360 =	0.13	13
Twice a month	24/360 =	0.065	6.5
Once a month	12/360 =	0.03	3.0
Twice a year	2/360 =	0.0055	0.55
Once a year	1/360 =	0.0027	0.27
Once in 2 years	1/720 =	0.00138	0.138
Once in 3 years	1/1080 =	0.000926	0.0926
Once in 5 years	1/1800 =	0.000555	0.0555
Once in 10 years	1/3600 =	0.000270	0.0270

FMEA (Failure Mode and Effects Analysis) is used for identifying and prevention of the problems with products or processes before the errors take place and the possible unfavourable effects occur [McDermott et al., 1996]. FMEA can be applied during the raw material (e. g. plank) and product (e. g. wooden table) design or during the process design. The method can also be applied in the enterprise risk (incl. economic, ergonomic etc. work environment risk) assessment procedures.

Any possible error is assigned a degree of risk and the priority which depends on the effects of the influence, the frequency of their occurrence and on how easy it is to discover the error. Thus the task of FMEA is to determine the causes of errors, the significance of the created effects as well as establish the necessary preventive measures to provide for the enterprise efficiency [Kalkis, 2008; McDermott et al., 1996].

Unlike other quality improvement methods, FMEA does not require complicated statistical data processing. The application of the method can provide significant savings for the organization as well as protect against expensive obligations in cases when the product or service has not corresponded to the one promised (for example, the product quality is not sufficient).

The task of the analysis was with the help of FMEA to establish the causes of errors in the processes, the significance of the effects caused as well as determine the necessary measures for preventing the errors in the organization as a whole to provide for efficient quality management in the organization. Within the FMEA analysis also the so-called Risk Priority Number (RPN) was determined. It represents

the total number of points gained by multiplying the value of individual risk (fault severity, occurrence, detection possibilities) points.

The typical elements of the FMEA analyses for which fault severity, occurrence, detection possibilities were determined in the points of evaluation are as follows [Kalkis, 2008; McDermott et al., 1996]:

- Function or product;
- Likely kind of fault;
- Likely effect of the fault;
- Likely causes of the fault;
- Existing management;
- Recommended actions and implemented actions.

RPN was determined before technological improvements in connection with ergonomic risks and after the introduction of preventive measures.

Results and discussion

As we know, manufacturing can be intensified if the productivity of the equipment involved in the manufacturing process is increased. It is usually known by buying and installing new machinery or by introducing new technologies. However, many pieces of outdated equipment, machinery, workbenches etc. are constructed in the way that the basic model can be equipped with modern parts or after their general renovation new aggregates can be installed to improve the technological process [Besterfield, 2004; Freivalds and Niebel, 2009]. Thus, it is possible to prolong the exploitation period of the equipment and certainly reduce the cost of the manufactured products.

The above-mentioned statements, however, do not exclude the appearance of new errors in the process management or errors of the mechanism (this refers also to new equipment) that lead not only to the decrease of the product quality, but also to complete halt of the equipment / machinery. These errors are often related to the human factor. When servicing machinery, a person can be tired from the work overload and as a result errors appear in some operation cycle (for example, feeding of parts etc.). This is often caused by wrong ergonomic solutions at the workplace which in the case of physical strain increases the muscle fatigue of workers, decreases working capacity or even causes occupational diseases related to muscle and skeletal impairments.

A solution to make manufacturing profitable without decreasing the productivity and quality of the work as well as to decrease the likely faults during the operation of equipment is to consider the adjustment of technologies to the physical (including anthropometric and biomechanical) and psychic parameters of the employee. Thus the analysis of the likely errors allows for timely prevention of faults in sophisticated manufacturing systems as well as identification of the processes which require preventive actions due to ergonomic risks at work.

The fault tree analysis by using the FaultCat software was made for two production lines: in the sawing line of timber (beam) – in the process of timber processing and in the furniture production line in the furniture construction element processing and packaging stage. Both of the lines that include various kinds of sawing machinery, cutters, grinders and other equipment must be provided with the parameters necessary for ensuring quality.

Two technological process cycles were studied in each of the lines:

1) “0-cycle” – the technological process is not automated; employees are not provided with safe working conditions that meet ergonomic requirements;
2) “QUAL-cycle” – solutions for increasing quality have been introduced in the technological process (the process is fully or partly automated); ergonomically adequate working conditions have been ensured that meet the physical capacity of the employee and decrease the physical strain during specific operations).

1. Fault tree analysis in the timber (beam) sawing line – in the process of timber processing. During the process of timber processing the cross-sawing circular saw was used for evening the plank ends in which defects were found. The lower part of the cross-sawing circular saw is surrounded by a stand and the blade of the saw is covered by a movable guard with a blocking device; however, it does not have a lock that would keep the guard closed until the circular saw stops. Between the guard and the stand there is an opening through which planks are transported onto the circular saw. The circular saw engine is not equipped with breaks therefore its exploitation, cleaning or changing of the blade presents the risk of injury.

The causes were analyzed which can create accidents as a result of coming into contact with a rotating circular saw blade as well as the likelihood of the occurrence of such accidents. The contact with a rotating circular saw blade can take place if the guard is opened before the circular saw has come to a halt. This may happen if the employee has not been trained (probability P = 0.0014 or once in 2 years), if the work safety instruction is not followed (probability P = 0.0019), if the person has failed to understand the instruction (probability P = 0.006 or twice a year), because the person has been reckless (probability P = 0.0014 or once in 2 years) or due to carelessness (probability P = 0.0027 or once a year).

The annulling of the blocking device of the guard may cause the contact with the blade of the circular saw if the employee has not been informed about it and opens the guard; this might happen once a year. Besides it may happen that the employee slips on a slippery floor (wood chips etc.) or trips over uneven floor cover thus losing his balance and his arms or palm may come in contact with the rotating blade. The probability of such event is P = 0.0041 or approximately twice a year. Besides the usage of the circular saw for the purposes it is not meant for may also lead to injuries. The probability of such event can be evaluated as once in 3 years. The above-mentioned conditions refer to the "0-cycle" of the technological process when the process is not automated.

The graphical fault tree made by the FaultCat software for the "0-cycle" is shown in Figure 1. The software response was P = 0.0136 – errors in the equipment operation that is related to stopping of the machinery and potential injury risk to the employee, possible once in two months.

Figure 1. Fault probability in the 0-cycle of the timber (beam) sawing line

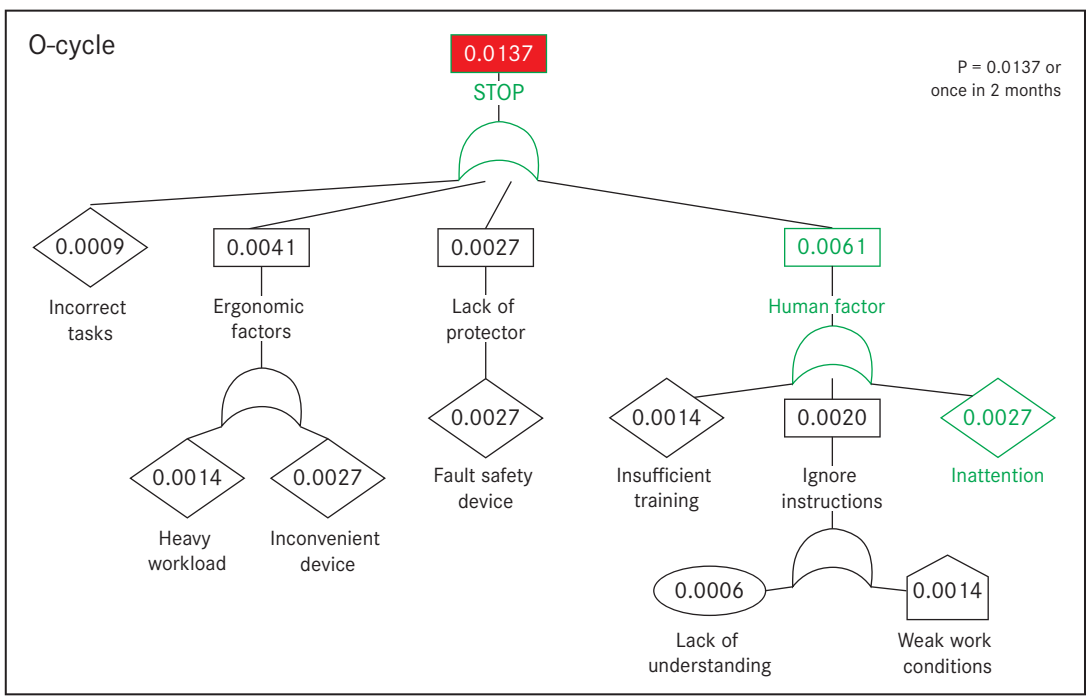


Figure 2. Fault probability in the QUAL-cycle of the timber (beam) sawing line

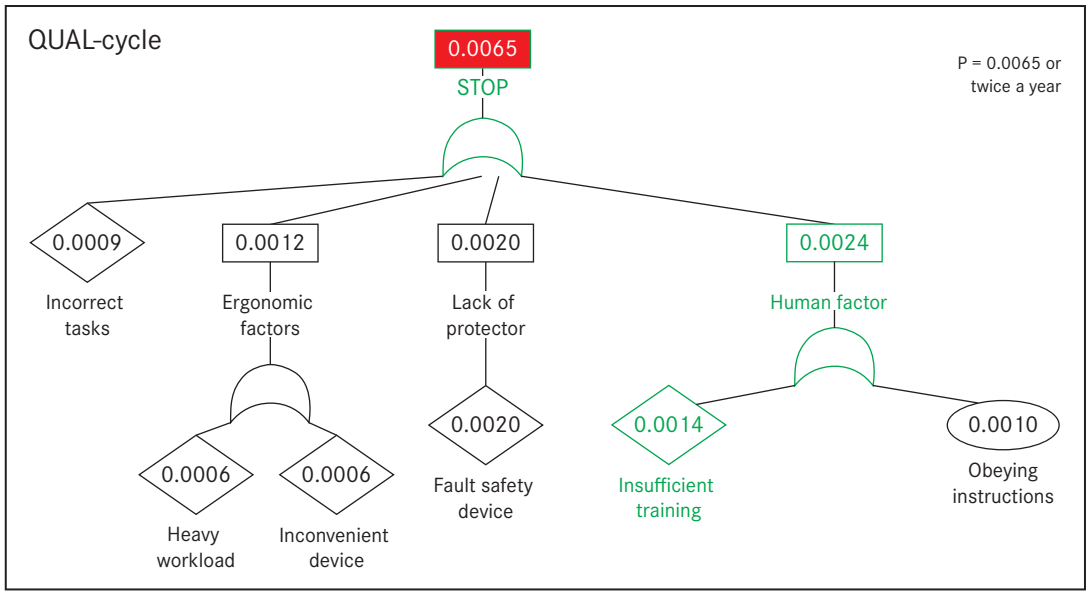


Figure 2 shows the fault tree after investments in the line automation; for the QUAL-cycle which indicates that the probability of faults has been decreased to 2 in a year.

2. Fault tree analysis in the process of the construction element processing and packaging. The following likely errors in the line operation have been determined in the construction element processing and packaging stage in connection with ergonomic risks at work:

- Employee overload due to frequent hand movement (fatigue and pain set in) which starts after a one-week working cycle (P = 0.13);
- Wear of the cutter teeth – once a month (P = 0.03);
- Electricity interruption (external factor) – once in 3 months (P = 0.001);
- Damage of the blocking device of the guard – once a year (P = 0.0027);
- Damage of the edge processing equipment – twice a year (P = 0.005);
- The employee fails to follow the instruction – once in 3 months (P = 0.001);
- Bad ergonomic conditions due to imposed work postures – every week (P = 0.13);
- Falling of construction elements from the packaging surface – once a month (P = 0.03);
- Slipping of the employee on a slippery floor or floor covered with wood dust – once in 2 months (P = 0.0016).

Graphical fault tree designed by software FaultCat for the "0-cycle" is shown in Figure 3. The answer presented by the software is P = 0.293 – errors in the line operation due to stopping of the machinery and possible injury risk to the employee; likely to happen twice a week and the key reason of the errors are the ergonomic risk factors.

Figure 4 shows the fault tree for the QUAL-cycle after the implementation of the quality measures (the line has been equipped with the automatic lifter of parts and other measures have been taken that also reduce human mistakes) as a result of which the fault probability has been decreased to fault 3 times per year. In this case the main cause of the fault is the possible mechanical errors in the equipment operation, including the external factor errors, such as electricity interruption etc.

After assessing the results of the fault tree analysis we must conclude that the likelihood of errors is significantly reduced by decreasing ergonomic risks based on new technologies or specially fitted equipment.

3. FMEA analysis in the lines of raw and construction material manufacturing. During the FMEA analysis the assessment was made in the key processes of the enterprise in the two main manufacturing lines: raw material (plank) manufacturing and the line of construction material manufacturing. The results of FMEA analysis are summarized in the table on the Management of risks and probabilities and they refer to the organization as a whole (see Table 2).

Table 2. Management of risks and probabilities

Function or product	Likely kind of fault	Likely effect of the fault	Severity	Likely causes of the fault	Occurrence	Existing management	Detection possibilities	RPS**	Implemented actions	Severity	Occurrence	Detection possibilities	RPS***
Sawing line of timber (beam)	Machinery:												
	Damaged saw blade	Decrease of product	7	Lack of timely service	8	Poor organization	9	504	Improved service	7	3	5	105
	Damage in board	Engine collision	6	External factor	5	Lack of control	9	270	Quality control	6	3	2	36
	Vibration	Engine collision	8	Lack of timely service	7	Poor organization	8	448	Improved service	8	2	2	32
	Other faults*	Decrease of product	6	Other causes	6	Poor organization	6	216	Quality control	6	3	3	54
	Ergonomics risks:												
	Uneven floor	Injury possibility	8	Lack of service	10	Lack of control	9	720	Improved service	8	4	5	160
	Heavy arm work	Fatigue, illnesses	8	Lack of mechanization	10	Lack of control	8	640	Quality control	8	5	3	120
	Muscles fatigue	Fatigue, illnesses	7	Lack of mechanization	9	Poor organization	8	504	Quality control	7	5	3	105
	Other faults*	Fatigue, illnesses	6	Other causes	6	Poor organization	6	216	Quality control	6	6	3	108
	Production:												
	Dimension faults	Mismatch the standards	8	Lack of mechanization	8	Lack of control	8	512	Improved service	8	5	4	160
	Design defects	Unfit preparation	8	Lack of mechanization	7	Lack of control	7	392	Quality control	8	4	5	160
	Other faults*	Unfit preparation	6	Lack of finances	6	Poor organization	6	216	Quality control	6	5	3	90
Furniture production line	Machinery:												
	Saw wear	Decrease of product	8	Lack of service	7	Lack of control	9	720	Improved service	8	4	5	160
	Hand protector lack	Human injury	8	Poor safety of work	6	Poor organization	8	640	Quality control	8	5	3	120
	Other faults*	Fatigue, illnesses	6	Other causes	6	Poor organization	6	504	Quality control	7	5	3	105
	Ergonomics risks:												
	Muscles fatigue	Injury possibility	8	Lack of service	8	Lack of control	9	576	Improved service	8	6	5	160
	Heavy arm work	Fatigue, illnesses	8	Lack of mechanization	7	Lack of control	7	392	Quality control	8	5	5	200
	Other faults*	Fatigue, illnesses	6	Other causes	6	Poor organization	6	216	Quality control	6	6	3	106
	Production:												
	Dimension faults	Mismatch the standard	8	Lack of mechanization	10	Lack of control	9	720	Quality control	8	4	5	160
	Design defects	Unfit preparation	8	Lack of mechanization	8	Lack of control	8	512	Improved control	8	6	4	192
	Other faults*	Unfit preparation	6	Lack of finances	6	Poor organization	6	216	Quality control	6	6	3	108
							** **Total RPS before technological improvements ("0-cycle")**	**9134**				**Total**	**2444**

* Other possible faults were processed with computer program, which calculates mean point score in specific position

** Total RPS before technological improvements ("0-cycle")

*** RPS after the introduction of preventive measures ("QUAL-cycle")

After the assessment of the modes of errors, error consequences and causes as well as the existing and committed actions during the enterprise optimization, the analysis was made of the equipment, ergonomic risks and production. In establishing the improvement actions the initially determined Risk Priority Number RPN = 9134 was taken into account. It is very high and suggested an urgent need for action both regarding the improvement of work organization as well as necessity of ergonomic measures.

After the implementation of ergonomic measures and technology modernization the RPN was decreased to 2444. It indicates that the implemented improvements have decreased the enterprise risk 3.73 times as the ergonomic risks and errors in the equipment operation were eliminated. As a result, the production volume increased and its quality improved.

Figure 3. Fault probability in the construction element processing and packaging stage – "0-cycle"

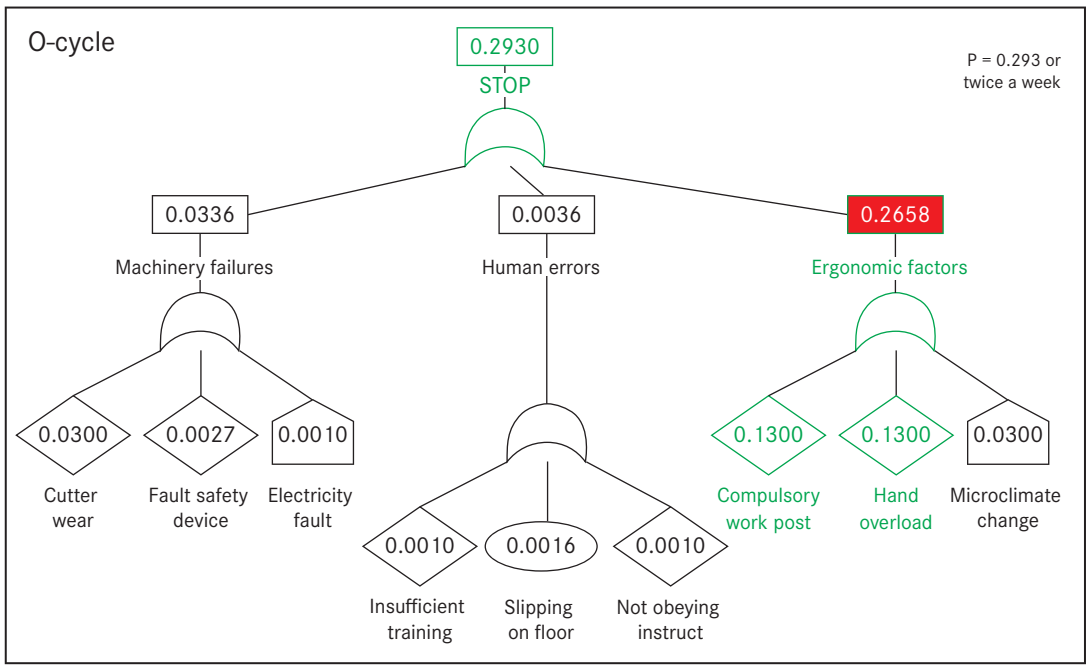
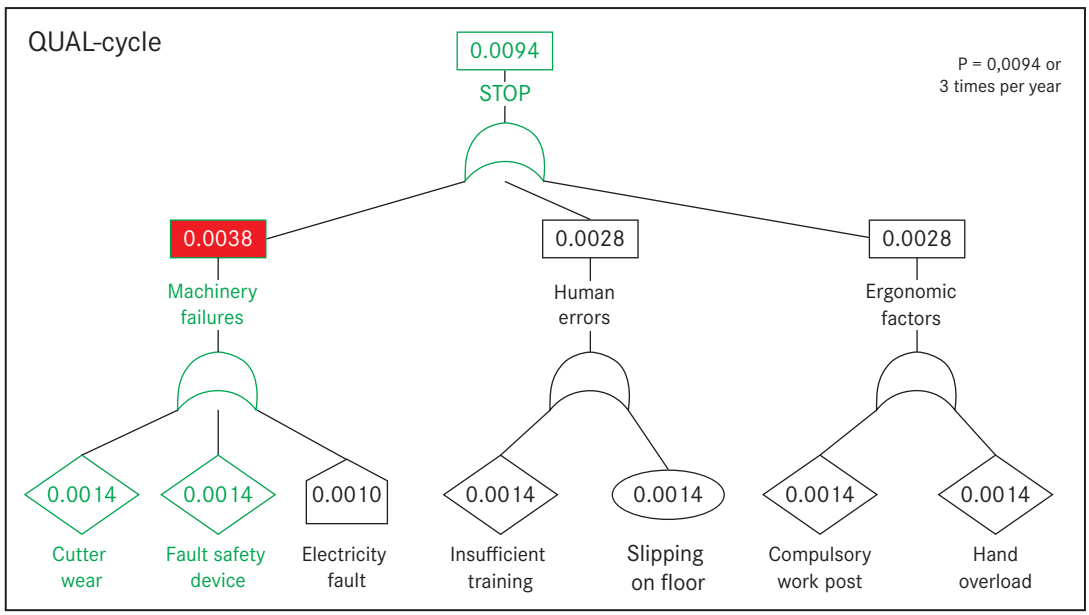


Figure 4. Construction element processing and packaging stage – QUAL-cycle



Conclusions

1. In wood-working industry the methods of Fault tree analysis (FTA) and Failure Mode and Effects Analysis (FMEA) are recommended for using in the identification and prevention of problems in products and processes before the faults take place and the unfavourable consequences arise. The key aim for using those methods is to establish the probability of the occurrence of the key fault by applying analytical and statistical methods as well as by using computer software, for example, FaultCat.
2. After the assessment of the results of the fault tree analysis of the research it must be concluded that the fault probability is significantly decreased by new technologies and ergonomic improvements of work places and equipment. It is suggested by the implemented fault-tree analysis of two production stages: after the process quality improvement in the QUAL-cycle the error probability in the timber (beam) sawing line in the process of timber processing was decreased from once in 2 months to twice a year; however, for the furniture production line in the construction element processing and packaging stage the error probability was decreased from twice a week to 3 times a year.
3. During the analysis of the equipment of raw material (plank) manufacturing and finished product (construction material) manufacturing lines (in the value scale from 1 to 10) regarding the ergonomic risks and products according to the failure mode and effect analysis (FMEA) it was concluded that the Risk Priority Number decreased 3.73 times which led to the elimination of ergonomic risks and faults in the equipment of the above-mentioned lines.
4. The Fault Tree Analysis (FTA) does not impartially reveal the factors accounting for the fault which represents a major drawback as a method of case study. The method allows just for the calculation of the probability of the event repetition and identification of the processes which require preventive action. Consequently, it is useful to apply other methods, such as product and process Failure Mode and Effect Analysis (FMEA), which determine error causes in processes, severity of the consequences as well as the necessary preventive measures for the fault mode prevention in the enterprise as a whole.

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Can Small States Contribute to the Battle against Climate Change in Partnership with International Financial Institutions?

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Abstract

Fifty years ago most of Iceland's energy needs came from fossil fuel. Since then a remarkable transformation has taken place and most electricity and space heating is now based on clean energy. Icelandic energy firms possess considerable experience in constructing and operating both geothermal and hydropower plants. The article discusses possibilities in exporting this know-how to developing countries and participating in energy projects.

Many countries in Africa, Asia and Latin America have large geothermal resources. Transformation to clean energy could be of great benefit to those countries. The future growth in demand for electricity is also likely to be strongest in those regions so this transformation is important in the battle against climate change worldwide.

Energy investments are normally large, capital intensive and long-term. Developing countries tend to have risky business and investment environments that limit foreign direct investment to those countries, including in the energy sector. Those risks need to be mitigated.

The article discusses the opportunities and risks for the private sector to invest in clean energy projects in developing countries. It discusses both the institutional framework for such investments as well as funding and risk mitigation instruments offered by international financial institutions. The article argues that small countries like Iceland can make an important contribution to the fight against climate change in partnership with host governments and international financial institutions if IFIs offer flexible and affordable funding and risk mitigation instruments.

Keywords: climate change, developing and emerging market economies[1], energy investments, international financial institutions (IFIs), risk mitigation.

Introduction

A few decades ago most of Iceland's energy came from fossil fuel, i. e., coal and oil. Today electricity production and space heating is primarily based on clean energy. A fundamental transformation has taken place that has been beneficial for the country economically, environmentally as well as for the nation's health.

The Icelandic energy sector possesses a long experience in exploring geothermal sites, and in constructing and operating geothermal power plants. There is also considerable know-how in constructing

[1] The term "emerging markets" is used in this article to refer to countries with low or middle income according to the World Bank (see, e. g., International Finance Corporation, 2006). This article, thus, uses a broad definition of emerging markets. Several other definitions of the term can be found in popular textbooks on international business (see, e. g.,: Czinkota, Ronkainen and Moffet, 2005; Rugman and Collinson, 2006; Wild, Wild and Han, 2008, and Daniels, Radebaugh and Sullivan, 2007).

and operating hydropower plants (see Annex I). Exporting this knowledge and experience, as well as participating in and sponsoring overseas clean energy investments, could not only benefit the host country[2] receiving technical assistance and/or investment. It could also contribute to the battle against global climate change and become a potential growth area for Iceland.

Many geothermal energy sites in the world are located in emerging market economies of the south (see Annex II). Abundance of clean energy resources could potentially give those countries a strategic advantage in this century and put nations that are now disadvantaged into a favorable position. If wisely utilized, these resources could change the lives of millions of people for the better, increase incomes and people's health, and create a better and cleaner environment for coming generations. The 21st century could become a progressive century for the countries of the south and the success of emerging market countries would not only affect the low and middle income countries in the world, but also rich nations. This is because the battle against climate change is a global issue. It affects everyone; every corner of the world.

Most of the future growth in electricity demand is expected to come from developing countries [Tooman, 2004] and most of those countries are only in the early stages of utilizing their geothermal potential. With modern drilling and engineering technologies, it is now possible to hardness the heat inside the Earth to benefit all.

The President of Iceland Dr. Ólafur Ragnar Grímsson [Grímsson, 2009] has made numerous speeches in international circles about Iceland's achievements in utilizing green energy. In his view Iceland can provide both inspiration and concrete practical lesson that other nations can learn from.

While it is true that there can potentially be benefits for everyone here; individuals, firms, and countries; both rich and poor, a positive sum game, there are also various risks that those involved in energy investments must face. This is especially true in emerging markets that are undergoing economic and political transition and where the business and investment climate is still evolving. Those risks can have serious financial and economic consequences for firms and even countries[3] if not properly dealt with. In every case, those risks must be understood, addressed and mitigated, when necessary and when possible. This has so far largely been forgotten or ignored by Icelandic cross border investors in recent years with severe consequences for Iceland's economy. Many Icelandic political leaders have also encouraged overseas operations and investment without addressing the possible dangers for the economy and its people, should things go wrong. Government institutions have failed in their monitoring of the private sector and not taken preventative actions when the risks taken were excessive. This is especially true for the expansion of Iceland's financial sector.

If one looks at the energy sector, the international community has established international financial institutions that both have funding and risk mitigation instruments designed to meet the needs for investors who enter emerging market economies and engage in large infrastructure projects. Iceland's lack of participation in those institutions that it is a member of is notable and in fact membership has not even been sought in other key IFIs.

The transformation from fossil fuel to green energy resources, including geothermal and hydropower energy, represents both a challenge as well as an opportunity for emerging market countries. Most energy investments happen to be large, capital intensive long-term. Geothermal energy investments also involve high up-front development costs because of uncertainty as to site capacity. This only adds to the risk of such investments.

The public sector in emerging market economies usually has inadequate resources for infrastructure investments, including the energy sector. According to the Asian Development Bank, "only the private sector can provide trillions of dollars needed in the foreseeable future" [Asian Development Bank, 2008]. And Asia is the fastest growing region in the world in terms of economic growth and East Asia is the only

[2] The host country is the country receiving the assistance and /or the investment.

[3] Especially small countries like Iceland when the investments since those investments tend to be large, capital intensive and long term. One failed investment in an emerging market economy could severely affect Iceland's economy.

region showing a healthy economic growth during the current global financial crisis. Even in the fastest growing region there is a need to pool resources from different players. Public, private and donor funds, including international financial institutions need to be utilized. Even if all these sources are pooled, the needs for infrastructure investments are far from being met.

Investing in emerging markets can involve country risks [Meldrum, 2000; Delmon, 2009] as well as project specific risks [Delmon, 2009; World Bank, 2008; IMF, 2003 and 2004]. In discussing some of those risks this article analyzes the institutional framework for Public-Private Partnership (PPP BOT) projects. First the risk that has to do with the offtake purchaser, i. e. the risks involved in selling the electricity of a project to an emerging market government that may not be creditworthy, and second, the risk associated with private sector lending to such projects, including from commercial investment banks. It will then discuss and analyze risk mitigation instruments offered by international financial institutions to encourage private sector investment in emerging market economies [Delmon, 2007, 2009; World Bank, 2009; Asian Development Bank, 2000, 2004 and 2006; and West 1999]. Those risk mitigation instruments include: Risk mitigation instruments (i) to support international private sector lenders (e. g., commercial investment banks) funding infrastructure investments in emerging market economies and (ii) risk mitigation instruments in the event of default of host government when it is the offtake or power purchaser (in this case, the buyer of the electricity produced by the project).

Special attention will be given to Partial Risk Guarantees offered by the World Bank (IBRD and IDA) and the Asian Development Bank, and Political Risk Insurance offered by the World Bank (MIGA).[4] These risk mitigation were, for example, used in a large hydropower project in Lao, Nam Theun 2 [World Bank, 2005, 2009; and MIGA, 2006]. The World Bank, the Asian Development Bank as well as the European Investment Bank and Nordic Investment Bank have provided the author with the information about their involvement in this project.

To make energy transformation possible, it is suggested in the article that international financial institutions may need to offer more flexible, less time consuming and more cost effective tools that can support public-private cooperation in this sector. The limited engagement of IFIs so far in supporting energy sector investments is notable with only modest funding compared with the needs. IFIs need to reconsider their financial products and, in order to leverage more funds, focus more on offering more efficient and effective risk mitigation instruments than traditional funding through loans and equity investments [World Economic Forum, 2006].

Finally, the article will discuss the experience Icelandic companies have had in working with international financial institutions that has so far been limited because the government of Iceland has not sought membership in major international financial institutions and shown limited interest and devoted small resources in conducting the relationship with those IFIs that Iceland is a member of.

Private sector energy investments in emerging market economies and small states

Private sector funding and participation in energy projects can be a challenge for many reasons. One example is when the government is the only buyer of the electricity produced, i. e. it is the so called offtake purchaser or power purchaser[5]. Some countries with large clean energy potential have limited creditworthiness. They have low per capita income and are often going through an economic and a political transition. In such cases the sponsors[6] of a project could hesitate to fund the project because of

[4] The World Bank Group represents five institutions. Those are the International Bank for Reconstruction and Development, IBRD, established in 1944, (ii) the International Development Association, IDA, established in 1960, (iii) the International Finance Corporation, the IFC, established in 1956, (iv) the Multilateral Investment Guarantee Agency, MIGA, established in 1988, (v) International Centre for Settlement of Investment Disputes, ICSID, established in 1966. Four of those institutions issue insurances or guarantees, i. e.: IBRD, IDA, IFC and MIGA.

[5] Offtake purchaser is the purchaser of the product produced by a project. In the case of a power project the product produces is the electricity generated.

[6] A sponsor of a project in a party wishing to develop or undertake a project. A sponsor would normally provide financial support for the project e. g. early equity capital.

the uncertainty with the income steam from the investment made. Lenders, including commercial investment banks, would also often hesitate to provide loans to such projects because of the uncertainty that the project company, whose income stream is at risk, can service its loans. Being an investor from a small country like Iceland only adds to those risks. Small countries can only be expected to have a limited leverage in the event of dispute with a host government in an emerging country that can be a much larger country. A proper institutional framework with efficient and effective risk allocation and risk mitigation can help. On the one hand, the governments of emerging market economies have limited capital they need funding from the private sector. On the other hand, the private sector needs some assurances that it can expect returns from its investment.

One possible institutional arrangement to address this situation is to form a Public-Private Partnership (PPP) and use the Build-Operate-Transfer (BOT) scheme. The PPP becomes a venue for the public and private sector to cooperate on a project that would traditionally have been in the public domain. The BOT arrangement means that the project is transferred back to the government when the concession[7] agreement ends. In this situation efficient and effective risk allocation is the key to success and international community can play a constructive role, e. g. through international financial institutions that can offer a variety of risk mitigation instruments. Among the remedies that small country investors can apply to manage risks is thus partnership with IFIs and / or participation in a consortium with stronger partners.

In September 2005, the World Economic Forum (WEF) issued a report titled "Building on the Monterrey Consensus: The Growing Role of Public-Private Partnerships in Mobilizing Resources for Development." In a press release from the WEF one can find the following statement made by Richard Samans, the Managing Director of the Global Institute for Partnership and Governance at the World Economic Forum: "This report adds to the growing evidence that public-private partnerships are a promising tool that deserves to be taken more seriously by everyone who has an interest in expanding growth and opportunity in developing countries. It builds upon our own growing experience in facilitating partnerships involving our member companies in the areas of health, education, water, energy, information technology and disaster relief" [World Economic Forum, 2005b].

Public-private partnerships build-operate-transfer projects for energy infrastructure projects

Public-Private Partnerships (PPPs) can be a feasible venue to fund infrastructure development and to increase the efficiency of public sector service delivery. Infrastructure projects in the energy sector are often large, capital intensive and long-term. Repayment periods are also often long. It can take a private investor 10 to 25 years to recover the investment and the project returns.

The needs for improved infrastructure in the world are vast. This is especially true for developing and emerging market countries. For example, a joint study conducted by the Asian Development Bank (AsDB), the Japan Bank for International Cooperation (JBIC), and the World Bank and published in 2005 estimated that infrastructure investments needs in 21 developing countries in East Asia would reach US$ 200 billion per year over the next 5 years. The private sector is recognized as a significant financing source for meeting developing country investment requirements, but financial markets remain largely untapped for this purpose and have yet to live up to their potential [Asian Development Bank, 2006; and Asian Development Bank, Japan Bank for International Cooperation, the World Bank, 2005].

PPPs are one venue worth considering for the private sector to engage in infrastructure projects. Private capital, donor support (including IFIs) and public funds can be combined in a PPP project. A well designed policy and institutional framework for PPPs offers the opportunity to leverage and combine all three sources of financing and expertise, without crowding out the private investment. By forming a PPP the public and the private sectors can share the risks and rewards of infrastructure projects.

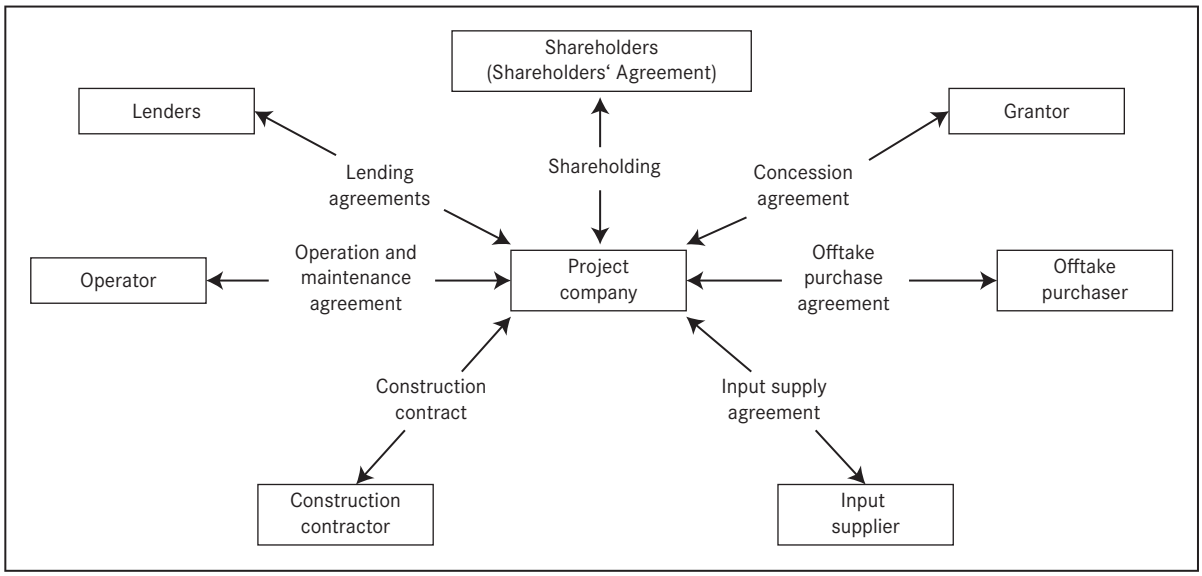
[7] The concession is the right granted by the host government for a private company to undertake a public sector project and operate it over an agreed period of time.

There are many different definitions for PPPs. One definition reads: "any public sector service provided partially or wholly by the private sector" [Delmon, 2009, P. 601]. Another definition states that PPS are "co-operative institutional arrangements between public and private sector actors" [Hodge and Greve, 2009, P. 33]. Yet another definition describes PPP as "the transfer to the private sector of investment projects that traditionally have been executed or financed by the public sector" [World Bank, 2008b, P. 93].

To engage in cooperation, the public and the private sector can employ several different schemes[8] including the so called BOT, i. e. Build-Operate-Transfer [IMF, 2004]. In BOT projects the private sector is responsible for financing, constructing and operating the project. As discussed above, under this arrangement the host country grants a concession, i. e., the right to a private firm to undertake a public sector project and operate it over an agreed period of time. When the concession expires, the ownership of the project is transferred back to the party granting the concession [Delmon, 2009].

The partners typically involved in a BOT project are: the project company that undertakes the project, the host government (that can also be the offtake / power purchaser), the shareholders, the lenders, the grantor, the construction contractor, the operator, the offtake purchaser / power purchaser and the input supplier. Figure 1 below shows a typical PPP BOT contractual structure.

Figure 1. Typical PPP BOT contractual structure [Delmon, 2009]



The project company uses the income stream from the project to service its debt from the project and to pay returns to its investors (i. e., the equity contributors to the project company). The lenders to a BOT project could, for example, be commercial banks, international financial institutions (IFIs) and bilateral agencies (BLAs). The IFIs and the ECAs could also serve as guarantors e. g. for payment to the lenders. The lenders would be keen to manage their risks (i. e., only take measurable and measured risks) and would receive a fixed margin on their loan whereas the shareholders (i. e., the equity holders in the project company) maximize the profits on their equity investment. In addition to obtaining funding for the project, the project company procures the design and coordinates the construction and operation of the project in accordance with the requirements of the concession agreement. Project company shareholders often include firms with construction and operation experience, and with offtake purchase capabilities [Delmon, 2009, P. 98].

[8] Among PPP schemes and modalities in addition to Build-Operate-Transfer (BOT) are for example: Build-Own-Operate-Transfer (BOOT), Build-Rent-Own-Transfer (BROT), Build-Lease-Operate-Transfer (BLOT), Build-Transfer-Operate (BTO).

The offtake purchase agreement secures the project payment stream. The offtake purchaser will be looking for a guaranteed long-term output from the project. The credit risk associated with the offtake purchaser will be of particular concern to the project company and the lenders. This is where guarantees from the host governments or IFIs, including the World Bank, become important.

Critical to the design of PPPs is the way risks are allocated between the partners in the PPP. A general principle is that risk should fall on the party that is more able to do something about it. Risks in PPP tend to be allocated on the basis of commercial and negotiating strength. The stronger party will allocate risk that it does not want to bear to the weaker party. Efficient allocation of risk will generally result in a more successful and profitable project and will benefit each of the parties involved [Delmon, 2009].

In order to minimize the market risk from the project company and the project lenders an offtake purchase agreement, or in case of a power project, a power purchase agreement, may be made. This is to create a secure payment stream which will be important basis for financing the project. The offtake purchaser may also be the grantor, or a government entity such as a public utility, in which case the offtake purchase agreement and the concession agreement may be one and the same document [Delmon, 2009].

The lenders will want the project risks to be allocated to project participants, i. e., the construction contractor and the operator and not the project company who is their debtor.

The project company will enter into a contract with the construction contractor in order to divest its obligations to the grantor to design, build, test and commission the project. Completion risk for the project should be allocated to the construction contractor. In case of turnkey project, completion and performance risk should be on the construction contractor.

If main risks are associated with poor management of the service, shifting the risk to the operator could provide the right incentives to make sure that the project delivers. If risks are related to changes in policies, the government should bear the risk. This is because the project company will not generally be able to manage political risk. The project company will ask the government to bear those risks not necessarily to demand compensation at a future date, but to pressure the government to avoid such risks and to minimize the probability that such risks occur.

International Financial Institutions (IFIs) the host government and risk mitigation

Concerns about investment environments and perceptions of political risk often inhibit foreign investment, with the majority of flows going to a few countries leaving the world's poorest economies mostly ignored. The limited number of investors engaged in risky environments might also be tempted to invest only when quick paybacks are possible. International financial institutions can have an important role to play here and responsibility to offer effective venues and viable risk mitigation instruments. This is especially the case with long-term investments in energy infrastructure.

For large infrastructure projects investors must pay considerably greater attention to political risk management issues. Risk reduction can reduce the cost of funding projects and facilitate longer loan periods. Political risk insurance, especially from multilateral agencies can act as an effective deterrent against host government interference with insured private investments.

Another typical problem in developing countries and emerging market economies is the limited scope for cost recovery. Costumers often have a limited ability to pay for the services rendered and the government is in a weak position to force them to do so. This may result in a diminished interest from private investors.

One solution is for the government to offer a guarantee to the private investor. But what should the government guarantee? Should it guarantee a minimum rate of return for the investment? Here the government needs to be careful as this guarantee represents a contingent liability, and a poorly designed PPP can become a source of liability for the government. If main risks are associated with poor management of infrastructure service, shifting the risk to the investor could provide better incentives to make sure that the project is delivered. But this would not be accomplished if the government guarantees the revenue of the private sector.

Even if it makes sense for the government to provide a guarantee this guarantee may not be meaningful for the private sector if the government is not creditworthy. Here again international financial institutions can play an important role by providing insurance or guarantee to private investor (in some cases, using the government guarantee as a counter guarantee).

IFIs offer a number of financial and risk management instruments that can be useful for Public-Private Partnerships.[9] Those include loans and equity investments and guarantees and insurance against political risk (non-commercial risk).

Among the IFIs active in this area are: (i) the World Bank Group http://www.worldbank.org/, (ii) the European Bank for Reconstruction and Development http://www.ebrd.org/, (iii) the Asian Development Bank http://www.adb.org/, (iv) Inter-American Development Bank http://www.iadb.org/, (v) the African Development Bank http://www.afdb.org/, (vi) the European Investment Bank http://www.eib.org/, and the Nordic Investment Bank, http://www.nib.int/home/.

Key risk issues can be categorized as political, breach of contract by a government entity, market and default risk.[10] Risk mitigation products can attract new financing resources, reduce costs of capital, and extend maturities by providing coverage for risks that the market is unable or unwilling to bare [Delmon, 2009]. Those products can attract more private capital to invest in infrastructure. Examples of guarantee products provided by the World Bank are IBRD/IDA partial risk guarantees (PRGs) and IBRD partial credit guarantees (PCGs), IFC partial credit guarantees and MIGA political risk insurance [Delmon, 2009] (see Annex III). Those risk mitigation instruments allow investors to be compensated in case of certain adverse events and, thus, reduce the risk and project costs.

In case of energy infrastructure projects the World Bank guarantees products such as partial risk guarantees (PRG) and partial risk insurance (PRI) which may serve as a key to success. According to the World Bank, PRGs "cover commercial lenders for a private sector project against default arising from a government-owned entity failing to perform its obligations. PRGs can cover changes in law, failure to meet contractual obligations, expropriation and nationalization, currency transfer and convertibility, nonpayment of a termination amount, failure to issue license in a timely manner, other risk to the extent that they are covered by contractual obligations of a government entity, noncompliance with an agreed dispute resolution clause. PRGs can be provided in both IBRD and IDA countries and require a government counter-guarantee" [World Bank, 2009, P. 10].

Regarding the IBRD/IDA PRGs the investor receives comfort, improved payments terms, and is not liable for loan repayment. Among the strengths of this instrument is increased government commitment to success of projects accompanied with the benefits of an ongoing policy dialogue between the World Bank and the host government. Among the weaknesses are sovereign guarantees required in all cases, cumbersome processing and high transaction costs. The demand for this instrument is mainly limited to PPP and sectors with heavy government engagement [World Bank, 2009, P. 74].

Among the five institutions of the World Bank is also the Multilateral Investment Guarantee Agency (MIGA). MIGA provides guarantees against political risks, i. e. non-commercial risks for investments in emerging markets. It also provides technical assistance and dispute mediation service. Developing countries would hesitate to take measures that would negatively affect projects that MIGA is involved with because of the concern that it could adversely affect their relationship with IDA and / or IBRD and possible credit or loan [West, 1999, Pp. 29–30].

[9] In addition to those services, IFIs often engage in a policy dialogue with the governments of emerging market economies to improve economic policy and management. This includes reforms to improve the business and investment climate for private sector, to promote business activities, and to encourage foreign direct investment. IFIs also provide loans and credits to various government-led projects in developing countries and emerging markets that are subject to international competitive bidding. This allows private sector firms to participate in the bidding process and potentially to benefit from those public sector projects supported by IFIs.

[10] For an excellent overview of the World Bank Risk Mitigation Products, see Jeffrey Delmon Chapter 7 [Delmon, 2009].

According to the World Bank, MIGA "offers PRI coverage to foreign direct investors for any combination of the following political risks: transfer restriction, expropriation, war and civil disturbance, and breach of contract. MIGA can insure direct equity, quasi-equity, non-equity direct, and other investments. The insure debt, however, must have an equity link. MIGA guarantees cover new foreign-currency-denominated investments, including "new" investments to existing investments, investments by private for-profit and nonprofit organizations, and public owned investors and organizations that operate on commercial basis. MIGA can cover any freely usable currency, which may include local currency investments / loans. Under certain circumstances, MIGA can cover investments by local investors" [World Bank, 2009, P. 10].

Regarding the MIGA PRI the investor receives comfort, improved credit terms, mediation services and compensation in the event of loss. Among the strengths are flexible coverage of all PRI risks, main product for equity investments, dispute resolution; minimal time and processing. Among weaknesses are no comprehensive coverage (commercial and political) and lengthy process to change Convention limitations [World Bank, 2009, P. 74].

Given global needs for energy investments and guarantees these instruments have not been used frequently and the amounts are still modest. IBRD/IDA PRG has been deployed in 13 projects with the commitment amount US$ 1.2 billion and 92% for infrastructure projects. MIGA PRI has been deployed in 566 projects with a commitment amount US$ 16.6 billion and 24% for infrastructure projects [World Bank, 2009, P. 68].

The Asian Development Bank (AsDB) and other regional development banks also offer risk mitigation instruments that are important for private investors in emerging markets although they are not discussed in any detail here. The AsDB risk mitigation instruments can, for example, cover breach of contract. For a power project such breach may result from failure by the government-owned entity to make payments in accordance with the power purchase agreement between the independent power producer and the user or distributor [ADB, 2000, P. 2]. Such insurance can be critical for the success of energy infrastructure projects. According to the ADB, the majority of the PRGs that the ADB has provided have been private sector-oriented, including PRGs for public private partnerships (PPPs) [ADB, 2006, P. 5].

The Nam Theun 2 hydropower project in the Lao PDR

Nam Theun 2 (NT2) is a hydropower project under construction in Lao.[11] Lao PDR is one of the poorest countries in South East Asia with weak human capacity, governance, institutions and physical infrastructure. NT2 is an excellent example how public and private sector can form partnership and construct major infrastructure project in energy sector of a developing country with limited creditworthiness with the support from international financial institutions.

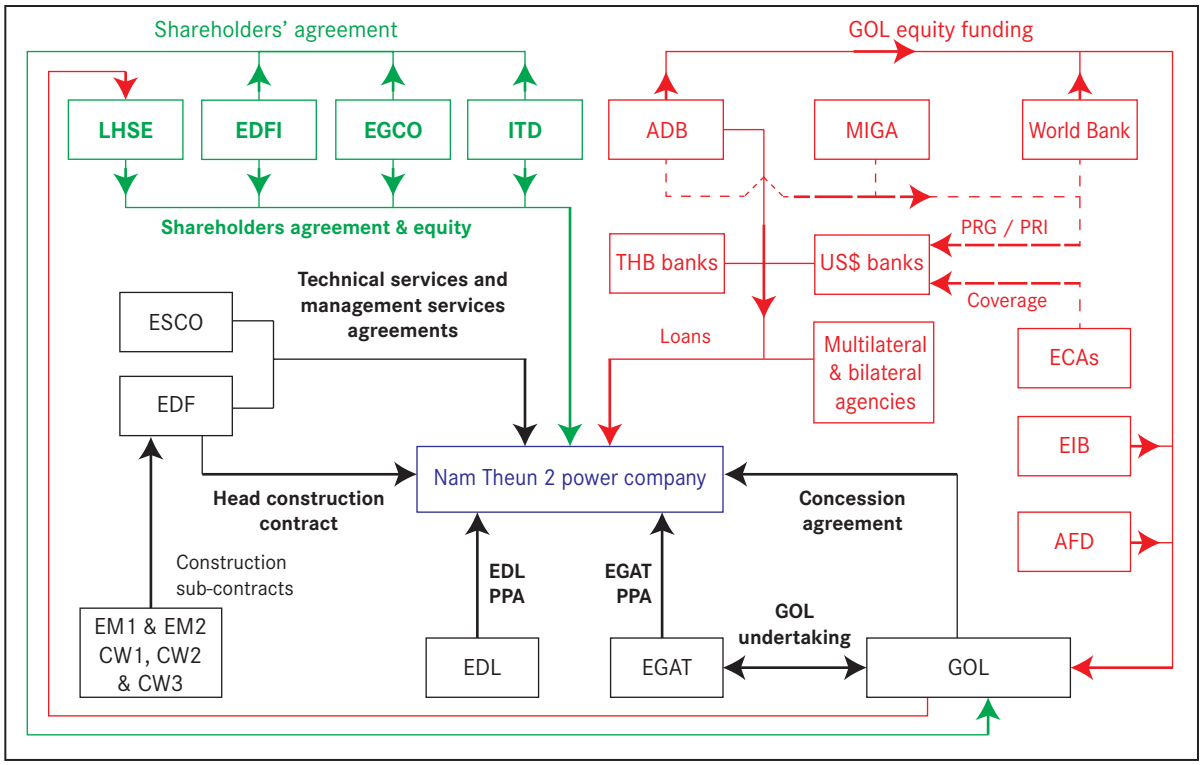
NT2's commercial operations were planned to start in March, 2010. Its estimated costs were US$ 1.25 million at financial close (excluding contingencies), equity 28% (US$ 350 million) and 72% debt (US$ 900 million) (For more detailed information about uses and sources of funds and guarantees in Nam Theun 2 see Annex IV and V).

NT2 hydropower project is being implemented by the Nam Theun 2 Power Company Limited (NTPC). The shareholders (equity holders) of NTPC are**:** Electricite de France International (EDFI) of France (35%), Italian-Thai Development Public Company Limited (ITD) of Thailand (15%), Electricity Generating Public Company Limited (EGCO) of Thailand (25%) and Lao Holding State Enterprise (LHSE) (25%) see Figure 2 below.

Several IFIs provided loans to NTPC and / or guarantees to the private sector lenders: (i) Multilateral institutions including the World Bank Group's, IDA and MIGA, (ii) bilateral agencies, and (iii) export credit agencies (ECAs). A consortium of 16 commercial banks supported the project.

[11] The Word Bank IDA has labeled the Nam Theun 2 project as a BOT project but the World Bank MIGA as a BOOT arrangement [World Bank, 2005; MIGA, 2006].

Figure 2. Nam Theun 2 Contractual Structure*



* This project is an excellent example of a successful leveraging of a multilateral guarantee mechanisms in a difficult business and investment environment. The risk mitigation instruments used by the World Bank Group were IDA PRG and MIGA PRI. The Asian Development Bank (AsDB) also provided a guarantee [World Bank, 2005]

Shareholders' agreement (SA) signed by EDFI, GOL, EGCO, and ITD sets out the rights and obligations of the shareholders, provides for the objective, establishment, management, and operation of the project company, NTPC, and agrees on the Articles of Association of NTPC. The SA has duration of 45 years from signing [World Bank, 2005]. In the concession agreement (CA) the Government of Lao granted NTPC a concession to develop, own, finance, construct, and operate the hydroelectric plant and related facilities, and to transfer the project to GOL at the end of the concession period, i. e. after 25 years [World Bank, 2005].

NT2 is the largest ever foreign investment in Lao and was the Asia Power Deal of Year 2005. The project will be with electric generating capacity of 1070 megawatts. 995 MW of the power will be for export to Thailand and 75 MW will be for domestic use in Lao. The power purchase agreements (PPA) are between NTPC and the Electricity Generating Authority of Thailand (EGAT), and NTPC and Electricite du Laos (EDL).

Head Construction Contract (HCC) was signed between NTPC and EDFI (the head contractor). It is a turnkey, price-capped engineering, procurement and construction contract [World Bank, 2005]. The subcontractors are ITD of Thailand, Nishmatsu Contracting Company of Japan, General Electric of the USA and Mitsubishi-Sumitomo Electric of Japan. The head contractor and subcontractors are all reputable international companies.

International financial institutions played an instrumental role in making this project possible. In fact, the international dollar lenders to the project informed the NTPC that without political risk mitigation they would not be able to lend to the project. The Government of Lao requested the World Bank Group to provide risk mitigation to support the international lending package [World Bank, 2005]. IFI guarantees were the key in lowering the project risk profile sufficiently to attract the commercial financing needed.

Political risk guarantees were provided by MIGA (World Bank) and Asian Development Bank (AsDB). IDA (World Bank) also provided partial risk guarantee (PRG). NT2 PRG is the first IDA guarantee to support hydropower development and is also the first project to use a mix of IDA, MIGA and AsDB guarantees. Debt guarantees were provided from IDA, MIGA and AsDB supporting about US$ 126 million of private financing. Direct loans from IFIs were about US$ 144 million provided to NTPC [World Bank, 2005].

Loans were also provided by the AsDB, European Investment Bank (EIB), Nordic Investment Bank (NIB), Agence Francaise de Developpement (AFD), Proparco and the Export-Import Bank of Thailand. IDA and AFD also provided grants.

Nine International Commercial Banks[12] and seven Thai commercial Banks[13] helped fund the project. In addition, the NT2 project received export credit agency (ECA) support from COFACE of France, Exportkreditnamnden (EKN) of Sweden and Guarantee Institute for Export Credits (GIEK) of Norway.

The Nam Theun 2 project can be viewed as a test case for infrastructure development in the developing world. It is an excellent demonstration of what is possible if public and private sectors, supported by international financial institutions, team up and join their forces. The use of IFI risk mitigation instruments is particularly interesting as it demonstrates how a modest commitment through such instruments can help mobilize much larger amounts of private funding.

The NT2 project, which is the world's largest private sector cross-border power project financing, and the largest private sector hydropower project financing, would probably be too large for participation from Icelandic firms, except if they provided technical assistance or advisory services, or even participated as sub-contractors. Lessons learned from this landmark project would, nevertheless, be a valuable study for all companies that intend to participate in infrastructure projects in developing and emerging market economies.

International Financial Institutions and the effectiveness of their risk mitigation instruments

The effectiveness of risk mitigation instruments offered by IFIs and the performance of those institutions must be under constant review and scrutiny. In 2009 the World Bank Group (WBG) issued a report entitled "The World Bank Group Guarantee Instruments 1990–2007. An Independent Evaluation" [World Bank, 2009]. As part of the evaluation the Independent Evaluation Group (IEG) at the Bank conducted a survey in 2008 to solicit views among its staff about the use and effectiveness of guarantee instruments [World Bank, 2009]. A survey questionnaire was sent to 363 members of staff; 206 responses were received.

Among the things that the survey revealed is that WBG staff is familiar with their own products but not with the guarantee products of other WBG institutions[14] For example, only one-fifth of IFC[15] staff were familiar with IBRD/IDA[16] products. In fact, IFC staff was not familiar with the products of IBRD, IDA or MIGA.

According to the survey, more than 85% of WBG staff felt that the most critical benefits of the WBGs guarantee instruments were enhanced image of financial soundness and improved rates and tenors. Other benefits include WBG's role as an honest broker and securing other investors [World Bank, 2009].

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[12] The international commercial banks were: ANZ Bank, BNP Paribas, Bank of Tokyo Mitsubishi, Calyon, Fortis Bank, ING, KBC, SG and Standard Chartered.

[13] The Tahi commercial banks were: Bangkok Bank, Bank of Ayudhya, KASIKORNBANK, Krung Thai Bank, Siam Ciry Bank, Siam Commercial Bank and Thai Military Bank.

[14] The World Bank Group represents five institutions. Those are the International Bank for Reconstruction and Development, IBRD, established in 1944, (ii) the International Development Association, IDA, established in 1960, (iii) the International Finance Corporation, IFC, established in 1956, (iv) the Multilateral Investment Guarantee Agency, MIGA, established in 1988, (v) International Centre for Settlement of Investment Disputes, ICSID, established in 1966. Four of those institutions issue insurances or guarantees, i. e.: IBRD, IDA, IFC and MIGA.

[15] The International Finance Corporation, IFC, is the private sector arm of the World Bank Group WBG.

[16] The IBRD and the IDA are the public sector arms of the WBG.

It is also notable how few guarantees and insurances have been issued from an institution as large as the World Bank Group. A high proportion of staff felt that changes are needed to improve the WBG's guarantee instruments [World Bank, 2009]. Interestingly enough most WBG staff felt that reducing time and cost of processing guarantees and improving marketing were important for improving WBG guarantees. Furthermore, staff reported that clients proceeding with the project without a guarantee and long processing time were the main reason for dropped guarantee projects. 80% of IFC staff reported the droppings occurred because the cost of the guarantee was too high for the client [World Bank, 2009].

IBRD, IDA and MIGA staff reported that project sponsors / investors most frequently originated the request of guarantees. IFC staff reported that host governments and staff of other WBG institution are least likely to originate its guarantees.

On May 7th, 2008 the Committee on Development Effectiveness (CODE) at the World Bank considered the IEG independent evaluation. Several speakers called for greater collaboration among WBG institutions based on their comparative advantages, and strengthening the coherence of the products offered, including their pricing. They also called for more coordinated WBG efforts for marketing, increased staff knowledge of the guarantee products, and appropriate staff incentives [World Bank, 2009, P. xxviii]. Comments were also made about the need of the WBG to think about a "single Window" for guarantee products [World Bank, 2009, P. xxvi].

One of the most successful projects that have used IFI risk mitigation instruments is the Nam Theun 2 hydropower project in Lao (discussed above). In addition to loans provided by the World Bank, the Asian Development Bank, the European Investment Bank and the Nordic Investment Bank also used guarantees from two World Bank Group institutions, the IDA and MIGA. The instrument used from IDA was a partial risk guarantee and from MIGA a political risk insurance. The Asian Development Bank also provided a partial risk guarantee.

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According to Shivakumar, the key lessons that the Bank needs to draw from this experience is that there is a critical need to reduce the costs (monetary and "intangible") that the private sector incurs in doing business with the Bank. The Bank needs to better understand constraints under which the private sector (and the government) works, including seeking:

- earlier signals to private partners on the Bank's level of commitment to a project;
- a better prioritized, more cost-effective, properly sequenced work program on due diligence;
- more equitable burden sharing of project preparation costs among relevant shareholders; and
- a more collaborative and less threatening relationship [Shivakumar, 2009].

From Shivakumar's assessment the message is clear. For the Bank to be an effective partner, it needs improve its business approach. Currently the Bank is seen as a high cost, high hassle partner of last resort [Shivakumar, 2009].

The ongoing debate about the role of international financial institutions increasingly recognizes the importance of making greater use of the risk mitigation potential inherent in their unique multilateral structure [AsDB, 2006]. The World Erade Forum (WEF)[17] has, for example, argued strongly for IFIs to better use guarantee and risk mitigation instruments and capabilities to attract increased commercial investment in development projects. In 2006, WTF issued a report entitled "Building on the Monterrey Consensus: The Untapped Potential of Development Finance Institutions to Catalyze Private Investment".

[17] The World Economic Forum's Financing for Development Initiative comprises more than 200 global experts from financial institutions, corporations, governments, international organizations, universities, and nongovernmental organizations, who offer their views on improving the effectiveness of efforts to stimulate private sector investment in developing countries.

In this report the Forum specifically asserted that: "..the weight of DFI (development finance institutions) activities should shift over time from direct lending to facilitating the mobilization of resources from the world's large private savings pools – international and domestic – for development oriented investment through:

- wider use of risk mitigation instruments to alleviate part of risk faced by investors ;
- stronger direct support for capacity building to strengthen the enabling environment for investment" [World Economic Forum, 2006, P. 9].

Furthermore, WEF argues that DFIs should "..adapt their services, culture and capital allocation to the imperative of "crowding in" domestic and foreign private investment by placing much more emphasis on such risk mitigation instruments as partial guarantees as transitional strategy and on capacity building" and that "an international consensus has emerged, embodied by the Monterrey Consensus, that a deeper partnership between the public and private sector is needed if we are to achieve common development objectives" [World Economic Forum, 2006, P. 10]. In its final recommendations WEF states that "the overwhelming majority of expert participants in the project recommended a major expansion of risk mitigation activity by DFIs.." [World Economic Forum, 2006, P. 15].

WEF, thus, sends a very clear signal to the international financial institutions, which IFIs are aware of. In its report "Review of ADB's Credit Enhancement Operations" the Asian Development Bank takes a clear note of WEF's views and refers to their 2006 report several times [AsDB, 2006].

While there is a clear need for risk mitigation in emerging markets for sectors like energy sector, it looks like IFIs, including the WBG, have some way to go to make those instruments widely used. IFIs need to do a better job in coordinating risk mitigation activities within the institutions and spend more efforts to market those products and to make them more efficient and more cost effective for private sector by shortening their processing time. Nam Theun 2 might be a special case, but it does demonstrate what is possible if public and private sectors join forces with the support of IFIs. This project, however, has had a long preparation time and its preparation cost was high.

Iceland and the need for partnership with IFIs in developing and emerging market economies

As can be seen from the Nam Theun 2 case and other projects, IFIs can play an important role in developing countries and emerging market economies, not just by lending to projects and through equity investments, but also by mobilizing private sector funding via their risk mitigation instruments. The guarantee and insurance instruments developed by IFIs reduce political risks and encourage private sector to engage in countries going through economic and political transition.

In addition to formal risk mitigation, IFIs can access host country governments at the highest level in the event of political dispute. In the case of Lao and NT2 project the World Bank has an ongoing policy dialogue with the government trough their poverty reduction support program (PRSP). Such dialogue includes discussion and negotiation on policy reform in a number of policy reform areas. Such engagement can help if there are disputes with the government that are disruptive for the project.

Some Icelandic companies have already been preparing investments in geothermal sector in developing countries and emerging market economies. However, those investments looked at during this study are in pre-feasibility and feasibility stage and the limited information provided to the author of this article is confidential thus cannot be published. Very limited information is provided about these projects on the websites of energy companies engaged, i. e., Reykjavík Energy Invest http://www.rei.is/ and Geysir Green energy http://www.geysirgreenenergy.com.

If an Icelandic company invests in energy sector in an emerging market economy under a Public-Private Partnership (PPP) using, for example, the BOT scheme, one could imagine that the company would want to become a sponsor and equity holder in the project company. In this case it would probably need to assemble a consortium of investors who would also become shareholders and provide equity

to the project company. The consortium could include private investors, IFIs (for example, the IFC) and possibly the host government. The consortium would then need to find lenders for the project that could include international private commercial banks. IFIs could also, as in the case of Nam Theun 2, provide debt guarantees to support private financing for the project as well as a direct loan to the project company. Furthermore, IFIs could provide guarantees for credit risk associated with the offtake purchaser since this risk is often of particular concern to the project company and lenders.

In addition to this, one could also imagine that Icelandic companies, with their technical skills and know-how, would want to become contractors (or a subcontractors) and operators for energy project. Providing technical assistance via consulting services is yet another area that Icelandic companies have been involved with and might want to explore further.

The services that IFIs offer in managing risks in emerging markets might be more relevant to Icelandic investors now than they were prior to the international financial crisis and the banking crisis in Iceland. This is especially important with investments in the energy sector where projects are typically large, capital intensive and long-term. If an Icelandic company invests in energy sector in an emerging market economy, it must consider a long-term horizon to receive sufficient return on its investment. The investment contains a higher degree of risk, simply because the company remains exposed to risk for a long period of time. In addition to this, geothermal energy, a sector that several Icelandic companies have been getting involved with, is often located in developing countries which tend to be more risky for investors than developed countries. The profitability of such investments can be influenced by the decisions of the host governments during the lifetime of the projects. This is one important reason for Icelandic companies to work in partnership with IFIs as part of their risk-management strategy.

A small state like Iceland needs strong partners when engaging in long-term capital intensive investments in unstable investment environments. In some cases, the Icelandic government has weak diplomatic ties with emerging markets economies in which Icelandic companies are planning to invest, and in most cases it does not have embassies in those countries. In the event of a dispute, a small country like Iceland does not have the same leverage as large states and partnership with IFIs could therefore be of advantage. Partnership with IFIs could reduce risks both for private sector and the government of Iceland. After the collapse of the three largest commercial banks in Iceland in 2008 there is also a need to rebuild trust, domestically as well as internationally, and cooperation with reputable IFIs could help in that process. Through partnership with IFIs Icelandic firms could also potentially learn valuable lessons on project preparation and management in emerging markets and improve their risk management profile.

The government has devoted limited funding and few human resources towards its relationship with IFIs and Iceland is not a member of key IFIs like regional development banks, the AsDB, the AfDB and the IDB. When Icelandic companies invest abroad their choice of partners is limited. This can weaken their bargaining position vis-à-vis the IFIs that Iceland is a member of. The government should at minimum conduct a feasibility study that would carefully access the costs and benefits of membership in regional development banks, particularly in regions where Icelandic companies are most active. In this context cooperation with other Nordic and Baltic countries could be useful as it has been done at the World Bank Group and the European Bank for Reconstruction and Development.

The government of Iceland could consider devoting more funds to provide technical assistance and know-how transfer to emerging markets. This could be done through trust funds both within multilateral organizations, as well as bilaterally. Greater use could, thus, be made of Icelandic experts to cooperate with IFIs as consultants and for Icelandic firms to prepare cross border investments.

The services of IFIs are not cost free and, therefore, expenses of their financial products and services (loans, advisory services, guarantees, etc) must be weighed against potential benefits. Limited information is available about the terms of loans, equity investments, and costs of insurances and guarantees that private sector projects get from institutions like the IFC. This information is confidential between the investors and the IFC unless the private partner chooses to make it public.

Some examples of Icelandic energy sector cooperation with IFIs

So far, only a small number of Icelandic companies have attempted to work in partnership with IFIs in emerging market economies. Few Icelandic energy companies have, however, showed interest in services offered by the IFC. One example of this was Enex (http://www.enex.is/).

Enex's local experience in geothermal and hydropower field spans nearly four decades. The company was founded in 1969 by several Icelandic geothermal and engineering companies which, collectively, had several decades of experience in the development of geothermal energy and hydropower. In 2001, the company changed its name to Enex and reshaped its main objectives. Its focus shifted toward designing, constructing, operating and financing power plants, both geothermal and hydropower. Since then, Enex expanded its operations into developing new projects and technical solutions in geothermal energy sector. Enex worked on projects in emerging market economies including China, Hungary, El Salvador and Slovakia [Enex, 2008a]. According to its website, some cooperation had already taken place with the World Bank. For example, in 2006 the World Bank (Geo Fund) approved a US$ 3.7 million Geological Risk Insurance for Enex's Hungarian Geothermal Project [Enex, 2006a]. In 2004, Enex worked as a consultant to the World Bank's ECA Region on restructuring Geotermia Podhalanska geothermal power plant in Zakopane, Poland. [Enex, 2008b]. Finally, Enex sought funding from the IFC for a geothermal district project in Xianyang China [Enex, 2006].

In early 2009 the two largest owners of Enex, Geysir Green Energy and Reykjavík Energy Invests reached an agreement on the split-up of the company (Geysir has held 70% of Enex and REI 26%) [Reykjavík Energy Invest, 2009].

Reykjavík Energy Invest (REI) (http://www.rei.is/) and Geysir Green Energy (http://www.geysir greenenergy.com/) have been involved in energy projects in emerging markets. Reykjavík Energy Invest provides some information on its website on projects that are in various stages of development in Djibouti, Philippines and Indonesia [Reykjavík Energy Invest, 2008] and Geysir Green Energy is involved, e. g., in operations in the Philippines and in China [Geysir Green Energy, 2008].

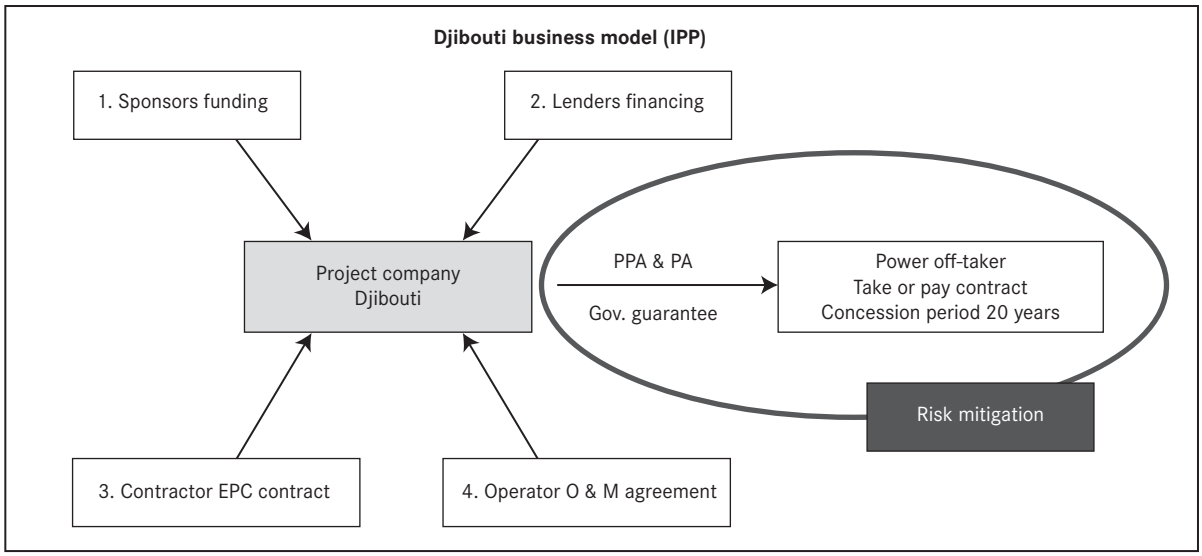
Recently the IFC and Reykjavík Energy Invest signed an agreement for joint exploration and development of geothermal resources in Djibouti in Africa that will help address the country's power shortage and reduce carbon emissions. This is the first project to be funded by IFC InfraVentures, a new US$ 100 million fund that will help develop infrastructure in the world's poorest countries. IFC InfraVentures addresses major constraints to private investment in infrastructure projects, including lack of funds and experienced professionals. It will provide early stage risk capital, feasibility studies, and support on developing financial models and project structures that are commercially viable and able to more rapidly complete financing [IFC, 2008].

For the Djibouti project, IFC InfraVentures will provide 35% of the exploration costs, including full feasibility studies and exploration drilling for the geothermal plant. IFC InfraVentures' contribution is capped at US$ 4 million. IFC InfraVentures will also work with Reykjavik Energy Invest to implement environmental and social standards and mobilize financing from other investors. The two organizations are assembling a consortium of project participants to secure additional funds. This project is a good example of a partnership between an Icelandic company and a private sector arm of an international financial institution in energy sector. However, Reykjavík Energy Invest is not a typical private sector company. REI is the international business development and investment arm of Reykjavík Energy.

According to the IFC, lack of a reliable, secure, and low-cost energy supply is the key barrier to Djibouti's business development, and demand will continue growing rapidly. IFC InfraVentures' investment will help produce at least 50 megawatts of additional power to address demand. The project will help reduce carbon emissions by using geothermal generation as an alternative to diesel power [IFC, 2008].

Figure 3 shows the business model that Reykjavík Energy Invest is considering in Djibouti for a geothermal power plant. According to this model, the risk mitigaiton would be to ensure payment from the power offtaker. This could, for example, be risk mitigaiton from an IFI with the government's counter-guarantee.

Figure 3. The business model that Reykjavík Energy Invest is considering in Djibouti*



* According to this model, the risk mitigaiton would be to ensure paymet from the power offtaker. This could, for example, be risk mitigaiton from an IFI with a government counter-guarantee [Reykjavík Energy Invest, 2010]

Country selection for projects with Icelandic engagement

It seems clear that the demand for electricity will grow in the coming years and decades, and most of that increase will be in emerging markets. It is expected that the world's electricity demand will double through 2030, with the largest increase coming from developing countries [Tooman, 2004]. It has also been estimated that by 2025 developing Asia will consume 2.5 times as much electricity as in 2001. Foreign investment is needed to meet this demand. It is, thus, understandable that Icelandic firms are eager to get involved in this sector and their know-how and technical skills can hardly be questioned.

When Icelandic companies get involved in emerging markets they must manage their risks properly. Working with IFIs is one way of reducing those risks. But there is no guarantee that IFIs will want to work with Icelandic companies in all cases. IFIs tend to be risk averse and at least some Icelandic companies have weak balance sheets after the international financial crisis and the fall of all major Icelandic banks. In addition to this, REI is 100% owned by a public utility Orkuveita Reykjavíkur whose credit rating has been downgraded to Ba1/Stable by Moody's in November, 2009 [Moody's Investor Service, 2009]. One of the largest shareholders of Geysir Green Energy, Glacier Renewable Energy Fund (40% share), was managed by one of the private banks, the Glitnir Bank, that is now Íslandsbanki and is owned by the government of Iceland. While private investors can take risks with their own capital such risks should not be taken by public companies that will send the bill for any losses to the taxpayer in the end. According to the companies website, the board of Geysir Green Energy has, in accordance with its commercial bank, made the decision to decrease the company's debts by selling its assets over the next quarters [Geysir Green Energy, 2009].

As stated above Reykjavík Energy Invest (REI)[18] (http://www.rei.is/) and Geysir Green Energy (http://www.geysirgreenenergy.com/) have been getting involved in energy projects in Asia and Africa. REI in Djibouti, Philippines and Indonesia [Reykjavík Energy Invest, 2008] and Geysir Green Energy is involved, e. g., in projects in the Philippines and in China [Geysir Green Energy, 2008]. What does

[18] Recently the IFC and Reykjavík Energy Invest signed an agreement for joint exploration and development of geothermal resources in Djibouti in Africa that will help address the country's power shortage and reduce carbon emissions [International Finance Corporation, 2008]. However, Reykjavík Energy Invest in not a typical private sector company. REI is the international business development and investment arm of Reykjavík Energy.

the World Bank Group say about the investment and business climate of those countries? The World Bank Group issues a Doing Business report[19] yearly that evaluates the business and investment climate in most countries of the world; the 2009 report, for example, ranked 181 countries on the ease of doing business. The countries that Icelandic energy companies are planning investments in are ranked in the following way on the overall ease of doing business: Djibouti 153, Indonesia 129 and the Philippines 140. According to this ranking, those are not exactly ideal places for firms seeking a favorable business and investment climate. More specifically on protecting investors, Djibouti is ranked number 177. On starting a business Indonesia is ranked number 171 and the Philippines number 155 [World Bank, 2008a]. On Corruption Perception Index out of 180 countries the ranking is displayed the following way: Djibouti 102, Indonesia 126 and Philippines 141 [Transparency International, 2009].

While there certainly are energy resources to be utilized in those countries and investment opportunities that could potentially be profitable and mutually beneficial for Icelandic companies and the host country, there are also pitfalls to avoid, and risks that need to properly be taken into account, and risk mitigation sought when possible and feasible. This is especially important for firms from small states.

When preparing this article, the author interviewed and exchanged emails with several staff members of the Icelandic companies involved. It remains entirely unclear if the IFC or any other IFI has made commitment to support the investment projects in those countries with equity contributions, loans or guarantees. If this is true those companies could be taking excessive risks and employing an investment strategy that is aggressive and unjustified particularly in the case of REI where the owners of the company are public. High up-front development costs should also be avoided by the Icelandic partner unless the host government and the other partners, including IFIs, have formally committed themselves to a fair cost sharing. Icelandic companies, especially those with any government ownership, should avoid making commitments, spending large amounts on feasibility studies and initiating investments without having firm commitment from the host governments and the IFI partners.

Conclusions

The international community needs to marshal its forces in the battle against global climate change. In this battle countries that have been successful in utilizing green energy, and international financial institutions should join forces with those countries that have been less successful.

A small country like Iceland can play a constructive role in sharing its experience in transforming its economy from fossil fuel to clean energy and could be an example for other countries. Iceland could provide both inspiration and concrete practical lessons in this important area.

Most of the future increase in demand for electricity is likely to come from the developing world. This is also where most of clean energy sources are located. Both offer a tremendous opportunity for developing countries, but it is also a challenge, when funding is considered.

To fill the tremendous infrastructure gap in emerging markets, public and private sector need to work in partnership. Such partnerships can be supported by international financial institutions. For large energy projects partnerships pooling public, private and donors funds should not crowd out private sector, instead they offer the potential to crowd in private funds into risky markets that would not get private investment without proper risk mitigation.

The international financial institutions can be an important partner not only with direct funding, i. e., loans and equity investments, but also increasingly through risk mitigation instruments. IFIs need to provide instruments that are more flexible and more cost effective for private sector and with shorter processing time.

Energy companies from Iceland are currently weak financially and need strong partners to engage in emerging market economies. If and when they participate as project sponsors / investors, they should

[19] The Doing Business team has developed 10 indicators to assess the business and investment climate in countries. The 2009 Doing Business report included 181 countries. An extensive database has been developed and several research papers have been written and published to strengthen the methodology used. All this and more is available on the doing business website www.doingbusiness.org. Clearly this work can be useful for those companies who intend to invest in emerging market economies and want to know where the business and investment climate is getting better.

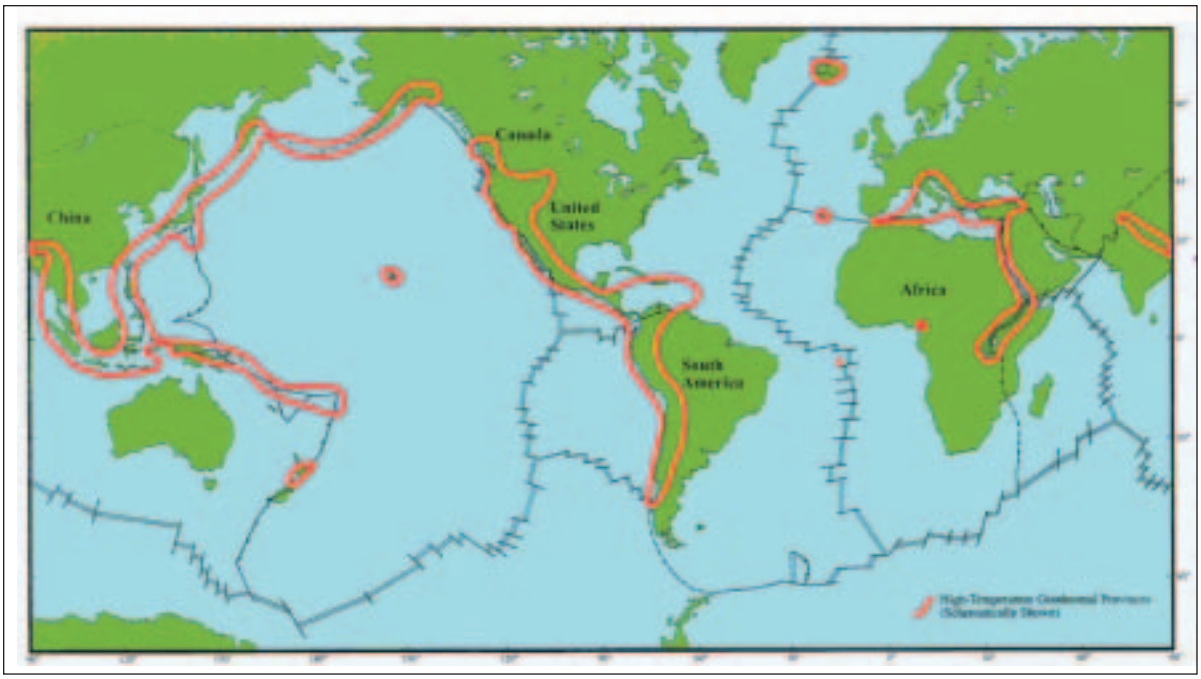
make serious efforts to develop a comprehensive risk identification and mitigation strategy before they engage. This could be done by forming an international consortium with participation of IFIs that Iceland is a member of. New companies in energy sector are also likely to emerge in Iceland that could potentially enter emerging markets.

The government of Iceland should carry out feasibility studies that could help in decision making process of applying for membership in regional development banks. This could help strengthen the bargaining position of Icelandic companies vis-à-vis IFIs and enable them to select from a larger menu of financial and risk mitigation instruments in emerging markets than they presently can. Access to IFIs is even more important for Icelandic companies than for companies from larger countries as Iceland does not have wide representation in emerging markets through embassies and business representatives.

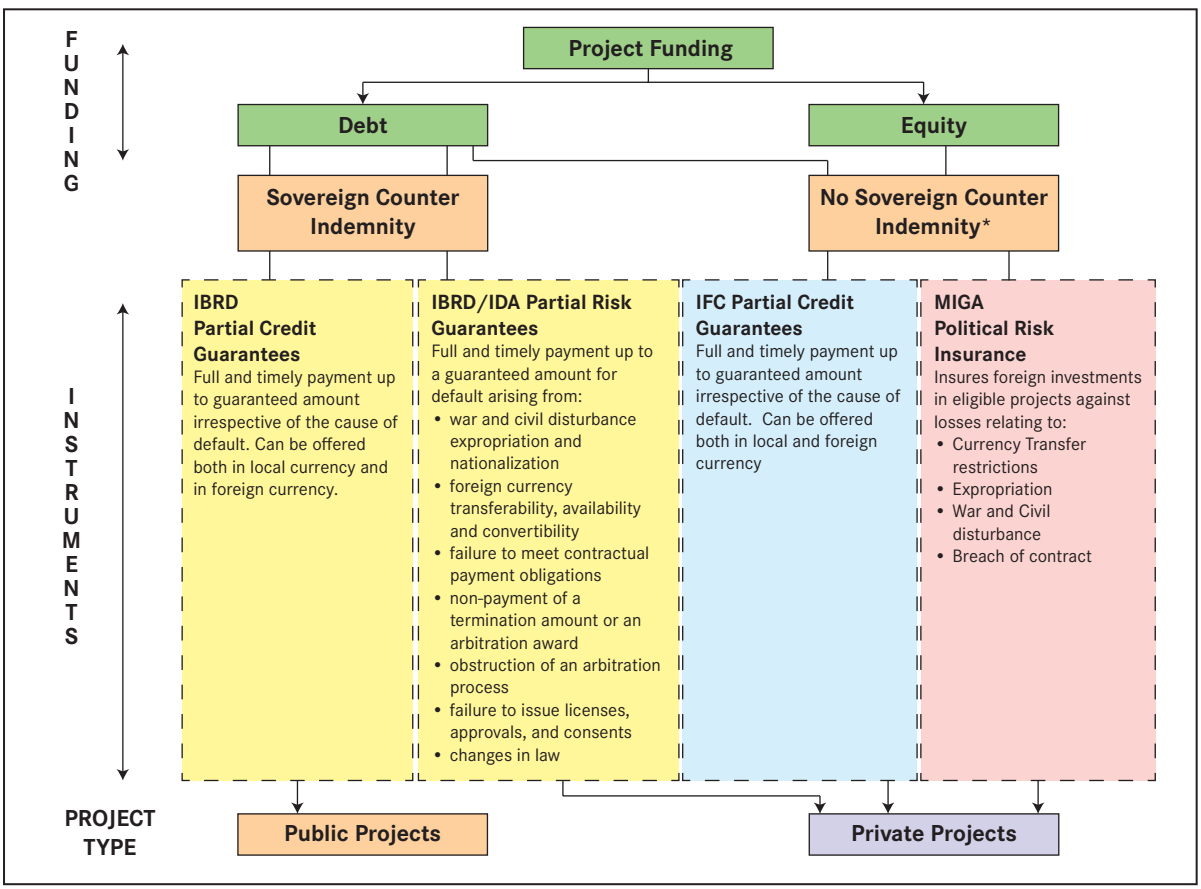
Annex I. The Geothermal and Hydropower Sectors in Iceland [Reykjavík Energy Invest, 2010]

Company	Stations		Hydro	Geothermal	Thermal	Total
Landsvirkjun 100% ownership by the government of Iceland	Hydro	Kárahnjúkar	700			700
	Hydro	Búrfell	270			270
	Hydro	Hrauneyjafoss	210			210
	Hydro	Blanda	150			150
	Hydro	Sigalda	150			150
	Hydro	Sultartangi	120			120
	Hydro	Vatnsfell	90			90
	Hydro	Írafoss	48			48
	Hydro	Laxá	28			28
	Hydro	Steingrímsstöð	26			26
	Hydro	Ljósifoss	15			15
	Hydro	Under development 100 MW Hydro				
	Geothermal	Krafla		60		60
	Geothermal	Bjarnarflag		3		3
			1.807	**63**	**0**	**1.870**
Hitaveita Suðurnesja (HS)	Geothermal	Svartsengi		75	150	225
	Geothermal	Reykjanesvirkjun		100		100
	Geothermal	Under development 50–100 MW Geo				
			0	**175**	**150**	**325**
Reykjavik Energy (RE) 94% ownership by the City of Reykjavik	Hydropower	Andarkill – from 1942	8			8
	Hydropower	Elliðaár – from 1921	3			3
	Geothermal	Nesjavellir – from 1990		120	300	420
	Geothermal	Hellisheiði – from 2006		213		213
	Geothermal	Hellisheiði under construction 90 MW Geo and 400 Thermal				
	Geothermal	Hverahlið under development 90 MW Geo				
	Geothermal	Bitra under development 135 MW Geo				
	Thermal	Reykjavik area			800	800
			11	**333**	**1.100**	**1.444**
Other companies	Hydropower	Samller powerplants	70	0	100	170

Annex II. Geothermal Fracture Zones [Enex, 2008]



Annex III. World Bank Group Guarantees [Delmon, 2009]



* The MIGA Convention requires that the host member country approve any guarantee operation and provides MIGA with certain rights to recover amounts paid out

Annex IV. Nam Theun 2. Uses and Sources of Funds and Guarantees [World Bank, 2005]

Uses of Funds	THB Millions	USD Millions	Total USD Million Equivalent
Development Costs	80	72	74
Environmental / Social Costs	0	49	49
Head Construction Contract	12.847	401	722
Financing Costs	4.271	144	250
NTPC General and Administrative, incl. Working Capital	414	36	46
Pre-operating and Other Costs	568	94	109
Total Base Costs	18.180	795	1.250
Contingencies	0	200	200
Total Project Cost	18.180	995	1.450
Sources of Funds	**THB Millions**	**USD Millions**	**Total USD Million Equivalent**
Equity			
EDFI	67	121	122
ITD	29	52	52
EGCO	48	86	87
GOL	48	86	87
Contingent Equity	0	100	100
Total Base Equity	192	345	350
Total Project Equity	192	445	450
Debt			
Thai Commercial Lenders	20.000		500
Commercial Loans covered by ECA's – Coface, GIEK and EKN		200	200
Commercial Loans covered by ADB PRG		42	42
Commercial Loans covered by IDA PRG		42	42
Commercial Loans covered by MIGA Guarantees		42	42
Thai Exim Bank		30	30
Nordic Investment Bank		34	34
ADB OCR Loan		50	50
AFD		30	30
Proparco		30	30
Total Debt	20.000	500	1.000
Total Project Financing	20.192	945	1.450

Annex V. The Allocation of risks in the Nam Theun 2 Project [World Bank, 2005]

Allocation of Key Risks				
Phase	**Risks / Obligation**	**NTPC Equity Holders, Project Sponsors and Private Participants**	**Lao PDR**	**IDA PRG**
Pre-Construction	Project design	✓		
	Pre-construction works	✓		
	Financing	✓		
Construction	Cost overruns	✓		
	Construction delays	✓		
Operation	Operation and maintenance	✓		
	Tariffs	✓		
	Transmission	✓		
	Hydrological	✓		
	"B-period" tariffs	✓		
Concession Term	Thai Baht devaluation	✓		
	Lao political force majeure	✓	✓	✓
	Changes in Lao PDR law	✓	✓	✓
	Natural force majeure	✓	✓	✓
	Lao expropriation	✓	✓	✓
	Thailand political force majeure	✓		
	Thailand expropriation	✓		

IDA PRG: International Development Association Partial Risk Guarantee covers: (i) Lao Political force majeure, (ii) Change in Lao PDR law, (iii) Natural force majeure, and (iv) Lao Expropriation.

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New Dimensions in the EU Law: the Lisbon Treaty Enforced

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Abstract

The EU legislative history has shown that each time the new treaty is adopted massive changes are taking place in the Union's legal fabric and in the decision-making process. The present Lisbon Treaty (LT), which entered into force at the end of 2009, was no exclusion. The article seeks to provide an overview of the main changes to the EU primary law, describing most vivid reforms likely to affect legislative practice in the Baltics. The article also traces most evident and important for the Baltic States changes in the human right protection, economic and social sectors affected by the Lisbon Treaty provisions.

Keywords: Lisbon Treaty, innovations in legal theory and practice, legal effect for the economic and social development in the Baltic States.

Introduction

The Lisbon Treaty has become the main source of the Union's primary legislation since January, 2010, making the Treaty a basic rule book for the member states' legislators and authorities [1]. The Treaty's numerous provisions will affect member states' competence in various social, economic and financial spheres. For example, new art. 17 in the LT's first part, i. e. the Treaty on the European Union, TEU specifies numerous Commission's competences in streamlining the member states economic development.

Legal changes in the LT cover various spheres of Union's law within the conferral of significant powers by the member states and the Union's institutions. Main directions of such changes can be seen in the LT concerning the EU institutions, decision-making procedures, human rights and fundamental freedoms, as well as the EU's judiciary.

Since the LT's entry into force, several authors both in the EU and outside the EU have already explored the legal changes involved in the Treaty [2].

Institutional changes

Main academic interest of the LT's innovations rests on the important changes in the procedural legislation and the EU institutional framework. It is evident that the LT leads to greater efficiency in the decision-making process, increased democratic accountability (e. g. by more active EP and the involvement of the member states' parliaments) and increased coherence in external policy. These improvements aimed to equip the EU institutions for better protection and defense of the every day's interests of the EU citizens.

The Treaty has created a more stable and streamlined institutional framework: e. g. the LT established two new posts: the President of the European Council elected for two and a half years (Mr. Herman van Rompuy) and the Union's High Representative for Foreign Affairs and Security Policy (Mrs. Catherine Ashton). Besides, the LT modernises existing institutional competences and includes clearer rules on enhanced cooperation, economic and financial cooperation, division of competences, to name a few.

The LT fundamentally changes the EU's institutional set-up, making it seven "EU institutions"; however, the decision-making is still based on the three main: the European Parliament, the Council of Ministers and the European Commission. However, the LT introduces a number of new elements for effective, consistent and transparent functioning of these institutions. At the same time, the LT aims at greater legal simplification and democratic legitimacy; it provides for more efficient decision-making [3].

There are presently, according to art. 13, TEU, seven EU institutions: the European Parliament, the European Council, the Council, the European Commission, the European Court of Justice, the European Central Bank and the European Court of Auditors. Hence, there are two newcomers: the European Council and the ECB. The main changes in the "guiding triangle" (including the European Council) are the following:

European Council. The Treaty, basically, leaves the work of the EU-27 heads of state or government without certain vital coordination, except for the election of its President. That was a much-discussed issue among the EU leaders, which finally materialized "the regulatory impulse" in the election of Belgian politician, Mr. Herman van Rampuy.

The TEU devotes two quite extensive articles to the European Council's general activity (art. 15–16) and two rather short articles in the LT's second part, the Treaty on the Functioning of the European Union and TFEU (art. 235–236) on practical issues in coordination. These articles gave the European Council, for the first time in the EU history, the rank of a full-fledged EU institution.

The Treaty preserves the previously established European Council's role to "provide the Union with the necessary impetus for its development", and defining the EU's general political directions and priorities [art. 15, 1 TEU] and at the same time has restricted the article's text to the definition of the Council's President competences [art. 15, P. 6].

The first Council's President, as the LT suggested, was elected by the EU leaders' in a qualified majority vote "for a term of two and a half years, renewable once" [art. 15, 5 TEU]. The adopted procedure for the President's election actually meant that the big EU states made "final decision" on the choice of the present nominee.

The Treaty separated the President from his "domestic roots", i. e. the Treaty stipulates that the President shall not simultaneously hold a national office. There is no, however, any references as to the President's holding another office within the Union administration (while one can deduce the impossibility of such a presumption due to existing fundamental principle of the Union's inter-institutional balance). As in previous treaties, the Council shall exercise (together with the Parliament) legislative and budgetary functions [4].

The Commission. The Treaty's novelty clauses about the Commission are covered in three articles (17–18) in the TEU and seven articles (244–250) in the TFEU.

The TEU describes the Commission's general competences and that of the new EU High Representative for foreign affairs and security policy (HRFASP); while the TFEU mainly concentrates on the Commission's internal working procedures.

The post of HRFASP or just HR (occupied by Catherine Ashton; she is at the same time the Commission's vice-president, one of seven in total) does not create new powers but streamline the work by merging three previous competences. It is done in order to avoid duplication and confusion. This is expected to allow for greater consistency between the work of the Commission and the EU-27 in developing and presenting agreed foreign policy and external actions on a global scene [5].

The HR creation is one of the major institutional innovations introduced by the LT aimed to ensure consistency in the EU's relations with foreign countries and international bodies.

The HR has a dual role: representing the Council on common foreign and security policy matters and also being the Commissioner for external relations. Conducting both common foreign policy and common defense policy, Lady Ashton chairs periodic meetings of member countries' foreign ministers (the "Foreign Affairs Council"). She represents the EU's common foreign and security policy internationally, assisted by a new European External Service, composed of officials from the Council, the Commission and national diplomatic services [6].

Additional competences are envisaged on the Commission in art. 17 TEU, including: a) promotion of the general interest of the Union, b) guaranteeing application of the Treaties and of measures adopted

by the EU institutions, c) overseeing the application of Union law under the control of the Court of Justice of the European Union, d) executing the EU budget and managing the Union's programs; e) exercising coordination and management of the EU policies, and f) initiating the Union's annual and multi-annual programming.

The Council of Ministers. The Council represents the EU member states' governments and its role has been left largely unchanged in the new Treaty; it continues to share lawmaking and budget power with the European Parliament and maintain its central role in vital EU issues.

However, the TEU refers to changes that affect two Council's configurations, i. e., General Affairs and Foreign and Security policy, FSP [art. 16, TEU, P. 6].

It has been already a practice in the Council during the last decade that the Council's presidency should be held "collectively", i. e. by a group of three member states for a period of 18 months, on the basis of a "common program". Each member of the group shall in turn chair for six months the relevant Council's configuration.

The main change brought by the TL concerns the decision-making process and voting system. Firstly, the main voting method in the Council is now qualified majority voting, except where the TL requires a different procedure (e. g. a unanimous vote). In practice, this means that qualified majority voting has been extended to several new policy areas such as immigration and culture.

After first transitional period, running until October 31st, 2014, a new voting method will be introduced, i. e. double majority voting. To be passed by the Council, proposed EU laws will then require a majority not only of the EU's member countries (55%) but also of the EU population (65%). This will reflect the legitimacy of the EU as a union of both people and nations / states. It will make EU lawmaking both more transparent and more effective. And it will be accompanied by a new mechanism (similar to the "Ioannina compromise") enabling a small number of member governments (close to a blocking minority) to demonstrate their opposition to a decision. Where this mechanism is used, the Council will be required to reach a satisfactory solution between the member states and the EU institutions.

The first Council's rotating presidencies (after LT entered into force) have shown the inherent difficulties for the Council of Ministers to sustain influences, showing the lack of authority for "running the show". It seems that fully abandoning the rotating system in favor of Union's presidency is a question of time.

The European Parliament (EP). As soon as the last EP elections took place in June 2009, several months before the Treaty entered into force, the number of elected MEPs was a subject to Nice Treaty provisions, i. e. 736 MEPs. The increase in the number of MEPs is stipulated in the present LT allowing for 754 MEPs. The EP's Constitutional Affairs Committee raised its support on April 7th, 2010 to a move for additional 18 new MEPs to the present European legislature. Twelve countries sent new MEPs to the EP: e. g. Spain got four new seats, Austria, France and Sweden got two each, while Bulgaria, Italy, Latvia, Malta, the Netherlands, Poland, Slovenia and the United Kingdom have one more MEP each.

The only country to have fewer MEPs under the new treaty is Germany, which has lost three seats, from 99 to 96 (all 99 current German MEPs will continue their mandate until the end of this legislature; then, the number of MEPs will temporarily rise to 754).

The Treaty also recognises the strengthening role of national parliaments. For example, if a sufficient number of national parliaments is convinced that a legislative initiative should better be taken at a local, regional or national level, the Commission either has to withdraw it or give a clear justification why it does not believe that the initiative is in breach of subsidiarity principle.

As to the clarification whether only Union citizens are entitled to vote and stand in elections to the EP, the ECJ noted that (although the Treaties do not expressly define who may vote / stand in the EP elections) the definition "peoples of the member states" had different meanings in different countries and languages. Thus, the Court concluded that, in the current state of the Union's law, the prerogative to decide who is entitled to vote / stand in the EP election rested with the member states' competence [7].

The Court of Justice, CoJ. Changes in the CoJ are dealt with in TEU article 19 and one in TFEU's article 10; these articles contain most changes among the EU institutions involving the EU judicial system.

The first change is about the structure of the EU Courts: in the TEU it is said that the CoJ "shall include the Court of Justice, the General Court (former Court of First Instance) and specialised courts" (so-called "judicial panels", introduced after Nice Treaty). These are important additions to the previous EU Treaties. The second change is about the increase of the number of advocates general by three to eleven with 6 permanent advocates from Germany, France, Italy, Spain, the UK and Poland [8].

However, some European lawyers (e. g., Dougan M., op cit., P. 637) are of the opinion that the EU's basic judicial system has not been significantly modified by the LT; though accepting that the changes in details did take place. For example, the procedures for imposing sanctions upon defaulting member states are simplified in two ways: first, in case when the CoJ finds that a member state has violated its obligations, the Commission would no longer be required to issue a reasoned opinion. Second, the Commission in its initial application to the court on a member state's failure to specify domestic transposition measures would be able to request financial penalty. Then, the Court's jurisdiction will be increased within the Area of Freedom, Security and Justice, which has become an integral part of internal EU rules [art. 40 TEU].

Some changes have been imposed in the CoJ's jurisdiction over actions for annulment [art. 230 and 264, TFEU].

Decision-making. The TL empowers the EP to perform as a co-legislator with the Council. This is a major change in the LT, which improves the democratic legitimacy of the EU in several crucial policy areas.

The EP, together with the Council, adopts framework legislation for implementing the common commercial policy; the EP's consent is required for the ratification of all trade agreements.

New Treaty puts the EP and the Council on an equal footing regarding competences over EU trade policy. In terms of legislation, this means, for instance, that the EP would be co-legislator for the review of the basic Anti-Dumping Regulation, or of the GSP (generalised system of preferences) Regulation.

As for voting rules, the Treaty simplified the existing provisions. Thus, qualified majority voting (QMV) becomes the general rule but unanimity will apply when a trade agreement includes provisions for which unanimity is required for the adoption of the EU internal rules.

On the other hand, QMV will not apply to agreements in the field of trade in cultural and audiovisual services if such agreements risk prejudicing the Union's linguistic and cultural diversity, as well as to agreements in the field of social, education and health services if such agreements risk seriously disturbing the national organisation of such services and prejudicing the responsibility of the EU member states to deliver them.

Qualified majority voting. The Treaty of Lisbon significantly increased (by 44) the number of sectors of 'common interest', where the Council may decide according to qualified majority:

- 24 cases relate to legal bases in the Treaties (which previously required unanimity – area of freedom, security and justice, border controls, asylum, immigration, Eurojust, Europol), proposals made by the High Representative for Foreign and Security Policy at the request of the European Council and the arrangements for monitoring the exercise of the Commission's executive powers (comitology);
- 20 cases concern new legal bases, e. g. on the principles and conditions for operating services of general economic interest, the arrangements for protecting intellectual property, energy, humanitarian aid, civil protection, etc.

The new voting system. The Treaty of Lisbon makes significant changes to the system for calculating the qualified majority within the Council and to the areas to which it applies.

The weighting system for votes laid down in the Treaty of Nice will continue to apply until 31 October 31st, 2014. It means that from the date of LT entering into force (December 1st, 2009 until October 31st, 2014) the definition of QMV, the so-called triple threshold, will be the following: weighted majority of votes from a simple majority of member states representing at least 62% of the actual EU population.

During the second period (from November 1st, 2014 until March 31st, 2017) a new definition of QMV will apply (art. 16, P. 4 TEU), i. e. consisting of at least 55% of member states, comprising at least 15 member states, representing at least 65% of the EU population. At this period, the blocking minority would include at least 4 member states.

Finally, during the third period, as from April 1st, 2017, the new definition of QMV would apply contained in the article 16, P. 4 TEU.

From that date, qualified-majority voting will be based on the previous principle of a double majority (i. e. a majority of the member states and of the population), which will be attained when at least 55% of the member states making up at least 65% of the Union's population vote in favour. A blocking minority must comprise at least four member states; otherwise, the qualified majority will be deemed to have been reached even if the population criterion is not met.

However, during a transitional period (up to March 31st, 2017), a member state may still request application of the weighting system laid down in Article 205 of the EC Treaty. And so, if the Union takes in any new member states between 2011 and 2017, the weighting system will have to be adapted accordingly.

Finally, this system will be backed up by a formal mechanism that allows a group of countries which cannot form a blocking minority to ask for continued discussion of the Council's proposal for a "reasonable time". A group of member states representing at least 72% of the EU total members or 65% of the population needed to constitute a blocking minority can make such a request. From April 1st, 2017, the 75% threshold will be lowered to 55%. Although the Council may amend or repeal this simple majority system, the Treaty states that consensus must first be reached in the European Council.

Legislative procedures. The Treaty provides some simplifications of the EU's legislative procedures. The former co-decision procedure, which was described in the art. 252 of the previous EC Treaty, is retained largely unchanged; though presently it is called "ordinary legislative procedure, OLP".

The Treaty greatly extends application of the ordinary legislative procedure and hence enhances Parliament's powers in taking decision. Besides, the OLP procedure also greatly extended the application of qualified-majority voting.

Another decision-making instrument is called "special legislative procedure, SLP". It is applied only in certain cases specified in the Treaty; the Council may adopt the legislative acts within the SLP alone or, more rarely, by the European Parliament alone, rather than by the two institutions jointly. Thus, SLP-type legislative acts can be adopted by the Council after consulting the European Parliament, or by the Parliament adopted after consulting the Council. This provision requires additional political and professional skills from the MEPs.

The consultation and assent procedures, as provided for in the previous treaties, are brought together under special legislative procedures.

The Treaty, however, pays less attention to the details of SLP and its operation, in contrast to detailed description of OLP. Hence, the need for legislators (both in the EU and the member states) to get to careful analysis of the legislative fabric of the SLP's operation still exists. Thus, for example, SLP is consequently applied in the following areas: a) justice and home affairs, b) EU budget and taxation regulations, c) specific aspects of certain policies, such as environmental measures of a fiscal nature, research and technological development programs, social security and social protection for workers.

Justice, Fundamental Rights and Citizenship: priority areas. For a long time, Europe was striving but not really equipped to act in the interests of citizens in the important areas of justice and fundamental rights. In these areas, the EU has often disappointed the citizens' expectations in the past as to the proper protection of their rights.

The EU-27 member states' justice and internal affairs ministers took the EU decisions and secondary laws behind closed doors; there was no parliamentary oversight in the so-called "third pillar" of the "EU temple", to say nothing about the judicial control by the Court of Justice, which was simply excluded.

With the new Treaty, the situation changed drastically: this means true revolution for the whole field of the Union's justice and home affairs. Hence, the co-decision procedure with the Parliament and

qualified majority in the Council has become the rule for any new EU legislation. Judicial review in these fields is fully available both at the Court of Justice and in the national courts. Most important is that the EU Charter of Fundamental Rights is legally binding, and on an equal footing with the Treaties' other provisions. Remarkable that when the new Commission's college made an oath on May 3rd, 2010 for the first time the Commissioners also explicitly pledged to respect the new Charter of Fundamental Rights.

The urgent task of legalizing policies was mentioned in the Commission's opinion: "this is now the right moment to re-orient our policies. I believe that during the last few years Europe's policies have too often focused on security, and neglected justice. Lisbon Treaty gives an opportunity to bring a new balance into the EU policies to strengthen the citizens' rights and freedoms" [9].

The Charter of Fundamental Rights. The legally binding Charter of Fundamental Rights represents one of the most important LT's innovations. It is a major step forward in terms of Union's political commitment to fundamental rights and the rule of law. It is a strong reflection of Europe's "ever closer unity" drive for common approaches to justice. At the same time, it offers a powerful promise of a better Europe united by law; it represents a modern codification of fundamental rights and it is the clearest expression of the spirit of the Treaty to put justice and the citizens at the heart of the EU politics and activities.

The Treaty also recognises public services as an indispensable instrument of social and regional cohesion. A special interpretative Protocol (No 28) has been included in the Treaty emphasizing the important role of public services in promoting social cohesion and the diversity of these services that may result from different geographical, social or cultural situations. Therefore, there is a wide discretion of national, regional and local authorities in providing, commissioning and organising services of general interest [10].

The Charter sets a solid foundation for all of the EU policies and actions. Several priority areas are important to show the changes in the Europe's policy: the Commission intends to ensure the development of strong procedural rights' guaranteed in the EU, e. g. to ensure an effective and fair application of the EU cornerstone principle of mutual recognition. The Erasmus exchange program is open to legal professionals, including lawyers and judges; it could improve the mutual knowledge of different judicial systems and trust in the EU's legal order. The Commission intends to set an action plan in order to implement the guidelines provided by the Stockholm-2009 program in combining issues of justice and home [11].

Benefits for the Baltics: some examples. The new treaty suggests some positive trends in the Baltic States, such as the right for citizens to "assist the Commission" in making proposals for a new initiative ("European citizens' initiative"), i. e. the "initiative" shall collect one million signatures within three months. Better social protection for citizens through the new status given to the Charter of Fundamental Rights. It envisages diplomatic and consular protection for all EU citizens when traveling and residing, as well as living abroad. Mutual assistance is provided against natural or man-made catastrophes inside the Union, such as flooding and forest fires (so- called "consolidation clause").

Some other benefits include: new possibilities to deal with cross border effects of energy policy, civil protection and combating serious cross border threats to health; common action on dealing with criminal gangs, human trafficking, smuggling people across frontiers and prostitution; common rules to avoid the so-called "asylum shopping" when multiple applications by asylum seekers are made in different EU member countries; creation of the new European External Service, a diplomatic corps of the EU-27 throughout the world, where EU citizens can find assistance even if the member state's embassy is not present; and withdrawal from the Union, e. g. the treaty explicitly recognises for the first time the possibility for a member state to withdraw from the Union.

Conclusion

The EU strategic priorities for the present Commission, up to 2014, represent important social-economic implications for the TL's implementation; they were made out of "general Community's task to progressive integration" [12].

According to the LT requirements, e. g. art 17 TEU, the European Commission adopted its first "legally binding work program" for 2010. Such "working program" reflects the Commission's determination to lead Europe out of the economic crisis and deliver policy that brings direct benefits to citizens. The Commission has agreed on a list of several strategic priorities to be implemented in 2010/2011, more than 500 in total. It tackles issues of immediate concern and sets the policy direction to respond to upcoming challenges, laying the ground for further 5-year's work until the end of the present Commission's mandate in 2014. The program also highlights predictability for the EP and the Council's work; the program sets a direction for the EU in the next decade, as highlighted by its EU-2020 strategy, and the activities for the preparation of the next multi-annual EU budget [13].

At the same time, the Treaty has a positive effect on the EU and the Baltic States internal market development and business activity; in fact, it aims at streamlining entrepreneurship activity. The logic behind these efforts was rather simple, i. e. within the internal market there have to be certain common rules for running business [14].

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5. See: http://ec.europa.eu/external_relations/index_en.htm.
6. More on Commission and High Representative see: http://europa.eu/lisbon_treaty/glance/institutions/index_en.htm.
7. See, for example, such CoJ decisions as: Case C-300/04 Eman and Sevinger [2006], ECR I-8055. As well as Case C-145/04, Spain v. United Kingdom [2006], ECR I-7917.
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9. See: Viviane Reding, Vice-President of the European Commission responsible for Justice, Fundamental Rights and Citizenship, Brussels, 18 March 2010, Brussels (Speech) http://ec.europa.eu/commission_2010-2014/reding/pdf/speeches/consumers_en.pdf .
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Sustainable Development: Dynamics of Environmental Awareness and Environmental Behaviour in Latvia, 2006–2010

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Abstract

The principles of sustainable development provide for balanced ecological, economic and social interests. The support and understanding of the general public is essential to meet these objectives. Such support, on its turn, can be obtained by providing comprehensive and transparent information regarding the issues of sustainable development, initiatives being implemented in this field, as well as the required response of the public to these initiatives.

The present-day world is subject to continuous change and so is the public opinion. These changes may include the shift of attention from environmental problems towards economic problems, changes in the consumption preferences, and in the readiness to adopt ecological behaviour and lifestyle. Therefore, it is of vital importance that regular assessment of the public awareness regarding environmental issues is performed and opinion studies related to the most important environmental risks requiring urgent solutions are conducted. Successful implementation of the programmes and polices related to environmental protection and, consequently, of the sustainable development polices require thorough analysis of the dynamics of public opinions, as this would enable proper adjustment of these programmes and polices.

These days numerous studies are conducted at cross-national, regional and local levels to assess the level of environmental awareness among general public, and to evaluate the changes in ecological consciousness and readiness to act for the sake of environmental protection.

This article offers a review of the recent studies conducted at cross-national and European level in relation to the above mentioned issues and the analysis of the changes in the levels of environmental awareness and ecological consciousness in Latvia. The results of this research illustrate the growing level of public awareness in environmental issues and readiness to adopt "green" modes of behaviour both in Europe and in Latvia.

Keywords: sustainable development, environmental awareness, ecological behaviour, environmental consciousness.

Introduction

The concept of sustainable development takes its rise in various worldwide environmental movements of the previous century and can be briefly described as a new formulation of a long-standing ethics related to human-environment relations and the responsibility of current generation on behalf of those that will follow. Officially it was first defined in 1987 by the World Commission on Environment and Development in its report "Our Common Future" as the development that meets the needs of the present without compromising the ability of future generations to meet their own needs [Bruntland, 1987]. The concept is widely used all over the world since the United Nations Conference on Environment and Development (UNCED) held in Rio de Janeiro in 1992.

Sustainable development is aimed at the provision of general welfare with an opportunity for people to live in a healthy environment, while realizing their potential and abilities. Varied elements of sustainable development are usually dividend into three dimensions: environmental, economic and social, where the environmental dimension can be regarded as the basis required for sustainable development. Economic development should be accompanied by preservation of natural resources and care about maintaining biological diversity on the planet.

Until quite recently public environmental attitudes have not been considered to represent one of the primary factors in the formulation and implementation of polices aimed at the sustainable development. At the same time recent extensive research in the field of environmental dimension of sustainable development most definitely emphasised the role of the involvement of the general public in this process.

Environmental conscience and ecological behaviour is still not exactly a mass phenomenon; therefore, awareness of environmental risks and joint efforts of the society for minimization of these risks is one of the most urgent challenges modern world is facing today. Development of the distribution of information on environmental issues is seen as one of the key tools in the solution of this problem, i. e. promotion of public awareness in relation to environment is another fundamental task of environmental policies. This includes a wide range of individual measures, such as public information, consultations, educational activities, etc.

The necessity of such involvement of general public in the solution of ecological problems is connected, inter alia, with a substantial shift in the sources of environmental risks. Industrial production has ceased to be the main source of pollution, while the process of consumption is gradually coming to the fore. This shift was noted in 1998 in the United Nations Development Program (UNDP), which defined that increase in consumption and an unbalanced consumption structure represents an increasing danger to the environment [UNDP, 1998]. In the light of these changes education in the field of environmental lifestyle complying with the principles of sustainable development and its adoption by the general public is another urgent issue of modern environmental policy.

Provision of comprehensive information regarding environmental risks and problems of environmental protection is essential for the development of environmental consciousness and environmental behaviour. With this end in view it is highly important that the target audience for such information is defined correctly and a sufficient amount and quality of information is distributed regarding current environmental problems, initiatives being implemented to solve these problems, and the existing rules and guidelines in the field. Therefore, it is necessary to gather information about the state of the public awareness, and also about the level of comprehension of information on environmental issues. Surveys conducted for the evaluation of public awareness are an efficient tool to accomplish this task.

The aim

The aim of the article is to study the dynamics analysis of environmental awareness and the public readiness to adopt pro-environmental behaviour in Latvia over the period of 2006–2010, as well as to provide an overview of similar studies conducted both in the world and European countries.

Materials and methods

The methods used in the paper include the analysis of scientific sources and research materials related to the subject of the article and the comparative analysis of quantitative data acquired in the course of surveys.

The method of web assisted personal interviews was used in the survey performed for the purposes of this article.

Results

In 2006 the survey ordered by the Ministry of the Environment of the Republic of Latvia was conducted by the Latvian Market and Public Opinion Research Centre SKDS to evaluate public's environmental awareness and readiness for environmental behaviour in Latvia [SKDS, 2006]. As a result

of representative sampling 1,000 Latvian residents aged between 15 and 74 years were selected. Stratified randomization was used with regional and ethnical strata. The selection was calculated on the basis of the most recent data of the Population Register of the Office of Citizenship and Migration Affairs of the Republic of Latvia.

To investigate the pre-defined research questions a quantitative method – a representative survey through personal standardised interviews at the place of residence – was used. This method enables acquisition of the numerically expressed reflection of the research problem. Questionnaires in Latvian and Russian were used as research tools.

For the purposes of this article, as well as to make it possible to perform a comparative analysis of the dynamics of environmental awareness and readiness to accept environmental behaviour in Latvia the same company, namely the Market and Public Opinion Research Centre SKDS, in April 2010 conducted a repeated survey aimed at the investigation of the level of awareness of the Latvian residents regarding environmental protection in general and specific issues related to environmental protection, as well as the evaluation of readiness of general public to adopt environmental behaviour [SKDS, 2010]. The method of acquisition of data in this survey was based upon the database of the residents registered with the SKDS Web Panel. 1,000 residents of Latvia at the age between 15 and 74 were selected for web assisted personal interviews. This type of interviews is more and more often applied in the studies all over the world [ESOMAR, 2008]. The results of the surveys prove that about 65% of Latvians can be considered Internet users and about 58% of the residents consider themselves active users [SKDS homepage]. Therefore, this group of the population is accessible through the method of web assisted surveys. The selection of this survey has also been calculated basing upon the recent data of the Population Register of the Office of Citizenship and Migration Affairs of the Republic of Latvia.

As it has been mentioned above, one of the issues of both these surveys was related to the level of public awareness regarding to environmental protection in general.

According to the results of the study, in 2006 only 1.8% of the respondents considered themselves to be very well informed about the issues related to environmental protection. In 2010 such view was expressed by 3.0% of the participants of the survey.

23.8% of the respondents in 2006 indicated that they felt themselves rather well informed about environmental protection. In 2010 this answer was mentioned by 41.5% of the participants.

On the other hand, 47.1% in 2006 and 42.3% in 2010 indicated that they are rather badly informed on general issues of environmental protection. 18.2% of the respondents were very badly informed in 2006, but only 7.2% of the respondents in 2010.

9.1% of the respondents in 2006 and 6.0% in 2010 could not answer or found it difficult to evaluate the level of their awareness of environmental protection in general (see Figure 1).

Another question of the studies was related to the evaluation of public awareness about such specific issues of environmental development as the effect of household chemicals on different aspects of human life, the quality of drinking water, air quality, as well as about different initiatives in the field of environmental protection [Kyoto Protocol, Natura 2000 etc.].

The results of the surveys show that in 2006 42.1% of the respondents considered themselves to be well informed in the area of the effect of household chemicals on the environment. In 2010 the percentage of the respondents well-informed in this field made up 53.6%.

As for the effect of household chemicals on human health, 30.4% and 52.4% of the respondents, in 2006 and 2010 respectively, thought they were well-informed about this issue.

Drinking water at the place of residence was indicated in this question by 40.8% in 2006 and by 51.7% in 2010.

The information about the possibilities of collection and utilization of waste at the place of residence was considered to be sufficient by 30.8% of the survey participants in 2006 and by 43.5% of the respondents in 2010.

Figure 1. The level of environmental awareness in Latvia in 2006–2010 (%)

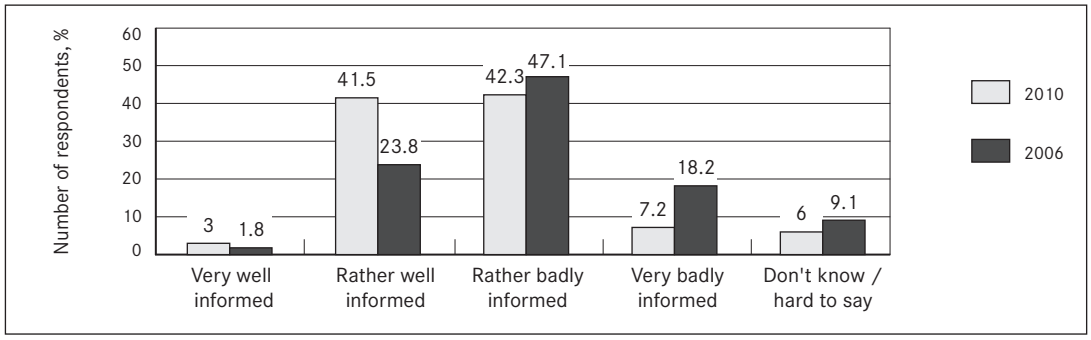
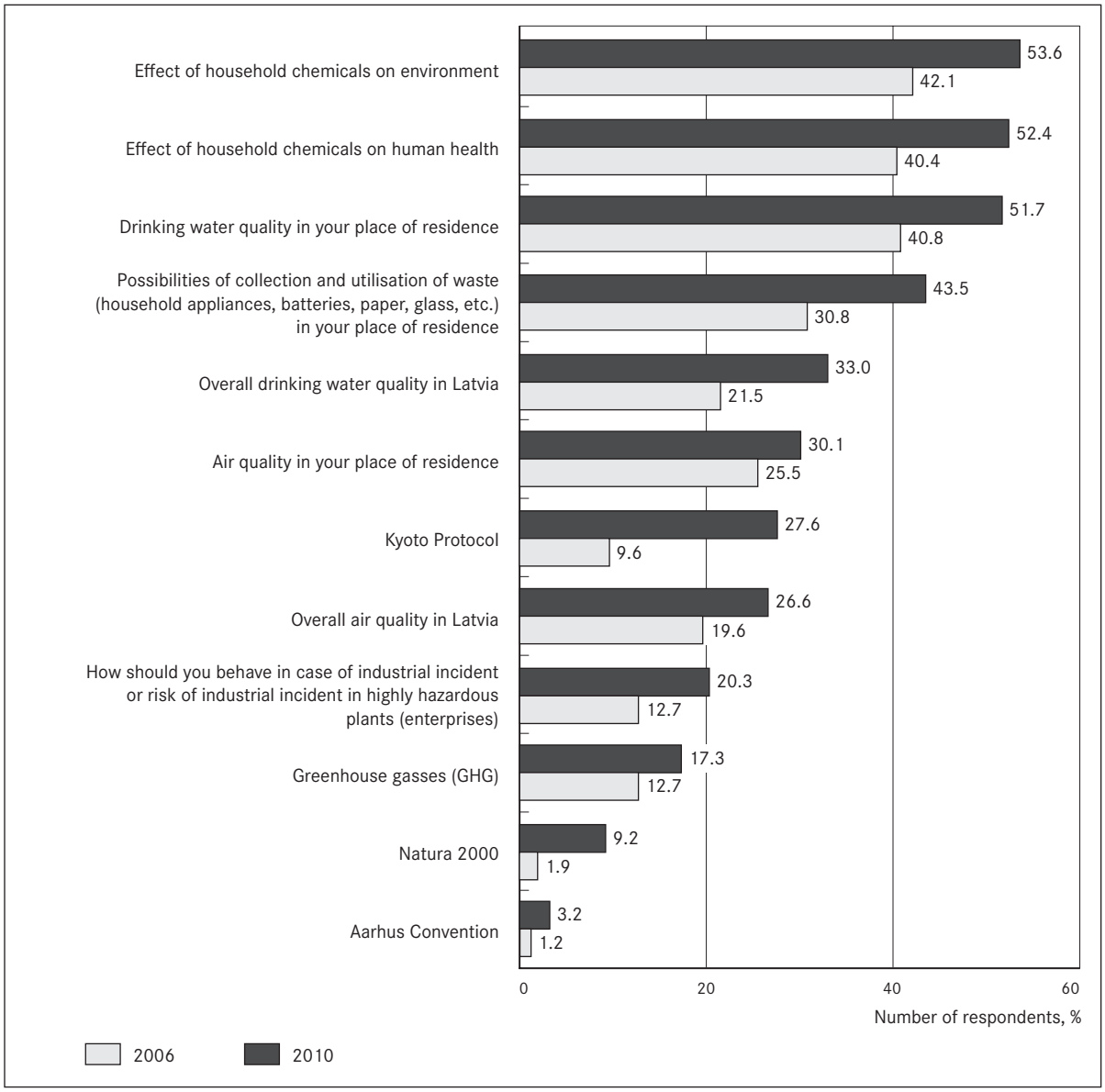


Figure 2. The level of environmental awareness in Latvia by specific aspects (%)



21.5% of the participants of the 2006 study indicated that they feel themselves informed about the overall drinking water quality in Latvia and 33.0% of the respondents indicated this answer in 2010.

Air quality at the place of residence was mentioned by 25.5% in 2006 and 30.1% in 2010.

Another issue, in which the respondents were offered to evaluate their level of awareness, was Kyoto Protocol. In 2006 only 9.6% mentioned that they were informed about it, while in 2010 it was indicated by 27.6% of the respondents.

19.6% of the respondents in 2006 believed they were well informed about overall air quality in Latvia. In 2010 the number of such respondents amounted to 26.6%.

Good awareness of the actions necessary in case of industrial incidents or in case of risk of industrial incidents at highly hazardous plants was specified by 12.7% of the respondents in 2006 and by 20.3% in the 2010 survey.

17.3% in 2006 mentioned that they were well informed about the problem of greenhouse gases (GHG), while in 2010 this issue was indicated by 12.7% of the respondents.

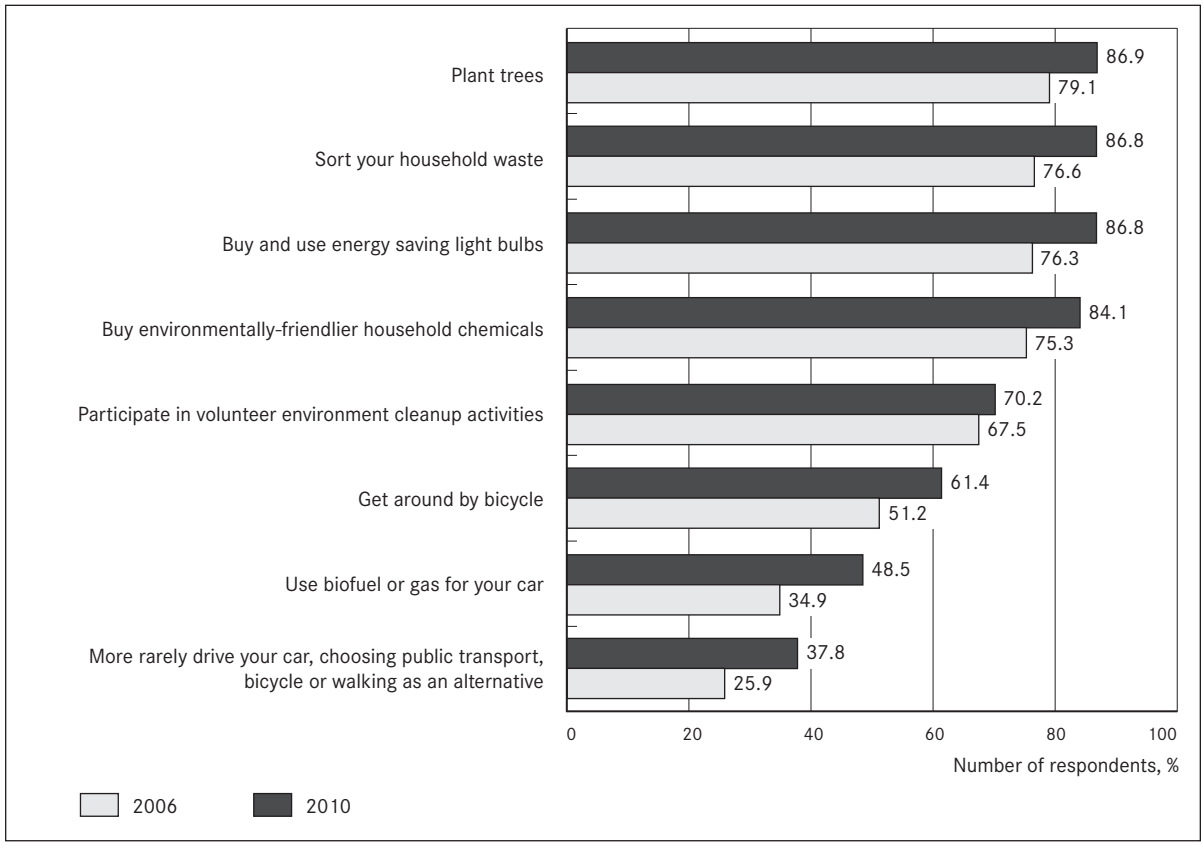
1.9% of the respondents in 2006 and 9.2% in 2010 considered themselves to be well informed about the Natura 2000 network.

Aarhus Convention was mentioned by 1.2% in 2006 and by 3.2% in 2020 (see Figure 2).

Another issue of this research is related to the assessment of the dynamics of the readiness of the Latvian residents to participate in the activities aimed at the improvement of environmental situation (see Figure 3).

According to the results of the surveys performed by SKDS, 79.1% of the respondents in 2006 indicated that they would be ready to plant trees. In 2010 86.9% were ready to take part in these activities.

Figure 3. Readiness of the Latvian residents to adopt environmental behaviour (%)



The readiness to sort their household waste was acknowledged by 76.6% and 86.8% of the respondents in 2006 and 2010, respectively.

Very similar attitude was expressed by the participants of these surveys towards the readiness to buy and use energy saving light bulbs (76.3% in 2006 and 86.8% in 2010).

75.3% of the respondents in 2006 indicated that they would buy environmentally-friendlier household chemicals. This answer was mentioned by 84.1% of the study participants in 2010.

As for the participation in volunteer environment clean-up activities, 67.5% of the respondents indicated their readiness to participate in them in 2006 and 70.2% would take part in such activities in 2010.

51.2% of the respondents were ready to adopt getting around by bicycle in 2006 and 61.4% were ready for these activities in 2010.

Using biological fuel or gas for their cars seemed adoptable by 34.9% of the respondents in the 2006 study and by 48.5% of the participants of the survey in 2010.

Only 25.9% of the respondents in 2006 mentioned that they would be ready to drive their car more rarely and choose public transport, bicycle or walking instead of driving. In 2010 37.8% of the survey participants indicated that they were ready to adopt this kind of activities to make a contribution to improve ecological situation.

These results show consistent growth of environmental awareness both in general and by individual aspects related to the environment. The comparison of the findings of both studies under question also shows the increase in the readiness of the Latvian residents for pro-environmental activities and ecological modes of behaviour.

Discussion

Up to the 1970s coordinated activities in the field of the solution of environmental issues were difficult due to the lack of an international organization which would be engaged directly in the problems of ecology, demography, and natural resources on a global scale. In 1972 the first United Nations Conference on the Human Environment (UNCHE) was held in Stockholm. At this conference a Declaration containing 26 principles related to the environment and development was adopted. One of these principles states that education in environmental matters "giving due consideration to the underprivileged, is essential in order to broaden the basis for an enlightened opinion and responsible conduct by individuals, enterprises and communities in protecting and improving the environment in its full human dimension" [Stockholm Declaration, 1972].

Another great achievement of this conference was the creation of the United Nations Environment Programme (UNEP), based in Nairobi, Kenya. The mission of this specialised international organisation is to provide leadership and encourage partnership in caring for the environment by inspiring, informing, and enabling nations and peoples to improve their quality of life without compromising that of future generations. One of the key functions of UNEP is to assess the state of environment and natural resources on a global scale, as well as inform governments and the public of the results of such assessments. For example, the Discussion Paper of the Seventh special session of UNEP held in Colombia in 2002 defined the tasks for national and local decision-makers in relation to the provision of information and education in the field of environmental protection. It also highlighted the importance of coordination of local and regional strategies, strengthening information infrastructure, supporting initiatives aimed at information disclosure, and the promotion of environmental awareness at all levels [UNEP, 2002].

Along with UNEP many regional and sub-regional organizations, such as the Organisation for Economic Cooperation and Development (OECD), the European Union (EU), the Council of the Baltic Sea States and many others take an active part in solving environmental problems. The tasks of these organisations include raising public awareness in the field of environmental protection and promotion of ecological consciousness with the aim to involve general public in handling environmental problems.

The World Health Organisation (WHO), in its turn, in its programs and initiatives related to the water quality and sanitation, air pollution, chemical safety, etc. also actively supports the promotion of environmental awareness, education and advocacy, development of tools for identification and assessment of environmental risks, and elaboration of measures for informing the public and policy-makers of the results of such assessments and the suggested solutions.

Successful provision of comprehensive information related to environmental risks and environmental protection issues to develop ecological consciousness and promote the adoption of environmental behaviour depends to a large extend on proper determination of the target audience. The role of the policy-makers here is to define this target audience and to ensure the quality and quantity of information to be provided regarding current ecological problems, initiatives put into effect to solve these problems, as well as the applicable standards and rules in the field of environmental protection. The current state of information received by the public, as well as the extent of perception of this information can be assessed effectively through studies and opinion polls. The results of such surveys are used in numerous studies all over the world to evaluate public attitudes towards environmental protection, and to determine the level of public awareness and readiness to act to contribute to the protection of the environment.

Regular opinion polls on environmental protection are being conducted mostly in the developed countries and regions. Most thorough studies of the dynamics of public awareness in this sphere have been performed in the United States since the 60s of the 20th century. Similar studies on the basis of opinion polls in Japan also date back to the late 1960s, when the problem of air pollution in this country has become vital.

One of the cross-national surveys was conducted for UNEP in 1989 by Louis Harris & Associates. This study covered 16 countries all over the world. The results of this study showed that even that time people in most countries believed that the condition of the environment had worsened and realised that this ecological decay had a negative impact on health. The majority of the participants of this study thought that something had to be done to solve environmental problems and that environmental protection had to be among the priorities of any country. The results of this study also illustrated the consensus of opinions regarding the necessity of coordinated activities for the preservation of the environment [Harris, 1989].

In 1992 the Gallup International Institute conducted the Health of the Planet Survey in 22 world countries. This survey included a wide range of questions related to the public perception of environmental problems in the countries with different economic climate and geographical setting. The results of the survey showed minor differences between the developed and developing countries, for example, in the readiness to pay for a clean and well-ordered environment [Dunlap, 1993]. On the other hand, though the developed and developing countries experience similar increase in the consideration of environmental problems among the public, the attitudes towards more specific issues differ. For example, in questions related to the key sources of environmental deterioration the respondents from the developing countries often indicated such factors as overpopulation, incapacity of governments, and lack of education, while the participants of the survey representing developed countries more frequently brought up an issue of personal consumption [ECLAC, 2000]. These data reflect certain aspects of differences in environmental consciousness between the developed and developing countries.

Certain results of the Gallup's study coincide with the conclusions of the abovementioned survey conducted by Louis Harris & Associates. This applies in particular to the tendency of growing environmental awareness, the readiness to make a contribution to the improvement of the quality of the environment, as well as to the common opinion that particular activities are necessary to improve environmental conditions.

In Europe, in its turn, there exists a research service called Eurobarometer, which has been performing regular surveys on behalf of the European Commission since 1973 to assess public opinion on certain issues across the member states. The results of these surveys are published by the Public Opinion Analysis Sector of the European Commission.

In particular, in November – December 2007 the study under the title "Attitudes of European Citizens towards the Environment" was conducted. The key findings of this survey show that European citizens attach great value to the environment and are increasingly aware of the role that the environment plays in their lives. For example, 96% of Europeans indicated that environmental protection is important for them personally.

According to the results of this study, European citizens have environmentally friendly attitudes and are well aware of their own role as individuals in protecting the environment. However, although they realize the need to protect the environment, these attitudes do not always mean the readiness for pro-environmental behaviour and concrete actions.

For example, Europeans are not likely to take actions that are directly related to their lifestyles and consumption habits such as using their cars less or purchasing green products (17% both). This remark is also reinforced by the finding that Europeans rarely see their consumption habits as an environmental concern (11%).

On another hand, 75% of Europeans are ready to buy environmentally friendly goods.

The survey studied also the changes in the public awareness about environmental issues since the previous similar survey conducted in 2004. According to the results of this analysis, the extent to which people feel themselves informed about environmental issues was practically identical at the EU level [Eurobarometer, 2008].

Studies in the field of environmental awareness-building covering the awareness of ecological risks and readiness to adopt ecologic behaviour are performed in individual member-state as well. However, as for the Baltic States, quite few studies have been performed up to the present moment.

The above surveys conducted by SKDS in 2006 and 2010 show a considerable increase in the level of environmental awareness both in general and by specific aspects. Similar increase is also observed in the readiness of general public to act for the benefit of environmental protection.

Conclusions

Considering the results of the forgoing study, it can be said that the public awareness of environmental issues and ecologic consciousness over the past decades has been growing constantly both in advanced and developing countries. People realize that the concern about the quality of the environment has ceased to be a luxury available only for the states with mature economy and that disregard of environmental risks will result in increased costs in the long-term perspective.

However, according to the results of the research related to the attitude of Europeans towards the environment, although the level of environmental awareness among European citizens is quite high, their green attitudes do not always manifest themselves in the readiness for immediate actions and adoption of ecological behaviour. Therefore, the main task is to raise the quantity and quality of information provided to European citizens about environmental issues, to promote proper comprehension of such information and to encourage them to act in compliance with their environmental views.

With reference to Latvia, it is worth mentioning that, according to the results of the surveys used in this research, the general environmental awareness has grown considerably during the past 6 years. However, a great part of the Latvian residents (42.3%) still consider themselves to be rather badly informed about environmental issues. It is also evident that people in Latvia are better informed about the sources of environmental risks and the quality of specific environmental components, while the level of awareness about international initiatives being implemented for the improvement of ecological situation remains at a very low level.

At the same time research data related to environmental awareness in Latvia is quite limited. Therefore, this information does not provide a full picture required for the development of comprehensive measures, programs, campaigns, which would facilitate the promotion of ecological consciousness, both among the general public and the policy-makers in the sphere of environment protection.

Therefore, it is essential for decision-makers not only to work upon raising environmental awareness, but also to ensure regular assessment of the results of these efforts in order to identify the issues

requiring special attention and the target audience for specific activities in this field. The efforts based upon the comprehensive information regarding the extent of environmental awareness and the level of ecological consciousness and, accordingly, focused on a particular target audience would increase substantially the efficiency of the applied legislative and economic tools, as well would prompt people to more actively participate in the activities related to environmental protection, preservation of the natural resources which, in turn, would facilitate the achievement of the goals of sustainable development.

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The Evaluation of the Role of Appearance for Adolescents in Interaction with Peer Groups as Socialization Agents

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Abstract

Adolescence is an important stage in creation of the individual's identity, as this is the age when a general vision of the world and rather abstract behaviour criteria start forming. Empirical information is part of the research on the socialization problems of vocational education students. The aim of the research: to find out the impact of peer groups on the image-creation of adolescents and the role of appearance/ image in social relationships. The subject of the research: vocational education students. The method applied: survey. According to the analysis of the survey, the role of the dressing style (including the choice for colours) is self-reflection to other individuals, thereby both creating and restricting social relationships. For some part of vocational education students their appearance is a tool, in the best scenario, to create and maintain their identity in a society. In order to create the required image, adolescents commit to actions that may cause physical pain, e. g., piercing or tattooing. In addition, the dressing style defines the interaction among adolescents that is based on emotional aspect. The impact of subculture (goths, rappers, macho girls, etc.) is observed among other adolescent socialization elements as an alternative to traditional views of society. There are many contradictions in the adolescent age because the individual wants to differ from others and at the same time be alike them, tries to individualize and simultaneously be part of the team etc., thus it is significant for adults who contact adolescents daily to understand their typical behaviour, considering the fact that time runs rapidly and it is just a transition period to the next stage.

Keywords: adolescents, image, peer groups.

Introduction

In every society there have always been social relationships that are based on interaction. The relationships may be either among individuals within a group or between an individual and a group. The social relationships can be affected by several factors. One of the primary factors that makes the greatest impact on social relationships and the attitude of individuals towards each other is appearance, an integral part of which is a dressing style. Depending on a certain dressing style of the individual, relationships turn to be either positive or negative. A great example of this is adolescents who represent different dressing styles ranging from combination of subcultural to various styles. Clothing for adolescents is one of the means to communicate their identity and demonstrate their unique personality to others. In addition, it is also one of the factors to compare themselves with their peers. Besides, adolescents are extraordinarily sensitive to the opinions of their peers. Even the slightest details about their appearance may cause a great problem.

There are so many contradictions during adolescence than any other age group faces. An adolescent strives to differ and to be like others at the same time. He tries to be an independent individual, but at the sam time he wishes to be a member of the peer group, which he is sometimes totally dependent on. Adolescence is the transitional period between the childhood and adulthood. It is alternatively called as youth age which begins around the age of 11 and lasts to 18 or even 20 years of age [Jilesen, 2008].

Peer groups as a socialization agent during adolescence play a significant role, which in sociology are defined as "primary groups" (within which the individual is loyal to common group standards and where certain discipline rules, etc.) Such groups are extremely essential in socialization. They are characterized as a close co-operation among individuals within which trust prevails, thus the common mood is based on attractions, which is best characterized by the personal pronoun "we" [Cooley, 1966].

The influence within peer groups is based on common activities, mutual help and understanding among adolescents. At this age a great deal of time is spent among peers; solutions of problems are searched for, etc. Besides, peer groups are formed spontaneously on the base of mutual attractions [Jilesen, 2008]. From the perspective of an individual, socialization is a process through which the individual's identity and sense of belonging to the social system where we operate develops [Johnson, 2000]. The identity can be explained as a sense of 'I' stability and continuity which forms through dialectical development and mutual communication [Cooley, 1964], as the social environment and the social structure affect the individual's personality in the socialization process [Lempert, 2006]. Personal development is possible just through social interaction [Veith, 2008]. The issue is about the power of socialization to affect feelings, mind, appearance and behaviour of the individual as there are numerous variations how it actually happens and what results it brings [Johnson, 2000].

The aim

The aim of this research is to find out the impact of peer groups on image-making of adolescents and their opinion of the role of appearance in creation of social relationships.

Materials and methods

Empirical information is part of the research on socialization problems of vocational education students. As the research object a group of vocational education students was chosen. The method applied – survey. The survey contained "open" type questions so that the respondents could expand their views on their choice of dressing style, peer opinions of their dressing style, explaining the choice of certain colours in their outfit and relating it to their behaviour. The research was conducted from September, 2008 to May, 2009. The shortlist of respondents involved in the research comprises 220 first year vocational education students from Riga (Latvia), aged 15 to 16. Riga, as a location for the research, was chosen because the capital presents more varied and open social environment for adolescents' self-expression in comparison with towns and rural areas. 230 learners make up approximately 95% of the general set, i. e. the learners of the education programs related to tourism and hospitality services. The first year students were chosen as after their primary education they have started their studies in other education establishments, i. e. secondary vocational schools, and thereby are involved in creation of new peer groups. According to the author's experience, during this period learners try most to emphasize their identity through their appearance, thereby winning and stabilizing their positions in peer groups. Besides, the above mentioned education programs already in the first year include practice in hotels and tourist agencies where the appearance plays a significant role in communication with customers. Respecting the principle of confidentiality, the name of educational establishments where the research was conducted is not mentioned.

Results

The answers to the question why they have chosen the particular dressing style provided by respondents can be divided in two groups. 68% of the respondents admit that they and their friends share the same dressing style whereas 32% consider that they dress the way they like and are not influenced by others. See Figure 1.

More than two thirds of the respondents acknowledge they have the same dressing style, which can be explained by their wish to belong to a certain group, i. e. a group of friends, emphasizing it with their appearance. The individual uses the group as an example according to which he carries out self-evaluation. Typical responses that prove having the same dressing style as his friends:

"If I dress in another way, I'll be excluded from my group of friends..." (Male, age 15); *"Both my friends and me have a similar dressing style. We learn from each other to match clothes to different accessories"* (Female, age 16); *"Well, I've got an earring and piercings, including in my tongue. I couldn't eat. The cook*

in my previous school used to do her job very well. At the time I was eating and pulled my face because of the pain I felt in my tongue, it felt like a lump, but the cook thought I didn't like the food. It took some time to get used to it. Once I took a piercing off my tongue and it felt so light that I could hardly control it. Then I put it back. I'm involved in a metallist group and my friends are metallists. If I don't look properly, I'll be kicked out of the group" (Male, age 16); *"I like the way I look – black clothes, hair and with many piercings on my face... My friends look the same and I like it. Besides, I can see the same in magazines. It's up-to-date"* (Female, age 16).

Around one third of the respondents consider that they dress the way they like and their dressing style is not influenced by others. Such result can be explained either by protest against the group rules or stable development of the individual's identity regardless of social environment changes. The most common responses are: *"I don't care what others might say, I dress the way I want and behave the same way"* (Male, age 16); "*I wear what I feel comfortable in*" (Female, age 16); *"I've got just one piercing – in the tongue which I don't show to anyone. Why should I? Well... I've had it for several years, jut for me, I like it so and I don't want to get rid of it. Let it be where it is..."* (Male, age 16).

After summarizing the responses regarding the issue whether their dressing style is influenced by the opinions of their peers, three categories can be distinguished. 72% find their peers' opinion important, 21% find it insignificant, and 7% do not pay attention to it. The data have been summarised in Figure 2.

Most respondents find it important what their peers think of them. What is more, adolescents are extraordinary sensitive to the opinions of their peers. It is probably important for the respondents whether the belonging to the certain group is accepted by others. The most common answers include:

"I care what others think, I always want to look great" (Female, age 16); *"I had 'tunnels' made in my earlobes for earrings just a few days ago It's painful! I've got piercings in my lip and tongue. I haven't got any problems when washing or eating, as it's possible to get used to everything. I'm doing this because once there was a guy from my former school who loved everything I did. He used to copy me as well. He listened to the music I liked at the time. I wear black because I like it. It's not a mourning colour, grey is. I'm not involved in any group but I care what others think of me. I like when someone wants to look the same as me, besides, I'd like to have many friends... Earlier I used to belong to a footbal team, I would sit on the reserve bench in a cold hall the whole day and after the game be beaten up. I'm quite pesimistic about the future. I can achieve nothing"* (Male, age 16).

Figure 1. The opinions of the learners of their choice for their dressing style

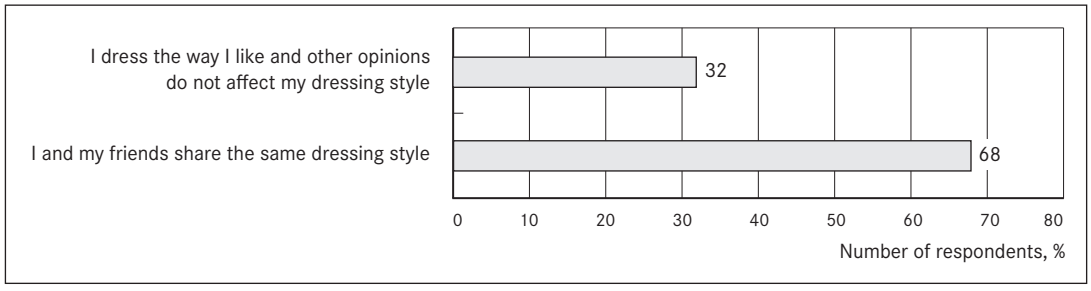
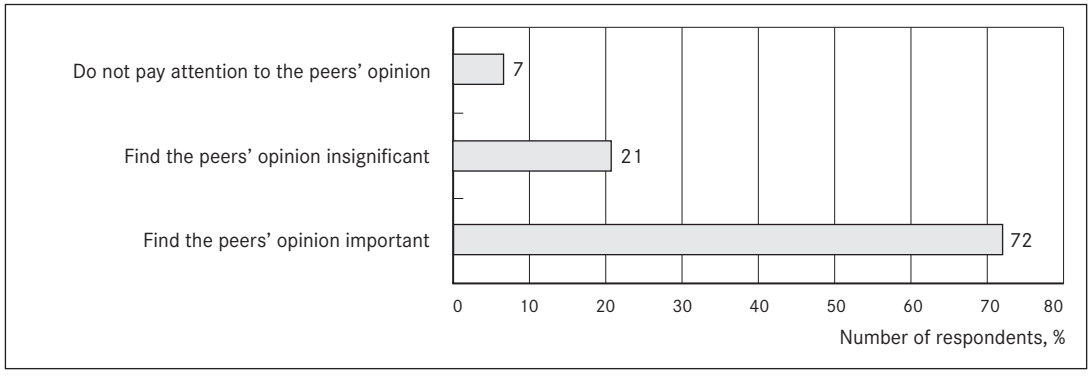


Figure 2. The influence of the peers' opinion on the dressing style



Slightly more than a fifth of the respondents find the opinions of their peers insignificant. Yet the answers include the evaluation of the relationships with other individuals. For example: *"If someone says something bad about what I wear, I don't care"* (Male, age 16); *"If I'm dressed badly, I tend to be more quiet, but if well – I'll be more open. If people dress too pompously, either they are stupid or learn badly. Actually, I don't care what others might think of me, what matters is how I feel mydelf"* (Female, age 16).

Less than a tenth of the respondents do not pay attention to other opinions. The responses represent two extremes – from clear expression of the belonging to a certain subculture to strong realization of one's identity. *"I know that if a man has got a gothic style, it affects the attitude from others. I'm a goth. And the way I'm treated doesn't affect me at all"* (Male, age 15); *"It's interseting to see what others wear, what tatoos and accessories they've got. But I don't give a damn what my schoolmates might think of me regarding my outfit. I am the way I am"* (Female, age 16).

The opinion of the respondents regarding their choice of colours can be represented as follows: 45% of the respondents wear clothes in black or dark colours, 35% do not pay attention to the colour, and 20% select their clothes in different colours. See Figure 3 for more details.

Less than a half of the respondents explain their choice of colours for the clothes based on their relationships with other individuals. They consider that black or dark colours in mutual interaction ensure protection from likely attacks of other individuals, and particularly the black colour brings fear to other individuals. The black colour is also defined as a creator of emotional comfort for the individual himself.

"The black colour helps me to protect myself from other people" (Female, age 16); *"I don't want to attract any attention, I dress as modestly as possible – in dark colours, and I try to intermingle with the crowd, as I'm scared that someone might want to pick up a fight with me"* (Male, age 16); *"I'm wearing just black clothes. The walls of my room are black as well, and so is my bed. Everything is black. I like it...It makes me feel good"* (Female, age 16); *"I wear black so that others would be afraid of me. I like that"* (Male, age 15).

About a fifth of the respondents acknowledge they select different colours for their clothes as they cause positive emotions, bring luck and match the choice of their friends as well. *"If my clothes are in bright colours, I feel cheerful and upbeat. My friends wear bright colours as well"* (Female, age 16); *"I prefer yellow, red, white for my clothes. These colours make me feel more powerful and I've got a more successful day with better marks at school. It all makes me happy and I think my bright clothes make other people happier as well"* (Female, age 15).

Slightly more than a third of the respondents do not pay any attention to the colours as they consider that the spiritual essence dominates over the appearance. *"Does it matter what colour clothes I wear? I don't care about it. I prefer to think of something more interesting. I've got friends, we ride our bikes a lot..."* (Male, age 16); *"I can communicate with both goths and hippies, what matters most is what his inner world is. The same about me – don't judge me by my appearance, but that who I am"* (Male, age 16).

Summarizing the connection between the dressing style and individual's behaviour the opinions of the learners are following. 46% of the respondents consider that the dressing style and indiviual's behaviour are interconnected, 30% claim that the the inner world is more essential than the appearance, 24% think that their behaviour changes if the communication partner's appearance differs from the accepted one by society. The data have been presented in Figure 4.

Nearly half of the respondents consider that their dressing style and behaviour are interconnected. The apparel defines both the group of friends and relationships. Moreover, the dressing style promotes development of the individual's behaviour.

"My dressing style determines the people who are around me. I cannot communicate with everybody equally. There are people who avoid me. Probably it is because of my outfit... I'm a rapper, so... is that bad? My friends are the same as me" (Male, age 16); *"I think that clothes don't influence behaviour, it's rather vice versa. If you are a babe (macho girls),so your clothes should match to the image of the macho girls. It can't be different, or it just doesn't make any sense regarding behaviour, nor clothes... My outfit must deliver a message of what I am, so that my friend would know..."* (Female, age 16); *"My behaviour changes as soon as I put different clothes on. It's one when I wear sports wear and other when I put on high heeled shoes and skirts, which the boys like"* (Female, age 16); *"My behaviour is influenced when I wear trousers. I'm more aggressive to my groupmates then..."* (Female, age 16).

Figure 3. Choice of colours for their clothes

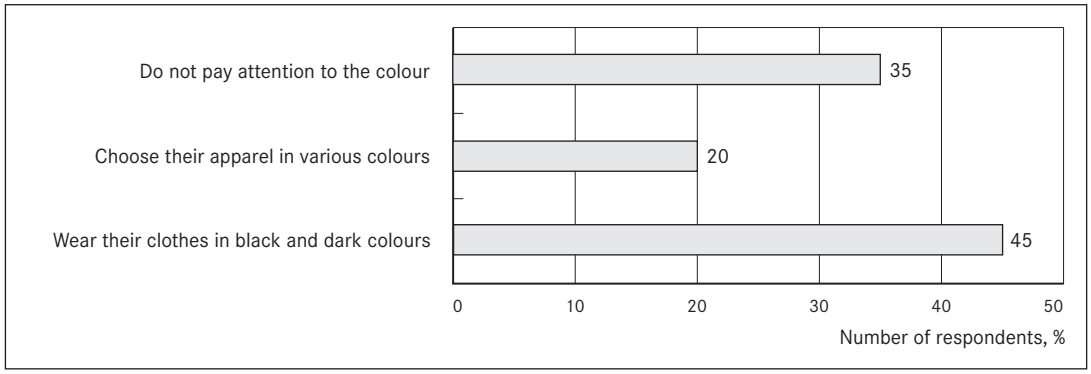
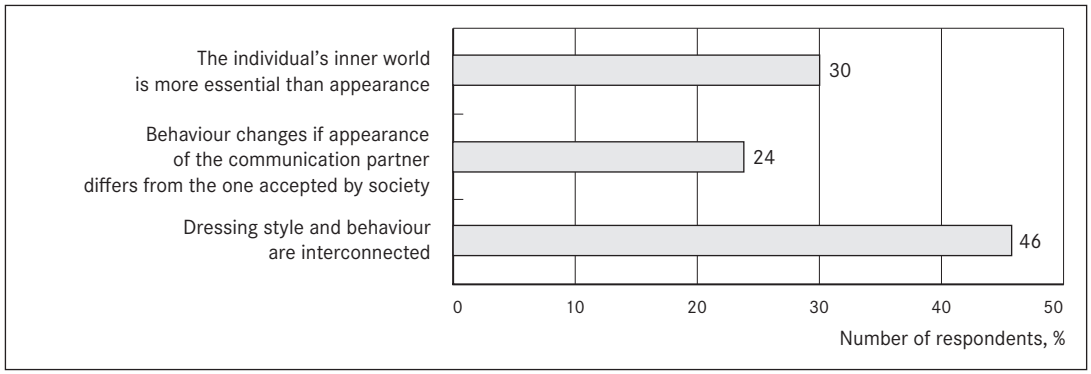


Figure 4. Connection of the dressing style with the individual's behaviour



Nearly a third of the respondents claim that the individual's personality and ability to establish social relationships are more important than appearance. *"The most important is a man's soul, not his appearance"* (Female, age 16); *"I can communicate with goths or hippies. What matters is what the person is like"* (Male, age 16); *"Other people's clothes don't make a great impact on me. If a man has got green or blue hair, I don't care. My friends and me used to have green hair once as well"* (Male, age 16).

Nearly a fifth of the respondents think their behaviour is affected by the communication's partner whose appearance differs from the one accepted by society. The respondents express probability that the image of another individual may also be expressed in antisocial behaviour.

"Those goths are necrophils. They love all that's got to do with death. I find it disgusting even to be in the same room with them. It makes me sick, we've got some at our school as well..." (Male, age 16); *"If someone overtries with his appearance – sugarwax his hair, paints his face, gets tattooed, overdoes with makeup, etc., that's ridiculous. I don't like such people. I haven't got such people among my friends. We keep laughing at them"* (Female, age 16); *"Other people's clothes don't make a great impact on me. If a man has got green or blue hair, I don't care. My friends and me used to have green hair once as well"* (Male, age 16).

Discussion

Schemes of different situations provide basis for external activity of the individual. In this case external activity of adolescents is connected with identification of SELF through creation of image. There is no doubt that it is also communication with other individuals and searching for their own place in a society, as, according to the research, in most cases the image of adolescents is created rather purposefully. Moreover, it must be pointed out that it is, in a way, socialization when values, rules, norms and attitudes dominating in the particular society are accepted – the image can not only promote interaction of the individual within a society but set restrictions as well, furthermore, it can be both emotional and physical

protection from possible attacks. With reference to the perspective of relationships, one of socialization features is to understand the other individual where the factors of the image, from the adolescents' point of view, do not matter. An adolescent creates his image according to categories provided by the social environment. One of the most significant socialization agents at this age is peer groups, which has been proved by the research, as almost the only refernece point regarding the image creation turns out to be peers. The discussion deals with the issue whether society understands the quest of self-expression among adolescents, considering the condition that the image – creation is a way to adapt to the social environment and his position in a society is formed through dialectic development by intercommunication.

Conclusions

Nowadays, there are not any territorial restrictions regarding clothing choices for adolescents, as the local, regional and global aspects interact most effectively. Thus an adolescent is offered new schemes of social thinking.

After summarizing the responses, the conclusion can be drawn that the role of the dressing style (including the colour choice) is a form of self-presentation to other individuals, thereby establishing and restricting social relationships.

For part of vocational education students their appearance is a tool, in the best case, to create and maintain the social identity in society. Moreover, it must be pointed out that most adolescents have a desire to be different and stand out in order to obtain the position of "idol" from the point of view of one "admirer" at least. In order to create the particular image, adolescents expose themselves also to actions that can cause physical pain, e. g., piercings, tattoos, etc.

In addition, the dressing style determines the interaction among adolescents, which is based on emotional sphere provided by the selected image. The adolescents explain their clothing choice (colour, design, etc.) also as a protecting element towards the negative effect of the surrounding social environment.

The influence of subcultures (goths, rappers, macho girls, etc.) tends to be a common element in adolescent socialization alternatively to the traditional public perceptions. The youngsters ensure their position in the group of the certain subculture with respect of the corresponding norms, values and behaviour. Subcultural norms are learnt within peer groups, which for part of adolescents is a very important way of expressing themselves, inviting to eliminate the old conceptions, behaviour norms, way of thinking which dominate in society.

The adolescent age is a significant stage in establishment of the individual's identity, as this is the age when generalized global vision is formed within rather abstract criteria of behaviour assessment come effective. The adolescent age faces a number of contradictions because the youngster wants to differ from other people and at the same time want to be like them, tries to be on his own and be within a team, etc., thereby adults who daily communicate with them should understand the typical behaviour patterns of the age and accept it as a transition period the following age.

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Social Adaptation Problems of Vocational Secondary Education Learners – Teachers' Evaluation

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Abstract

The current problem of vocational education establishments is a relatively great number of students suspended. According to the Guidelines of Education Development for 2007–2013, one of the reasons why students are suspended from vocational education establishments is insufficient adaptation. According to the theories of sociology and social psychology, adaptation is a shift of attitude systems within a social or cultural area, which can help to characterize the adaptation level of an individual in the new environment.

The aim of the publication is to find out the teachers' opinion on adaptation problems of learners in vocational education establishments. The study uses qualitative research methods – partly structured interviews with the group of respondents – 28 teachers of vocational education estblishments. Out of 56 state vocational education establishments the interviews were held in 14 vocational education establishments. The establishments representing rural and urban areas of all Latvian regions: Kurzeme, Zemgale, Vidzeme, Latgale, as well as the capital of Latvia, Riga, thus comprising nearly a third of total population of the country, were selected.

The teachers consider that most learners adapt well in vocational education establishments. Yet, according to the teachers' opinion, some learners have the following adaptation problems: difficult adaptation process to the new social environmnet, i. e., relocation from rural to urban areas and vice versa, adaptation to the new group, lack of ability to learn independently and to carry out self-care activities.

The essential role for adaptation effectivity also depends on the reaction the individual has in certain situation – either he will feel threat, urge to escape or challenge and wish to fight.

Keywords: adaptation, a learner, a vocational education establishment.

Introduction

According to the Sustainable Development Strategy of Latvia until 2030, the vocational programs of vocational secondary education along with the chosen speciality as a priority must present sufficiently good knowledge of related professions so that in case of necessity it would be possible to master another profession demanded by the labour market [Sustainable Development Strategy of Latvia until 2030]. The current problem of vocational education establishments is a relatively great number of students suspended, which results in failure of mastering even one profession.

According to the Guidelines of Education Development for 2007–2013, one of the reasons why students are suspended from vocational education establishments is insufficient adaptation, as it is an integral part of the individual's spiritual essence being involved in social structures, i. e. social environment of a vocational education establishment [Guidelines of Education Development for 2007–2013].

Table 1. The number of students suspended in vocational secondary education establishments

Academic year	Total number of suspensions*	Division according to the year			
		1	2	3	4
2010/2011**	4786	2061	1438	900	387
2009/2010	4880	2289	1334	876	381
2008/2009	6011	2935	1654	982	440

* The number excludes the learners of private vocational education establishments.

** Total number of vocational secondary education learners by academic year: year 2010/2011 – 35 767 learners; year 2009/2010 – 36 660; 2008/2009 – 38 819.

According to the theories of sociology and social psychology, adaptation is a shift of attitude systems within a social or cultural area, which can help to characterize how the individual adapts to a new environment [Reber, 1995]. Personal adaptation can manifest itself as internal transformation of functional structures caused by the change of living environment when the individual's behaviour completely corresponds to expectations and requirements of the external environment. It can also be expressed as adaptation of external behaviour when the personality fails to change internally but preserves its independence, or as "mixed" adaptation when the personality under the environmental impact just partly changes the internal functional structure through partial adaptation. It is frequently outlined that, unlike animals, humans are able not only to adapt to environmental factors but also get involved actively in the process to change it according to their objectives, requirements and necessities. It is human's mind that presents high level understanding of the matter [Gumplowizs, 2006].

Adaptation from a cognitive perspective has been researched by Jean Piaget, one of the founders of Geneva School of Developmental Psychology. In his study of child development Piaget defines intelligence as a core function of life which ensures adaptation to environment. Piaget considers that adaptation in terms of adjustment to a new environment consists of assimilation (attribution of common schemes to a certain individual, object or event) [Piaget, Inhelder, 2004] and accomodation (transformation of internal schemes correspond to the knowledge of ambient reality) [Piaget, 2003].

Piaget also speaks of balancing, i. e., a process that creates a balance between assimilation and accomodation integrating controversial schemes in new structures. The relationship between the individual and environment can be characterized through these homeostatic balancing processes defining the adaptation as a balance between assimilation (the body's reaction to surrounding objects) and accomodation (environmental effect on the body) [Niemann, 2003]. Cognitive skills can be characterized as a continuous dynamic process which contains sytematic changes. Cognitive schemes enable the subject to reflect more profoundly and adapt to environmental factors more successfully. The development of the cognitive schemes affects both external activity and internal restructuring of the individual and thereby prompting the adaptation process [Taylor, 2009].

In society personal adaptation is a factor for optimization and regulation of communication, which is a prerequisite for an effective human action in society. Social adaptation is also a condition for the individual's relationship with a group, when the individual without continous internal and external conflicts productively performs his action, meets his social requirements and expectations appointed by the group, experiencing a state of self-assertion and free expression of his abilities. Adaptation is a social-psychological process when in its positive development the individual has completed his adaptation. The social adaptation of the individual can be defined as a dynamically changing process that through its functioning faces a range of successive stages [Florian, Hillebrandt, 2004].

Social adaptation must be considered as a multi-factorial model which includes biological, psychosocial, personal development and family characteristics in full integrity. The adaptation process also involves the risk factors which are connected with individual personality characteristics, family and psychosocial environment [Fetzer, 2008].

Table 2. Risk factors in the adaptation process [Fetzer, 2008]

Personality characteristics:	Family characteristics:	Psychosocial field:
• sex • prone to depression stress non-resistance	• problems in relationship with mother • father's indifference	• school • education • youth employment problem

The social adaptation process can be viewed as one of socialization mechanisms that enables the individual to integrate into different structures of social environment standardizing repetitive situations that help the individual to function in dynamically changing social environment. In terms of its structure, adaptation consists of two integral elements, i. e., the adaptive situation and the adaptive necessity. The adaptive situation is referred to changes in social environment whereas the adaptive necessity is a wish to change one's behaviour, lifestyle, etc., in the case of changing social environment.

Adaptation of learners at school depends on internal factors (age, health condition, physical development, etc.) and external factors (living conditions in family, right daily routine, nutrition, studies at school, homework accomplishment, etc.). Adaptation can succeed, if the individual corresponds to a certain socialization level, i. e., certain skills and knowledge, which promotes adaptation of the individual to a certain situation. In the meantime the adaptation process itself is a certain contribution into the individual's socialization. However, it must be pointed out that individuals possess different individual psychological characteristics, which means that the adaptation process is with different intensity for different people.

Table 3. The surveyed vocational education establishments

No	The region of Latvia	Location	The name of vocational education establishment
1.	Kurzeme	Liepaja	Liepaja State Technical College
2.		Talsi region	Laidze Vocational Secondary School
3.		Skrunda region	Skrunda Vocational Secondary School
4.	Zemgale	Jelgava	Jelgava Crafts Vocational Secondary School
5.		Dobele region	Apgulde Vocational Secondary School
6.		Ogre	Ogre Vocational Secondary School
7.	Vidzeme	Aluksne region	Alsviki Vocational Secondary School
8.		Valmiera	Valmiera Food Production Secondary School
9.		Limbazi	Limbazi Vocational Secondary School
10.	Latgale	Daugavpils	Daugavpils Vocational Secondary School No 1
11.		Daugavpils region	Viski Vocational Secondary School
12.		Malnava region	Malnava College
13.	Riga		Riga Purvciems Crafts School
14.	Riga		Riga Food Producers Secondary School

Source: Data of the Ministry of Education and Science of the Republic of Latvia on the name and location of vocational education establishments.

N. B. The name of the vocational education establishment mentioned below is replaced with the name of the relevant region. Due to the volume limitation of the publication only several interview excerpts are included presenting the opinion of teachers on the matter of adaptation problems of vocational education learners.

The aim

The aim of the publication is to find out teachers' opinion on the problems of learners' adaptation in vocational education establishments. The publication has the following objectives:

1) to gather empirical information on adaptation problems of vocational education learners;
2) to describe adaptation problems of learners in vocational education establishments in guidelines.

Materials and methods

The empirical information has been gathered through research work on socialization problems of vocational education learners. The study uses qualitative research methods – partly structured interviews with the group of respondents – 28 teachers of vocational education estblishments.

The field research was carried out from September of 2010 until February of 2011. Out of 56 state vocational education establishments the interviews were held in 14 vocational education establishments. The establishments representing rural and urban areas of all Latvian regions: Kurzeme, Zemgale, Vidzeme, Latgale, as well as the capital of Latvia, Riga, thus comprising nearly a third of total population of the country, were selected.

Results

The empirical research on the adaptation problems of vocational education learners reveals that a majority of vocational education learners adapt well, according to the overall opinion of teachers.

"..I suppose he adapts well. Why? ..because our council helps a lot. It depends on the tutor to a large degree who devotes much time especially in the first year. At least I did so when I was a tutor. Maybe some youngsters from the countryside find it more difficult. But from my experience they adapt to the new environment very well. And they appreciate it when I explain everything at the beginning" (Riga, a teacher of vocational subjects, teaching experience – 18 years).

"At the beginning they are more distant, later they adapt and feel wonderful with each other, but adapting to the school... it depends on the way we present it. I suppose there are no particular adaptation issues" (Kurzeme, a teacher of comprehensive subjects, teaching experience – 37 years).

However, part of learners have adaptation problems. Particularly difficult is the adaptation process to the new social conditions, i. e., relocation from rural to urban area and vice versa, being away from family and a failure to solve social problems.

"The youngsters who come from the countryside adapt badly as they are away from their families, which is why during the first weeks of September they (together with their parents) withdraw their documents. Just because they are away from their families..." (Riga, a teacher of comprehensive subjects, teaching experience – 10 years).

"The problem is that they are in an unfamiliar environment, especially the youngsters from the countryside find it difficult to adapt to the new environment. Firstly, they are not independent, there are no mums who look after them. The tutors are just like consultants in this system, so as nobody babysits them, they find it hard to adapt to the new social environment" (Kurzeme, a teacher of vocational subjects, teaching experience – 17 years).

Some learners find it hard to adapt to a new peer group. The teachers provide different reasons, e. g., influence of individual personality traits, sometimes it is the financial situation of a family as there are cases when youngsters from disadvantaged families are excluded from the peer group.

"At the beginning it is a fight for their own place which is collectively formed. There are certain education programs which are mostly represented by girls. There were cases when the girls influenced each other physically. It was also the first half term "coalescence" factor. As for the boys, it is less common. I can repeat that the period until Christmas is the most difficult.." (Vidzeme, a teacher of comprehensive subjects, teaching experience – 15 years).

"In my opinion the relationships are egoistic... many youngsters feel superior over others, especially at this time considering the financial aspect" (Zemgale, a teacher of comprehensive subjects, teaching experience – 37 years).

The teachers consider that the significant factor that affects adaptation is inability to learn independently. Discomfort caused by insufficient evaluation of knowledge as well as failure to affect the situation by improving the performance can prompt youngsters to leave school. Moreover, the teachers

outline that the education program is too complicated and disadvantaged learners do not have their own study books to learn independently, which is a reason for insufficient knowledge.

"..ability is low. There is a weird approach. Either they used to have extremely strict teachers in primary schools who pointed with fingers what had to be done or they didn't learn at all and the teacher did everything instead of them to get the burden off their shoulders after the graduation. My grandfather used to say 'Try to teach a cow to climb the tree'... Neither he is capable nor interested. I think that's the way... well, my grandma couldn't do it, my mum couldn't so what do you expect from me? On the other hand, I sometimes wonder what if the program really doesn't correspond to their minds. When I studied I found everything so logical in mathematics and all seemed to be ok; however, even then somebody had to do the course for the second round... Not everybody had good marks" (Zemgale, a teacher of comprehensive subjects, teaching experience – 10 years).

"Maybe it's because he hasn't got his own books... Not everybody can afford to buy the books... Well, and when he gets them for 40 minutes during the class..." (Vidzeme, a teacher of vocational subjects, teaching experience – 30 years).

"It's hard but if life makes, they learn something. But with what methods... apparently with favourable ones, persuading, in politics and law system there are three main methods – violence and enforcement which have existed for over thousands of years, persuasion – promising awards or threatening with punishment, and the third method – with reasonable and life tested laws. There is no ideal method. But the nearest to ideal is the one that is adapted to the individual – so there should be choice. They cannot choose for themselves, so it is how it is" (Riga, a teacher of comprehensive subjects, teaching experience – 30 years).

One of the reasons for adaptation problems is the lack of ability to carry out self-care activities, e. g., the youngsters living in hostels do not have skills of cooking, hygiene maintenance, keeping their place of residence tidy, etc.

"Basically the problem is in the hostel. Not so much at school as in the hostel where everything is completely new and unknown. Youngsters often have no skills needed to live on their own away from their families" (Latgale, a teacher of comprehensive subjects, teaching experience – 30 years).

"They find it most difficult to adapt to living in a hostel. It is not so much about the study process as it is here because it is time to start living on their own. Lots of them cannot do it at all as they have been looked after by their family and suddenly they are on their own, they must buy some food, take care of themselves, plan their budget. September, October and November are the most difficult months. Since it is hard to adapt to the new social life, it affects the study process as well, as a youngster feels anxious about his social life that takes most of his time, thus studies become of secondary importance" (Riga, a teacher of vocational subjects, teaching experience – 35 years).

"One of adaptation issues is the fact that youngsters come from different families of different social levels, with different skills, and here they are supposed to obey to certain rules (in a hostel). It depends how fast one can do it. It is up to every youngster" (Zemgale, a teacher of comprehensive subjects, teaching experience – 11 years).

The way learners feel is also affected by the current situation, i. e., unemployment when parents go to work abroad but the youngster is left with his grandparents, relatives, friends and others who cannot take care and raise them properly. The teachers consider that the reason why learners leave vocational education establishments lies in the social-economic situation, i. e., at first being away from parents and subsequently youngsters either follow their parents abroad or due to their financial situation start working failing to devote sufficient time for their studies.

"*The crazy moment is that parents are losing their control. There is a term "European orphans".. The parents are away, then there are lots of "broken families" where a child manipulates with his father, mother and grandmother and again does what he wants"* (Vidzeme, a teacher of vocational subjects, teaching experience – 20 years).

"I don't think that the reason why learners leave the school is connected with adaptation problems. It is more connected with the ongoing process in society... When there was no crisis only 7% of the learners left. With the crisis youngsters keep leaving the school more and more because either they follow their parents abroad, or the parents cannot ensure their subsistence, which is why they try to earn themselves, and when they start working, they cannot manage their work with studies" (Latgale, a teacher of vocational subjects, teaching experience – 15 years).

Discussion

The first matter of discussion is that already in the final stage of primary school the youngster should be prepared for independent life course promoting personal independence, preparing for social autonomy, developing skills (responsibility, discipline, self-regulation, etc.) for interaction within the group thereby preparing learners for the adaptation process in the vocational education establishment. Besides it is essential to consider professional preferences, intellectual potential and practical skills of youngsters in good time to prevent disappointment caused by the feeling that it is hard to study and the chosen profession is not suitable when starting the studies in the vocational education establishment.

The second matter of discussion is connected with the current situation in the country, i. e., unemployment. If one of the parents or, in the worst case, both parents are unemployed, how does it influence a youngster? One of the solutions is the decision to look for a job abroad leaving the child in Latvia. That is how a new social layer of youngsters is forming described as "European orphans" by a teacher from Vidzeme.

Conclusions

The empirical research on adaptation problems of vocational education learners reveals that, according to the opinion of teachers, on the whole most learners adapt to the new environment well. However, part of the learners have adaptation problems. Particularly difficult is the adaptation process to the new social environmental conditions, i. e., relocation from rural to urban area and vice versa, being away from the family, failure to solve social problems – lack of ability to carry out self-care activities, the learners living in a hostel have no skills of cooking, hygiene maintenance, keeping their place of residence tidy, etc. It can be explained by the fact that a new situation for any individual can cause anxiety. Entering a new social environment the youngster experiences emotional discomfort – he has unclear views of demands and rules to be considered. The condition can be named as the one of inner tension and caution. The youngster may get undisciplined and irresponsible at school. Adjustment to the new requirements is still non-persistent.

The teachers consider that the significant factor that affects adaptation is inability to learn independently. Discomfort caused by insufficient evaluation of knowledge as well as failure to affect the situation by improving the performance can prompt youngsters to leave school. Moreover, the teachers outline that the education program is too complicated and disadvantaged learners do not have their own study books to learn independently, which is a reason for insufficient knowledge. Such situation can be explained by importance of the individual's goals and how he evaluates the possibility of their achievement. If it takes too long to accomplish what has been expected, it causes difficulties to the adaptation process. The essential role for adaptation effectivity also depends on the reaction the individual has in certain situation – either he will feel threat, urge to escape or challenge and wish to fight.

Some learners have problems with integration into a new group. The teachers explain this differently, e. g., it may be an influence of individual personality characteristics. It must be considered that within a group there are both formal and informal relationships. During the stage while the group is formed the learners who are initially strangers to each other are combined in a formal group. Besides each member of the group is anxious about his own place within it. In order to consolidate the group, it is essential to set a common goal. The individual's existence within a group improves communication skills and helps to search for his identity.

The teachers acknowledge that the family's financial status is an essential factor, as there are cases when the youngsters from disadvataged families are "squeezed out" of the peer group. The way learners feel is also affected by the current situation, i. e., unemployment when parents go to work abroad but the youngster is left with his grandparents, relatives, friends and others who cannot take care and raise them properly. The teachers consider that the reason why learners leave vocational education establishments lies in the social-economic situation, i. e., at first being away from parents and subsequently youngsters either follow their parents abroad or, due to their financial situation, start working failing to devote sufficient time for their studies. Speaking of the emigration of Latvian population, each case certainly should be considered individually. But on the whole the main reason is work opportunities, especially during the crisis period, when in most countries of Eastern Europe there is high unemployment rate. Yet the solution of one problem, e. g. the financial one, can cause another – the youngster grows up and develops as an individual without family. He may disguise his feelings of being hurt and neglected for a while, however, his energy for studies falls considerably.

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Paradigm of Epistemology in Social Work Research

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Abstract

A versatile social work research is a three-step process in which these basic elements are included: sensual observation, sensual notions and rational thinking.

In social work the sensual observation has several subtypes, the main ones being: a) participant and non-participant, b) concealed and open, c) standardized and non-standardized, d) systematic (regular) and non-systematic (irregular), e) natural (fields) observation and observation in laboratory conditions.

Sensual notions are not immediately related to the sensually perceivable reality. Their formation can be initiated by a mere word or thought. With the help of sensual notions the social work researcher lifts himself over the sensual reality. The generalizations characteristic to sensual notions form a context that allows reaching aims and ideals without stopping by meticulous sensual details and being impeded by them.

Thinking in logical conceptions can not be unambiguously identified with thinking in sensual notions. This should be taken into account and this provides a serious problem for social work researcher, that is, he must pay particular attention to the question of how to distinguish the respondent's information based on thinking in conceptions from thinking in sensual notions, since in both of these situations very different data is obtained. If these data are merged, the research results lack scientific consistency and credibility.

There are two equally important levels in the process of rational thinking (also social work research): a) understanding and b) mind. An unjustified exaggeration of the possibilities of understanding is an erroneous methodological orientation since the process of synthesizing some research data is impaired in such case. The advancement of thought from understanding to mind is very important, and this results in designing a certain social work "mini theory".

Keywords: epistemology, social work, sensual observation, sensual notions, logical thinking.

A versatile and scientifically proof cognition and therefore also social work research is carried out by a three-step process tested in history:

Logical (conceptual) thinking
↑
Sensual notions
↑
Sensual observation

From the viewpoint of social work this means that observation should not be excluded from the research process as unneeded and unprofitable. The importance of observation has been emphasized already by Comte, although this method is unpopular nowadays. At the same time the three-step system pictured above draws attention also to sensual impressions which always differ in understanding social situations in the level of logical thinking. Thus the identification of sensual impressions and rational thought can disorientate social work researcher both in the investigation process and interpreting the results of it.

The sensual observation

It is known that the specific spiritual life of Europe has been influenced not only by the antique culture but also by the one presented in the Bible. Speaking of Biblical texts, the topic of sensual observation is clearly and powerfully evident already in the beginning of Moses 1st book from the Old Testament, that is, in the very beginning of the Scriptures where in several verses (1 : 10, 12, 18, 21, 25) the phrase "and God saw that it was good". The verse 3 : 6 of this Book states that "the woman saw that the tree was good for food" while 6 : 2 states "That the sons of God saw the daughters of men that they were fair; and they took them wives of all which they chose" but verses 6 : 5–6 inform that "And God saw that the wickedness of man was great in the earth, and that every imagination of the thoughts of his heart was only evil continually. And it repented the Lord that he had made man on the earth, and it grieved him at his heart." It is obvious that the most fundamental moments in the Biblical testimony are related to sensual observation: Creation of world, the Fall of man, the Flood, etc. The factor of sensual observation is also emphasized in the New Testament, for instance, in cases related to Jesus' miracles, his episodes with apprentice Tom, etc.

There are two subsystems in the sensual observation as presented by the classic version of the antique wisdom:

a) Senses,

b) Perceptions.

A point of view depicting the human's sensual perception is presented in epistemology by the five senses.

However, isolated feelings only give a discreet image of the reality according to their number, that is, the image is present only in the level of senses, for instance, sight is not supplemented with the information given by hearing, touch, taste and smell; hearing is not organically related to sight, touch, smell and taste, etc. The sensual observation has reached a qualitatively higher level when the information given by separate senses is synthesized into a whole. What is more, the key factor in some cases might be only one particular sense, for instance, when one sees a person in tattered, dirty clothing, excessively and anxiously gesticulating and speaking, he does not need to give extra featuring of his hearing, touch or smell in order to perceive the situation adequately and with sufficient versatility. All these senses join sight in a united sensual perception according to the experience of the researcher. Surely professional experience is needed in order to expand the range of limits human senses have. That is, the increase in the researchers' experience is directly proportional to the ability to observe deeper, more purposefully and include more nuances in his observation.

The sensual observation (known as sociological observation in science) is an irreplaceable feature in social work research. It has a major role in the research process in general, for instance, social work surveys. It is hard to imagine that the researcher could be able to supply the respondents with purposeful and competent questions if he had not done careful observation beforehand.

At the same time, it is worth nothing as Comte already attempted to achieve the impossible, that is, to mechanically transfer the methods of observation from natural sciences to the social area. He insisted on the position that the subject (researcher) should be completely separated and distant from his object of interest in order to prevent subjective aspects from affecting both the research process and the interpretation of its results. It is obvious that such situation is not possible, meaning that the subjective element will be always present to some extent in social work observation since a) social worker himself is a member of the research society, therefore b) he also has a world view determined by this society and c) evaluations of the research object; what is more, d) every researcher has individually specific properties of perception.

There are several ways of observation approved in social work: a) participant and non-participant observation, b) concealed and open observation, c) standardized and non-standardized observation, d) systematic (regular) and non-systematic (irregular) observation, e) natural (field) observation and observation in laboratory conditions.

It is worth noting that choosing the method of observation is a very important step in formulating the research strategy. This is why analysis of the advantages, problem situations and disadvantages of every research method is relevant here.

Participant and non-participant observation. The strategy of participant observation includes the researcher being present and active for some time in the object observed, is together with the people he observes and is in close contact with them. This reveals several advantages for the research, that is, several favourable options: a) to get to the most concealed happenings of the research object, b) to evaluate every particular situation more precisely, c) to easier exclude untypical or accidental events from the research range, d) to avoid research risks related to overcoming psychological barriers, which guarantees a more natural behaviour of the respondents.

At the same time, participant observation is related to some difficulty and sometimes even impediment hard to overcome: a) the observer is subjected to serious requirements, that is, his character should meet those of the persons he observes, b) social worker must have experience and knowledge in the field the observed ones work in, and so is their style of behaviour, c) the researcher must acquire new social roles for the period of research, he might even need to change his social status, d) the researcher might find it hard to be a full-fledged member of some groups while noting the specifications of this group as objectively as possible, e) an observant who fits fully into the group might adapt himself to a needless extent and take over some habits of the research object as well as react to events according to the values accepted by the group, f) the behaviour of the observed group can be affected by the observer's presence anyhow.

An opposite of the participant observation is the non-participant observation, that is, observation "from a side" when social worker does not become a member of the group even for some time. However, this strategy should not be completely rejected since when taking a look upon the research object "from a side": a) the overall situation is depicted better, b) the observer is not tightly related to a certain time and place, that is, he has gained a somewhat freedom of time-space, c) the social work researcher is not forced to take a role characteristic to the social group he observes. At the same time one should take into account several problems if choosing this strategy: a) social worker can notice only the superficial actions of the observed, b) the researcher does not get an insight in the area of inner motivation of the respondents, therefore c) imprecise or fallacious interpretation of events is possible.

Concealed and open observation. The concealed observation can only happen in cases when the research object is unaware of being observed. Thus, this method of observation can be assigned not only to cases when hidden filming is used or cases when the observer is hidden from the respondent, etc, but also to situations when the researcher is acting together with the group, but the group is not aware of the real purposes of his act. The advantages of this research method is proved by the fact that a) social processes can be noted in their natural way and b) the respondents do not mask themselves and do not pretend.

However, choosing this strategy requires critical contemplation on it since the concealed observation is related to solving serious moral problems as well as the risk to violate the respondents' human rights. What is more, a) the researcher cannot "fall out" of his role, that is, to unmask oneself, b) an instant fixation of the data is impeded.

Open observation is carried out when the researcher does not hide his aims and task from the observed. The advantages of this method are that the social worker is able to a) register the data precisely and immediately, b) make contact with people according to the aims of the research.

The main disadvantage of open observation is the irrefutable truth that the researcher must devote a lot of time and effort to overcome the psychological barrier between himself and the respondents. Situations when this barrier still remains are also possible.

Standardized and non-standardized observation. A non-standardized way of observing is one when the aspects forming the research object are not fixed precisely and unambiguously, and there is no strictly definite research plan. Therefore, this strategy allows wide possibility of choosing options related to notable research advantages: a) the non-standardized observation can be successfully used in initial stages of social work research when the research object has to be concretized, b) this strategy of observation allows the researcher to adjust himself to situations that change rapidly and are hard to predict, c) the researcher saves some time in the stage of forming the program of the research since designing a non-standardized observation is much less time-consuming than the standardized observation.

The main disadvantage of standardized observation is the fact that problems might arise when comparing the research results. Thus, the time saved in designing the research can be spent or even overran at the concluding stage of it.

Standardized observation is a method of collecting information when the research is done according to a strict plan designed beforehand. The research has several advantages in this case: a) the data collected can be processed more easily and b) the results can be compared better. However, the disadvantages of this method are that a) the process of designing the research is complex and b) the researcher must have outstanding knowledge of his research subject and object.

Systematic (regular) and non-systematic (irregular) observation. Systematic (regular) observation over some period of time is done for several times. If using this research strategy, the researcher is provided with: a) good opportunities of discovering the development dynamics of some individual or social processes, b) a credible base for formulating various predictions. The main flaw of this method is its time-consuming nature.

Non-systematic (irregular) observation is concentrated on cases which do not require repeated researching. This observation regards also scientific research of unpredicted events, actions and situations, that is, this observation is the reaction to particular happenings.

Natural (field) observation and observation in laboratory conditions. Social work research normally features natural (field) observation, meaning that the investigation process is carried out in natural social conditions and real situations, providing the advantage of this method, the natural behaviour of the respondents. Thus the researcher gains result of high quality, that is, the credibility of data is not polluted by artificial behaviour created by artificial environment. However, a serious problem besides this positive aspect still exists: the researcher might find it hard to define and fix the research object in the diversity offered by natural environment. As a result, smaller or larger deviations from the aims of the research are possible.

Laboratory observation is very popular in psychology, natural sciences and several other sciences. It is rarely used in social work. This observation is carried out in an artificial environment created as a model of a real situation. Although this strategy is unpopular in social work, the researcher should consider its advantages: a) the possibility to create conditions that reveal the research object in the most efficient way, b) the possibility to note all the factors involved in the processes to the maximum as well as to determine their interaction, c) the possibility to concentrate the researchers' attention to a particular behavioural moment of the respondents.

Besides the positive aspects mentioned preciously, laboratory observation still has a serious problem: situations created artificially, the "extraction" of the respondents from their natural environment can significantly influence or even drastically change the behaviour of the observed. Thus, a risk exists that the researcher might gain misleading data.

The sensual notions

The sensual notions, just like senses, are indissolubly connected to real events. There is a direct sensual contact between the reality and its sensual notions. The researcher has not freed himself of sensuality. He is not yet able to regard the events "from the above". So, the result interpretations, especially predictions provided by the researcher are very "down-to-earth" and create serious difficulty in theoretically interpreting empirical results.

Unlike sensual observations (sociological observations), sensual notions are not directly related to the part of reality that can be perceived sensually. The formation of sensual notions can be initiated by just a word or a thought. Thinking in sensual notions also cannot be denied as existent. It manifests itself in all cases when the content of thought is fixed in the human consciousness as sensual images. This is why even the term "consciousness TV" could be used here.

By taking a deeper insight into this topic, the authors of this article have carried out an original research by asking people aged 5 to 50 to draw a figure of a human. This simultaneously means a request to sensually depict the concept of a human existing in the consciousness of the respondents.

By analysing the research results, it was found out that all the people depicted in the drawings are somewhat alike: they are creations with two arms, two legs, body, head, eyes, ears, nose, mouth, hair, etc. At the same time, it was clarified that the formation of sensual notions does not require a direct and uninterrupted connection with the object to be depicted, since all of the respondents drew while being in mental isolation. They all sufficed with the sensual experience they already had in order to project an image of a human from their inner world. Thus, it can be concluded that a sensual notion is a mental phenomenon that has moved out of the area of an immediate sensual context, but at the same time, it has not lost the most important sensual moments, which remain as a necessary and mandatory component.

The human does rise above the sensual reality with the help of logical thinking. The generalizations characteristic to this form a context that allows leaning towards aims and ideals without stopping by petty sensual details and being impeded by them. Thus, the social work research gets gradually invaded by prognostic elements.

At the same time, thinking in logical concepts cannot be unanimously identified with thinking in notions which should be taken into account in social work research. In order to assure themselves about this, the authors of this article carried out a research in order to check the definition of human presented by people of different ages.

Andretta, aged 16: "Human is a thinking being that helps the world to exist."

Eva, 20: "Human is a live being conscious of himself and able to take responsibility upon his own act as well as think and conclude independently."

Maris, 27: "Human is a product of nature with his own intellect, body and soul."

Santa, 30: "Human is an intelligent being capable of emotion and action."

Juris, 36: "Human is a biological being with its specific thinking, emotion, soul, faith and feelings."

Guna, 40: "Human is a live being with its physiological structure and development of mind."

Ieva, 50: "Human is a thinking reasonable being."

It is obvious that:

1) similar terms are included in the process of human thinking,

2) thinking in sensual notions is cardinally unlike thinking in concepts.

These epistemological contexts are important in social work research. On the one hand, they encourage the researcher to advance towards theoretical generalizations according to the cognition that the conceptual thinking of humans and explaining the world in the level of concepts share some elements. On the other hand, the epistemological contexts mentioned previously make the researcher face a serious problem; he must deliberately immerse himself into the question of how to distinguish between the information provided by the respondent that is either based on thinking in concepts and the information resulting from notional thinking. This is due to the fact that he would get different data in both situations. If the data were treated as identical, the research results would lose their credibility and scientific consistency.

The logical thinking

Level of understanding and mind. There are two equally important levels both in thinking process and in social work research:

Mind
↑
Understanding

In order to immerse oneself into the category of understanding, one should start with everyday question: What does "to understand" mean? The experience from everyday life already signifies that understanding things, processes and phenomena is indissolubly related to dividing a whole into its ingredients. In order to understand the structure of some mechanism, one has to dismantle it into smaller details which are subjected to further investigation separately. This also applies to understanding, for instance, a complex and unusual word or a scientific article. This approach could be called thinking

in the level of understanding (division-discreet) and the question whether such approach is needed in research is not worth serious discussion since if denied, it will leave the researcher's knowledge of his subject as superficial and empty.

The above mentioned applies also to social work research. For instance, it is known that one of the main informational sources in social work is surveying. However, the society cannot fulfil the role of a definite respondent. The survey is designed for several members of the society, that is, individuals. Thus, when researching social processes or phenomena, thinking in level of understanding is topical in at least two aspects of the research: a) determining the research group within the framework of a general group, b) dividing the specified group into several individuals the social worker-researcher then turns to. What is more, the advantages of understanding-based thinking are evident not only in macrosociology but also in microsociological research, for example, in the famous test of J. L. Moreno which is tended towards determining the unity level of small groups.

At the same time, an unjustified exaggeration of the opportunities of this thinking is a fallacious methodological orientation since in such cases the process of synthesizing some research data is impaired. Sadly, this error in social work research is quite widespread. Surely the research is not intended on separate, isolated individuals, that is, the data obtained from individual respondents are usually grouped into definite positions. For instance, in the popular research of quality of life in Latvia the data is grouped into these positions: employment, income, material wellbeing, health, household conditions, quality of children, youth and the elder's lives, regional and ethnical differences.[1] These positions have been investigated in detail; however, the analysis mentioned before reveals an unjustified predominance of the thinking based on understanding since these separate positions are not synthesized into a unite and systematically organized whole, a "minitheory".

In order to achieve it, reorientating thinking from the level of understanding to the level of mind becomes topical. That is, decomposing the phenomenon of life quality by thinking is not enough. It is not enough by this phenomenon to be divided into several details and then grouping these details by certain criteria. It is relevant to place the factors reflecting quality of life and their groups in such a way that the real mechanism of life quality would work also in the level of theoretical understanding (mind). This cannot be achieved if the thinking stops and stabilizes itself into the discreet division stage.

Important and interrelated procedures in advancing thinking from the understanding level to the mind level and resulting it into designing certain "minitheory" is scientific induction and deduction.

Scientific induction and deduction. Scientific induction and deduction are necessary epistemological and logical methods in theoretical interpretation of social work research results, that is, designing "minitheories". Traditional inductive conclusions and the theoretical conceptions based on them are formed when certain characteristic or property that the research object possesses is also found in other similar objects. As a result, a theoretical conclusion is made, stating that this property or characteristic has a general nature (it applies to all similar objects).

However,epistemology postulates that complete and incomplete induction is possible in scientific research, therefore also social work. Complete induction happens when the conclusions and theoretical formations apply to completely all objects included in the investigation. Speaking from the social work point of view, the aforementioned applies to all situations when general research group is numerically identical with the selected group. Thus, complete induction can be used productively only in cases when all objects investigated can be counted and such approach is a credible source of general conclusion. Anyhow, the possibilities of using complete induction in social work research are limited since objects of certain group to which theoretical conclusion applies are not always countable. In such cases the only possible strategy is incomplete induction.

In cases of incomplete induction, general conclusions are formed by taking into account only some part of the group, that is, the general group is numerically larger than the selected group. What is more, incomplete induction has several subtypes.

[1] Dzīves kvalitāte Latvijā. – Rīga: Apgāds "Zinātne", 2006. – 432 lpp. (in Latvian, The Quality of Life in Latvia.

One subtype of incomplete induction, popular induction, cannot be ignored in the research. In such cases, the listing of objects and their characteristics is done without respecting contradictory cases. It seems that no extra argumentation is needed to prove that such induction can lead to hasty statements which are often related to subjective tendentiousness. Such tendencies are glaring in Latvia, for instance, in political pre-election struggle, when several parties try to privatize the love of the nation, sometimes justifying that on trifling positive rating points and concealing sociological data which signify the opposite.

Another widespread subtype of incomplete induction in social work is selectional induction. As a result of this approach, the justification degree of theoretical conclusion is much higher than in cases when popular induction is used. By using selectional induction, its object range is limited by selecting those who contribute to reaching the aims of the research by certain criteria. A bright example of this in social work research is expert surveys.

It is worth noting that induction in social work research is closely related to the inverse process, the deductive way of thinking when several things, processes or individuals are characterized based on a certain generalization. For instance, a simple categorical syllogism can illustrate this:

All humans are subjected to socialization
Individual X is a human

Therefore, individual X is subjected to socialization

However, in social work this way of thinking justified already by Aristotle is not insured against opportunity to make tendentious and fallacious conclusions. This applies also to cases when harsh political struggle is taking over the advertisement area. It is enough with, for instance, proposing a populist slogan that all governing politicians lie to end up having many people conclude that the nation is fooled even by the most honest politicians. However, regardless of all this, deduction (surely, closely related to inductive thinking) has a significant meaning in forming "minitheories", that is, theoretically interpreting empirical data, and this is the weak point of social work research in many cases.

In order to develop a system of theoretical explanation for empirical data of social work research, that is, using the terminology of Russian sociologist V. Y. Yadov, "minitheory", one must analyse the principles of designing such theory[2]:

1) Initial principle of designing a "minitheory" (a basic conception which the whole system of scientific conceptionsis based);
2) Organizational principle of the contents (theoretical conceptions) of the "minitheory";
3) Principle-criterion indicating that the formation of the "minitheory" is relatively complete.

Classical methodology, especially Marx's theory requires that the **initial principle** of a theoretical formation (therefore, also "minitheory") must meet several specifications.

Firstly, it must be the simplest and most elementary structural unit of a theoretical formation. In order to prove this, it is purposeful to start with the opposite, that is, that a theory is formed on the basis of complex conceptions. However, complex formations can be always divided into simpler components analytically. As a result, a situation arises when a theory, therefore also social work "minitheory" is based on several initial principles.

This, however, is acceptable only with a condition that the final result of the research is intended as a plural totality of various conceptions which cannot pretend to be a true systematically organized social work "minitheory" due to its nature. The presence of several initial principles in designing a social work "minitheory" can lead to its splitting, dividing itself into relatively independent and even contradictory components. This is particularly true when the action of the initial principles is based not on the content they share but on the different part of them. Such state does not meet the essence of theoretical formations which prescribe an organic unity, wholesomeness and systematic nature of their conceptions. This

[2] See: Vilks A. Logical Problems of Sociological Survey // Collection of Scientific Papers, 2008: Research articles: Economics. Communication. Politics. Sociology. Social policy and social work. Law. – Riga: RSU, 2008. – Pp. 187–190.

represents a certain whole, and in order to obtain it, the most productive way in designing a social work "minitheory" is to be based on a single start. In cases when there are many initial principles, it is relevant to reduce them to one uniting basic conception, the real initial principle.

Secondly, an initial principle of social work "minitheory" must be sufficiently general to include all of the content of this theoretical formation. It is obvious that such situation is impossible if the "minitheory" features several initial principles in its foundation and these principles can claim only a certain segment of the theory but not the "minitheory" as a whole. This problem is very topical when due to the lack of efficiency of the initial principle the social work "minitheory" is invaded by elements (conceptions) that do not derive from the initial point nor directly nor via a mediate and therefore are alien to the theory.

Thirdly, since the initial principle of social work "minitheory" has to be sufficiently general, a question arises: What is the criterion of such generalization? Undoubtedly, when answering this question, the main attention should be drawn to the content aspect of the theory. It means that the very basics of designing the "minitheory" should include the nucleus of its contents that is later developed. The aforementioned means that the problem regarding the initial principle of a social work "minitheory" should be treated with great care. A lack of content can lead the becoming theoretical formation to significant flaws, that is, "blank spots" or weakly developed points can reveal in it later. An excess of content, however, can create a situation when the "minitheory" overcomes the limits of its competence.

Fourthly, a successfully designed social work "minitheory" should work. It has to be self-justified. That is, the development logics of the content of this theory should be convincing without extra interpretation. How can this be achieved? One of the most productive ways is to include a contradiction already in the initial principle (as Marx did when including the contradiction between the qualitative and the quantitative aspect in goods analysis). This methodological nuance has an indisputable significance. It is impossible to argue upon the argument that any theory, even more, a social work "minitheory" justifies its existence only if it has a social request, that is, if it is somewhat (directly or indirectly) needed to solving some problems in society. Problems, however, are formed where contradiction exists, and the more complex the contradictions are, the more severe the problem. It is obvious that the nuclei of the contradictions included in the "minitheory" should be present in its initial principle. Otherwise it might happen that the contradictions are formed artificially and do not derive from the development logics of the theory. In such case, all statements about the self-development of the theoretical formation and its self-justification are scientifically unjustified.

Thus, the initial principle of a social work "minitheory" includes both the content and the methodological aspect. Both of these aspects assure the further development of the "minitheory" by closely interacting, and it is not hard to understand that a great significance in this process is given to:

a) Thinking from the abstract to the particular,
b) Unity of the historical and the logical.

By generalizing the aforementioned, one can state that besides problems regarding the initial principle in designing a social work "minitheory" there exist also problems regarding the **organization of the contents**. From this point of view, the first topical question is whether the conceptions forming a theory are mutually coordinated or subordinated.

Coordination in this case means that the bonds between the elements of a theory are not too tight and that they are not united by an organic necessity. If a conception is abstracted from the general context, a "blank spot" is formed, but the other elements remain in their places

A cardinally opposite situation is formed when the principle of subordination is respected in designing a "minitheory". This principle requires that every particular block of theoretical conceptions stems from the previous one.

In this case which depicts also the methodological approach of Marx, it is impossible to deliberately extract some theoretical conception from the common context since it ruins the whole "minitheory": it is nor explanatory nor internally logic anymore. Respecting the way of designing a "minitheory", it is not hard to notice that this subordination successfully features the thought pattern from the abstract to the particular as well as the unity of the historical and the logical.

If subordination can be regarded as the content-organizational principle of a self-justifying "minitheory", thinking from the abstract to the particular as well as the unity of the historical and the logical are certain expressional forms of this principle.

However, even in cases when the content-organizational principles function perfectly, the problems regarding the construction of a social work "minitheory" do not end. There is another significant question: When can the formation of the theory be regarded as complete? This brings out the problem regarding **the relative completion principle of a "minitheory"** and in this case the concept of **truth** cannot be avoided.

To solve problems regarding this principle is an uneasy task in the contexts created by the era of globalization and postmodernism since the slogan "Everyone has their own truth" has become popular. It is not even worth mentioning that standing against this slogan in the era of democracy is even harder. This puts the social work researcher in a rather problematic situation. For instance, he should treat the respondents' answers critically, therefore including a certain amount of doubt. On the other hand, by respecting the opinion rooted in democracy that every man can have his own truth, the researcher should not question what the respondent says. In this case, for instance, scientific processing of interview transcripts is pointless in the aspect of theoretical conceptualization, that is, designing a "minitheory". The answer to this situation is to get a deep insight into the concept of truth and emphasizing at least two meanings of this conception, and they are:

- It can be an individual category characterizing the uniqueness of every person (meaning that every human really has rights to his own truth),
- Or it can be superindividual, meaning scientific truth existing regardless of the interests, feelings and values of separate individuals (in this context, the slogan "everyone has their own truth" is invalid).

A moment of confrontation between individual and scientific truth is needed in scientific research (therefore also developing social work "minitheories"). In this moment, a social work research, being armed with superindividual scientific truths, critically evaluates and scientifically questions the formulations of the individual truths of the respondents.

An objective truth independent of the researcher's subjective wants, interests and tendencies is the highest aim every researcher should tend towards.

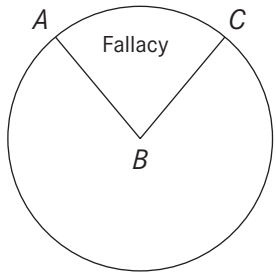
Still, the question of distinguishing between truth and fallacy in the immanent content of social work "minitheories" is still topical, especially when taking into account that no theoretical formation is absolutely true.

There are two criteria in testing scientific truth that apply to all theoretical formations, therefore also social work "minitheories". So, two criteria of testing truth are approved in science:

a) Formal criterion,
b) Practical criterion.

The formal criterion of testing scientific truth is based on the cognition that in all cases when the newly gained knowledge is rooted in pre-existent truth, these new theoretical conceptions are true. All seems logical and impeccable, but humans, therefore also a researcher, is not unerring. He must take into account that every truth, therefore also a social work "minitheory" features a certain moment of fallacy. In this case, the perfect and safe formal criterion of testing truth becomes dubious and unsafe from a superficial viewpoint.

The scientific truth, therefore also a social work "minitheory" can be imagined as a circle, but the segment ABC as the part of fallacy in the content of this "minitheory".

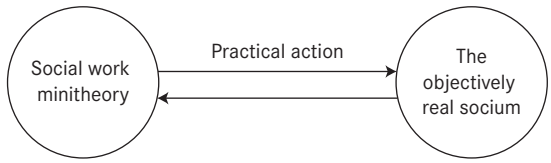


In this situation, any new knowledge resulting from or supplementing the content of ABC is not perfecting a scientific truth but multiplying fallacy which often is a favored approach in political struggle and global marked in cases when fallacy is an attractive product and it has a great social demand. This regards also social work "minitheories".

It is worth noting that no scientist can avoid some fallacy. The moment of fallacy can invade the action of any scientist without him being aware of it. And a social worker-researcher is not an exception.

Taking into account the considerations just formulated, the social worker also must seek for a safer criterion of testing the truthfulness of his "minitheory", and the practical act of a human, a social group of the whole mankind can be put into such status. The researcher can be completely sure of the theoretical truthfulness of his research only in the case when its results are practically applicable.

A schematic depiction of this is as follows:



Thus, the content agreement of the content of the socium and the social work "minitheory" is confirmed by the success and failure of practical action. This is where the criterion is found: the criterion that the researcher has really explained the real not the subjectively seeming content of social existence with his relatively completed "minitheory".

Conclusions

By summing up the contents of this article, one can arrive at several conclusions:

1. A versatile social work research is a three-step process in which these basic elements are included: sensual observation, sensual notions and rational thinking.
2. Important aspects of the expressions of the sensual observation can be found already in the biblical texts. In the classical version of antique wisdom there are two subsystems of the sensual observation: a) senses and b) perceptions.
3. There is a stable conception in epistemology: the human cognizes the world with the help of five senses, sight, hearing, touch, smell and taste.
4. Isolated feelings give a discreet image of the reality.
5. In social work the sensual observation is denoted with the term "observation" which has several subtypes, the main ones being a) participant and non-participant, b) concealed and open, c) standardized and non-standardized, d) systematical (regular) and non-systematical (irregular), e) natural (fields) observation and observation in laboratory conditions.
6. The observation alone does not provide the social work researcher with an opportunity to rise above the sensually perceivable world. There is a close sensual contact between the reality and social work observation. The researcher has not yet got rid of from the determinants of sensuality.
7. Sensual notions are not immediately related to the sensually perceivable reality. Their formation can be initiated by a mere word or thought. With the help of sensual notions the social work researcher lifts himself over the sensual reality. The generalizations characteristic to a sensual notions form a context that allows to reach aims and ideals without stopping by meticulous sensual details and being impeded by them.
8. Thinking in conceptionscan not be unambiguously identified with thinking in sensual notions. This should be taken into account and this provides a serious problem for the social work researcher, that is, he must pay particular attention to the question of how to distinguish the respondent's information based on thinking in conceptions from that resulting from thinking in sensual notions, since in both of these situations very different data is obtained. If these data are merged, the research results lack scientific consistency and credibility.

9. There are two equally important levels in the process of rational thinking (also social work research): a) understanding and b) mind.
10. An unjustified exaggeration of the possibilities of understanding is an erroneous methodological orientation since the process of synthesizing some research data is impaired in such case. The advancement of thought from understanding to mind is very important, and this results in designing a certain social work "minitheory".
11. Scientific induction and deduction is required in theoretical interpretation of social work survey results, that is, designing "minitheories".
12. Epistemology postulates that both complete and incomplete induction is possible in scientific research, therefore also in social work. Complete induction is evident in cases when theoretic formations apply to all the subjects participating in the research. From the social work point of view, this regards all situations when the general research group is numerically equal to the selected group.
13. In cases of incomplete induction the conclusion is formed according only to a specific part of the group. That is, the general group is numerically larger than the selection group. Such form of incomplete induction as popular induction cannot be ignored. In this case the listing of objects and their specifications is initiated without respect to contradictory cases. This procedure is related to a high risk of subjectivity and tendentiousness. Another widespread subtype of incomplete induction is selective induction. Results in using it include a higher degree of justification for theoretical conclusion than in cases when popular induction is used.
14. Induction in social work research is closely related to an inverse process, deduction, when several things, processes, phenomena or individuals are characterized according to certain theoretical generalizations. However, in social work this thinking pattern founded by Aristotle is not insured from the possibility to make tendentious or misleading conclusions.
15. Induction and deduction has a major role in forming social work "minitheories", that is, theoretically interpreting empirical data which is the weak point in many cases of social work research.
16. In order to design a social work "minitheory", particular attention should be paid to problems regarding the initial principle of this theory as well as the organizational principle and principle of relative completion. A productive solution of these problems requires that a) the role of initial principle can be fulfilled by the simplest and most axiomatic basic conception forming the "minitheory", b) the basic conceptions of this "minitheory" should be organized by respecting the subordination principle, c) a relatively complete "minitheory" represents itself as a scientific truth.
17. It is uneasy to solve problems regarding truth also in social work in this era of globalization and postmodernism since the slogan "Everyone has his own truth" has gained a wide society approval. In this case it is important to be aware of the fact that truth can express itself in two forms: a) as an individual phenomenon characterizing the uniqueness of every person (in this case everyone really does have his own truth) and b) a superindividual mental formation meaning scientific truth existing regardless of the interests, feelings and values of separate individuals (in this case the slogan is invalid). Therefore scientific research, also social work research is being presented with the moment of confrontation between individual and scientific truth.
18. Any scientific conception, therefore also social work "minitheory" features some moments of fallacy besides valid and true conceptions. To distinguish between truth and fallacy is possible with the help of both formal and practical criterion of testing the truth. The practical criterion of testing scientific truth is of higher credibility than the formal criterion also in social work research.

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Muslim Women's as Asylum Seekers: Consequences of Islamic Family Law

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Abstract

The article analyses an impact of Islamic family law to Muslim women, who consequently seek asylum under the 1951 Convention on the Status of Refugees (Geneva Convention), because principles and consequences of Islamic family law in other situations create a well-based fear of being persecuted by state or non-state actors (mostly family members).

The article also analyses Islamic family law, both positive law and Shariah law which in Islamic law has a determinative character. In the article mention of term "Islamic Law" will be translated within Shariah law.

The article examines following items of Islamic family law: consequences of Divorce, children custody and adultery, thus covering more frequently indicated reasons in the asylum application.

The article, however, does not examine cases of potential asylum applications submitted by Muslim women, which are based on circumstances when asylum is sought as a result of active military operations in applicant's state of origin, and reason of persecution conceptually is not related to Islamic law.

Keywords: Islamic Family Law, refugees, asylum seekers, Muslim women, child custody, adultery, divorce, Death Penalty.

Introduction

The Islamic family law of evolution starting from 1960s until today have been more connected with foreign countries and various international organizations pressure to introduce human rights criteria appropriate legislative framework. Despite various national and international organization efforts, and many Islamic countries' laws and regulations of the addition to the human rights principles, artificially introduced law and legal principles are not implemented.

A significant part of Muslim women's indicated reasons of persecution in applications of international protection are related directly to the Islamic family law consequences. As a result significant restriction of women's rights occurs. The article will analyse the main elements of Islamic family law institutes – Divorce, children custody and adultery.

The aim

The aim of the article is to discover the most common Muslim women's given reasons of persecution in their applications of international protection, as well as to analyse them in relation with Shariah and existing human rights standards.

Materials and methods

Traditional legal interpretation methods through which the meaning of law and the purpose of provisions can be clarified, as well as their effectiveness over time and space, with special focus on interactions between various law schools.

Results

Many countries[1], where Islam is the major religion, declare that Islam is their official religion and the source of their legislation, and usually this proclamation is made in the Constitution.[2]

Considering effort of Western countries to harmonize and develop human rights principles in Islamic ones, many Islamic countries have issued new legislation or amended laws (Positive law), which directly affect the human rights field. But this law is introduced artificially, so it does not work.

Some Islamic Law scientists divide Islamic Law in positive law and Shariah law because we can establish very big difference between these legal instruments, which cover all fields of law (including Islamic family law). Islamic Law authorities very often emphasize that positive law is not compulsory for Muslim society because it does not come from Quran and Muhammad.

Islamic law is considered by many as patriarchal and particularly oppressive to women, and yet there are also others – Muslim women – who have rigorously defended their religion by claiming that Islam is the guarantor *par excellence* of women's right.[3]

Islamic law, as we know, is saturated with patriarchal interpretations that have been legitimated and are usually taken for granted.[4] This is one of the major reasons for Muslim women's inequality and discrimination in Islamic Family law, and very often inequality and discrimination transform in persecution with well founded fear from serious harm – mental or physical, or even fear from death.

Divorce

The Islamic law describes clearly defined cases when spouses can divorce – no conditions based on subjective desire to divorce. Islamic law provides greater privileges to husband – both the amount of rights to divorce, and after divorce period – the right to child custody, on spouse's obtained property.

Muslim lawyers were not particularly comfortable with divorce, the "most abominable of the permitted things" and this discomfort spawned a tide of regulations that spoke to divorce procedures, settlements, and residual rights.[5]

Divorce in Islamic countries is an extremely rarely observed social phenomenon, and if a marriage is dissolved, a large public condemnation is expressed, particularly against woman. All her relatives may reject further communication with a woman, which may result in her being left without shelter, without means of subsistence and without employment opportunities. According to the Geneva Convention, divorce without other special circumstances, is not a ground to grant asylum because the main criteria are well based fear and persecution. Living without shelter, means of subsistence and without employment opportunities is not a persecution *per se*. That is why mostly divorce is an additional cause (child custody cases) or consequences (adultery cases) of reason for persecution.

Adultery

One of the world's most debated human right`s violations in Islamic family law, is related to adultery. In countries where there is no Shariah, adultery is not considered a crime, and adultery is not sentenced. By contrast, in Islamic law, adultery is considered as one of the greatest crimes which is mostly sentenced with death penalty. Islam says that only in three cases a Muslim may be put to death i. e., apostasy, adultery and murder. If the fact of adultery is proven true, the woman charged with it would be condemned to death.[6] Islamic Law does not provide an explanation of how to prove adultery, and often innocent people get accused, thus, they are sentenced to death.

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[1] For example, Afganistan, Bangladesh, Kingdom of Bahrein, Marocco, Malaysia, etc.

[2] Krivenko E. Y. Muslim Women`s Claims to Refugee Status Within the Context of Child Custody Upon Divorce Under Islamic Law // International Journal of Refugee Law; 22(1): 50.

[3] Mejia M. P. Gender Jihad: Muslim women, Islamic Jurisprudence, and women`s rights // KRITIKĒ, Jun 2007; 1(1):1.

[4] Ibid, P. 3

[5] Tucker J. E. Women, Family and Gender in Islamic Law. – Cambridge University Press, 2008. – P. 130.

[6] Qureshi M. A. Marriage and Matrimonal Remedies. – Naurang Rai, 1978. – P. 197.

For example, under Iran's penal code, adultery is a "crime against God" for both men and women. It is punishable by 100 lashes for unmarried men and women, but married offenders are sentenced to death by stoning. Cases of adultery must be proven either by a repeated confession by the defendant or by the testimony of witnesses – four men or three men and two women. However, Iran's penal code also allows judges in *hodud* (morality) crimes such as adultery to use their own "knowledge" to determine whether an accused is guilty in case direct evidence is absent.[7]

The aforementioned was also demonstrated at the UK's Immigration Appeal Tribunal case[8], where the appellant from Iran refused asylum. Appellant had an unsuccessful marriage, which ended in divorce in April 2001. There was a dispute between the appellant and her husband over the custody of their child, which was awarded to the appellant. She was later summonsed to court and on arrival learned from the court that she had been accused of adultery. This accusation was entirely untrue and the appellant believes it was made by her husband in order to re-open the question of custody of their child. However, instead of remaining in Teheran, where she used to live, and fighting the accusation in the court, the appellant decided to flee to the United Kingdom. The adjudicator dismissed her appeal because he concluded that she should have remained and defended herself in court against the false charge.

Almost a similar case was judged in the UK Upper Tribunal (Immigration and Asylum Chamber)[9], where the appellant was a national of Pakistan born on April 10th, 1981. The second and third appellants were her daughters. They were also nationals of Pakistan, born on May 7th, 2003 and January 24th, 2007, respectively. On August 20th, 2006 the appellant arrived in the UK, illegally it would appear, accompanied by the second appellant. She claimed asylum on August 29th, 2006 avowing that she had a well founded fear of persecution if returned to Pakistan on the basis that she would be pursued by her abusive husband, that she would be detained and prosecuted as a result of false adultery and attempted murder charges he had filed against her, and that she would be ill-treated in prison. She also argued that she would lose custody rights to her child. On the same basis she argued that her removal would breach her human rights.

If a person seeks asylum from death penalty on adultery basis, mostly asylum application is related on persecution, which is based on membership in particular social group and/or asylum could be granted on humanitarian grounds.

Child custody

According to Islamic family law, "the physical custody (provision of care) of a young child is granted to the mother, while the legal representation (or guardianship) is always father's prerogative. Thus, even if the child can actually reside with his mother until a certain age, she is regarded as no more than a care-giver, whereas the father maintains decision making power over all matters relating to the child.[10] While children's mother and father live together, this Islamic family rule has an informal nature because a man in the family always has the decision making power over all family members, not only children.

A very complicated situation is formed when child's (children) parents are divorced, or the father is dead, or is unable to fulfil his parental duties, and the woman in these circumstances is under guardianship. Women lose child custody mostly under guardianship, because the guardian realizes father's power over the child, and very often the child is separated from mother. In these situations, the mother has only very limited visit rights, and if the "mother moves with her child, both during the custody period and after its termination she can be accused by the father or guardian as kidnapping and, thus, become a subject to sentences, including imprisonment"[11].

[7] Human Rights Watch, Iran: Prevent Woman's Execution for Adultery, 7 July 2010 // http://www.unhcr.org/refworld/docid/4c3adc2b1a.html (accessed on 20.08.2010).

[8] FT (Fair Trail-Adultery) Iran v. The Secretary of State for the Home Department CG [2002] UKIAT 07576.

[9] KA and Others (domestic violence – risk on return) Pakistan v. Upper Tribunal CG [2010] UKUT 216 (IAC) 22.04.2010.

[10] Krivenko E. Y. Muslim Women`s Claims to Refugee Status Within the Context of Child Custody Upon Divorce Under Islamic Law // International Journal of Refugee Law; 22(1): 50.

[11] Krivenko E. Y. Muslim Women`s Claims to Refugee Status Within the Context of Child Custody Upon Divorce Under Islamic Law // International Journal of Refugee Law; 22(1): 52.

In Islamic countries there are thousands of women who have lost children custody, and only some of them have searched for protection abroad.

Muslim women applying for refugee status in these situations would like to escape this, in their view, arbitrary and discriminatory rule, preserve a meaningful relationship to their children, and also protect their children from possible negative consequences.[12]

The most discussed case in the UK, which is related to child custody rights and applying to asylum, is EM case: The claimant, a citizen of Lebanon, arrived in the UK in December 2004 with her son, born in July 1996. She submitted asylum application, which was based on the following information: "Her husband had married her only because of her father's money and that he did not want children. Their son was born in 1996, and her husband sought to abduct him to Saudi Arabia immediately after the birth. He failed in that endeavour and subsequently subjected her to violence of the most extreme kind. She obtained a divorce from the Islamic court and was awarded custody of her son until his seventh birthday. She says (and this is supported by the report on Islamic law in Lebanon) that after that date she would lose custody: her husband or his relatives will have a right to it. In case that she did not want to be bound by that rule of law, she arranged to leave Lebanon on false documents, taking her son with her. She says that she is, as a result, sought for the offence of kidnapping and that she is accordingly at risk of ill-treatment in prison and, she suggests, death. She further claims that she would be the subject of discrimination in legal proceedings for custody. She further claims that her separation of her son from her, albeit in accordance with Islamic law as applied in Lebanon, is contrary to her human rights."[13]

Her asylum application was rejected, because the Court of Appeal "justified their rejection by stating that no flagrant violation of the applicant`s rights to family law would occur in Lebanon, since there would be a possibility for her to obtain occasional visit rights"[14]. Only her final appeal to the House of Lords was successful.

The claims of women for the recognition of refugee status in the cases discussed above are situated on humanitarian grounds.

Conclusions

The article considers following items of Islamic family law – consequences of divorce, children custody and adultery, thus covering more frequently indicated reasons in the asylum application.

1. Islamic law is saturated with patriarchal interpretations and mostly it is a reason for Muslim women's inequality and discrimination in Islamic Family law, and very often inequality and discrimination transform in persecution with well-founded fear from serious harm – mental or physical.
2. According to the Geneva Convention, divorce without other special circumstances is not a ground to grant asylum because the main criteria are – well based fear and persecution. Mostly divorce is an additional cause (child custody cases) or consequences (adultery cases) of persecution reason.
3. If a person seeks asylum from death penalty on adultery basis, mostly asylum application is realated on persecution, which is based on membership in particular social group and / or asylum could be granted on humanitarian grounds.
4. Mostly under guardianship, women lose child custody because guardian realizes father's power over the child, and very often the child is separated from mother.

[12] Ibid, P. 48.

[13] EM (Lebanon) v. Secretary of State for the Home Department, [2006] EWCA Civ 1531, United Kingdom: Court of Appeal (England and Wales), 21 November 2006.

[14] Krivenko E. Y. Muslim Women`s Claims to Refugee Status Within the Context of Child Custody Upon Divorce Under Islamic Law // International Journal of Refugee Law; 22(1): 55.

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Problems of the Use of Technical Means in Crisis Situation

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Abstract

The effectiveness of each crime detection and investigation depends largely on how the State police officers and other persons directing the proceedings are familiar with the process and how skilfully use scientific methods, using modern technical tools and techniques (methods) in evidence obtaining, exploration and evaluation. Consequently, it can be concluded that one of the major challenges cuccently in crime detection is to understand correctly and be able to use those technical features that are directly required to be used in particular crime detection, and which use will give the most effective return on the crime detection, as well as be aware of the features that will make no financial problems in the process for persons directing the proceedings during crisis. The author sets out in details and justifies the use of forensic techniques in legal and practical aspects providing concrete proposals for solving problems and options for effective use of technical resources in times of crisis. Similarly, the work reflects the technical innovations in the use of biological trace searching, fixing, removing and latest techniques (DNA analysis, etc.) in biological trace extensive investigation (examination) process.

Keywords: blood, traces of biological origin, DNA, DNA genetic examination, DNA profile, erythrocytes.

The aim

The aim of the article is to analyze laws and regulations and scientific literature in the field of the use of forensic techniques, in the context of its real practical possibilities of usage during crisis.

The tasks

1. Update the possibility of the use of technical means during crisis.
2. To find the solution for the qualitative removal of the biological traces and their packaging.
3. Expert competence development opportunities.

The problem of the research

1. The use of various technical instruments in criminal investigations.
2. CPL does not precisely define the requirements to the expert for his possible amount of knowledge over a given sector (minimum of knowledge) and options to check or verify them.
3. Unprofessional removal and packaging of biological traces.

The novelty

1. To adapt CPL Section 326 Part 2 point 6 (current version – "the utilised scientific-technical means") following "utilised technical means".

2. To work out normative act subordinated to the Court Expert Law (regulations of the Cabinet), which clearly sets out the requirements for the expert necessary amount of knowledge over a given sector (minimum of knowledge) and an option to check or verify them.
3. To take full advantage of blood, saliva, sperm and other biological traces of the person identification, law enforcement officers must have specialized knowledge in this field (professional development courses).

Legal regulations of the use of technical means

The effectiveness of each crime detection and investigation depends largely on how the State Police officers and other persons directing the proceedings are familiar with the process and how skilfully they use the scientific method, using modern technical means and techniques (methods) in proof extradition, investigation and evaluation. Consequently, it can be concluded that one of the major challenges currently in crime detection is correctly understand and be able to use those technical means that are directly required to be used in a particular crime and its detection, which will provide the most effective return on the detection of crime, as well as in-depth will not cause financial problems for persons directing the proceedings in the crisis situation.

Article 33 of the Criminal Procedure Law (hereinafter referred to as CPL) states that "an expert of an expert-examination institution has authorisation to perform criminal proceedings if he or she has acquired the right to perform specific types of expert-examination and has received a task from a person directing the proceedings."[1] As one of the main conditions in the Article 33, Part 2 provides that an expert on the assignment of a person directing the proceedings conducts the search of the scene, time, area, inspection of the subjects, using the expertise of an offense trace and other things to find and withdraw, but neither in this section nor in whole or also in other legislation it is determined what knowledge and to what extent the expert must have the above-mentioned proceedings on behalf of the person directing the proceedings.

As one of the most challenging tasks for a person directing the proceedings at the moment is an opportunity to make sure that the expert has acquired knowledge (e. g. in biology, chemistry or another science) and a certificate in the specialty of the court expert or has acquired the knowledge of general science or sectors thus being able to exploit the correct methods and all types of scientific and technical means for carrying out the inspection of the crime scene, removal of samples so that no small importance is directly based on the detection of crime.

CPL Article 325 provides that the minutes of an operation shall record the course of an investigative action performed in pre-trial proceedings, but CPL Article 326 states that the minutes of a procedural action shall indicate what scientific and technical means have been used during legal actions (crime scene investigation, etc.). The correct use of these scientific technical resources in a scientifically and economically right way is dependent on an expert's knowledge. Assessing the situation in practice, it can be concluded that a person directing the proceedings relatively relies on the existing knowledge and integrity of an expert (specialist). Judicial Expert Law provides that a person who has special knowledge and experience in science, technology, arts or crafts sector and has acquired the right to forensic expertise in the procedure prescribed by the Judicial Expert Law.[2] According to the prescribed statutory Cabinet Regulations No 427 by the Court Experts Law issued (Riga, June 10, 2008) "Judicial expert certification and recertification procedures" make it clear that the court expert must have a certificate attesting his special knowledge and give the right to carry a particular type of expertise in the specialty.

Thus, it can be concluded that the expert, according to CPL regulations, guiding the process on behalf of the person directing the proceedings and participating in activities such as scene inspection, sample removal, trace and other objects withdrawals, has no precisely defined requirements for their

[1] Kriminālprocesa likums (21.04.2005., "LV", 74 (3232), 11.05.2005.) ar grozījumiem, spēkā ar 01.10.2005., 33. pants (Criminal Procedure Law, Article 33).

[2] Tiesu ekspertu likums ("LV", 200 (3984), 23.12.2008.), 1. pants (Court Expert Law Article 1).

likely volume of the knowledge of the sector (knowledge-minimum) and the possibility to control or check it.

It is true that the effectiveness of crime detection and investigation depends largely on the skilful use of modern technical means and scientific methods of evidence collection, research and evaluation. Consequently, the expert has important role as the expertise performer and as an expert (specialist) in scene examination performance (CPL A. 33).

Courts expert as a performer of the expertise competence assessment, certification and recertification procedures is regulated by a number of laws and regulations:

- 12.12.2008 Court Expert law ("LV", 200 (3984), 23.12.2008.),
- Cabinet Regulations No 215 "Classifier of the court expert specialities", Riga, March 25, 2008 (prot. No 19, § 39),
- Cabinet Regulations No 427"Judicial expert certification and recertification procedures", Riga, June 10, 2008 (prot. No 38, § 18).

However, the legislation does not set the volume of competencies required for the court expert, who participates as a "professional" in crime scene examination. Consequently, it is worth discussing the question for the experts who participate in realization of procedural rules of CPL, it is necessary to develop a subordinated to Judicial Expert Law (Cabinet Regulations) legislation in which these issues are settled. Right now the experts' competences arriving at CSI are identified, and they are included in relevant institutions (departments) as employees or official job descriptions are adjusted, but considering that the expert on the scene should remove traces of different nature (e. g., finger traces, foot prints, biological traces, traces of explosives, etc.) as one of the criteria could be that the Court Expert Law and the Cabinet Regulations shall establish and define precisely what should be a minimum degree or have professional education program (minimum) where experts can use their knowledge of scientific and technical means within the framework of CPL of procedural actions such as examination of scene, corpse, area and object inspection by the person observing, and the removal of samples for comparative research. Consequently, it may partly be concluded that insufficient knowledge of an expert or a person directing the proceedings for scientific and technical means and methods for carrying out procedural actions may not only adversely affect the future course of certain criminal proceedings, but also in some cases affect the budget wasteful consumption. Under the Criminal Procedure Law Article 326 "Content of Minutes" requirements through the minutes of proceedings are indicated, including any scientific technical means used in proceedings. To be able to distinguish and correctly understand what scientific technical means are used to detect criminal offense, the person who uses technical means must be of theoretical and practical skills in their use. As one of the options there are the theoretical and practical skills by learning to learn in a field, specialty (professional standard).

Analyzing the term "technical means", it should be distinguished from the term or any other national experts' nominated definition of "forensic technique". The term "technology" does not need any special explanations; it identifies the resources produced by human beings in order to achieve their objectives (e. g., vehicle use to access the crime scene). The world has known a variety of technical fields: medical equipment, military technology, space technology etc. and among these sectors may also be included forensic technique.

Forensic technique is an artificially created set of tools intended for specific tasks. The authors from different countries have stated allegations that forensic technique is "a set of technical means", that is, equipment, apparatus, machinery, tools and materials package, and that they are used only for crime detection – in a whole building forensic technique. The word "technique" has derived from the Greek word *tehne* – art, skill or craftsmanship. Initially, the word "technology" had only one meaning: a set of operational skills. So, first and foremost, technology is something of an action method or set of techniques used during the operation, as well as excellent knowledge of these techniques. Each has well-known terms such as, for example, painting technique, technique of violinist, or even hockey player's technique. The technique firstly is understood by ability or skill in carrying out some activities. This skill is the employee's proficiency index. Only later the word "technology" appeared in the second

meaning: the machinery, equipment, tools, devices, substances and materials. The focus in technical term, however, is that it is the skill set of human activities. Technique is a practical set of operational practices, including – use of tools and resources.[3] From the above mentioned it follows that a scientific technique that we use during legal proceedings within the CPL must be approved and the reasons for their application must be scientifically substantiated. Analyzing applicable technical means of crime detection used in Latvia, we can conclude that their use does not necessarily have a scientific basis, but often has a practical application. For example, 1) taking fingerprints of dead bodies, seizure of biological traces in developed countries are used solely for this purpose specially prepared forensics, biology, and taking fingerprints from dead bodies and trace suitcases with special equipment. In Latvia, taking into account the current economic situation, in some cases to get hand traces from the dead body a variety of everyday applicable technical resources are used, tools, and the correct application based only on the expert or specialist's experience acquired and the experienced expert advice, for example, scissors, match box, paper etc. 2) determination of the shooter's position using lasers or specially for that purpose established kit, but in cases where such equipment is not accessible, string is used, etc. So we can conclude in part that crime detection could be provided using both forensic techniques (approved and scientifically valid) and utilitarian technical means and tools. It is therefore debatable whether instead of CPL Article 326, Part 2, Point 6 (current version – "used scientific technical means") is not necessary to make another version, for example, "used technical means" which would allow to use a variety of technical means in disclose of criminal offense.

Traces of biological origin

Biology (from Greek: *bio* – "life" and *logos* – "theory") is a complex science of life in all its forms and live matter organization (molecular, cellular, tissue, organs, organisms, organisms cluster level).

Traces of biological origin can be divided into a human body waste and tissues, the zoo, or animal facilities and botanical, or plant facilities, as well as micro-organisms. More often in crime scene are found traces of blood, head hair or hair from other parts of the body, faeces, urine stains, saliva, semen, sweat, tissue coverage of the skin (epidermis) or smashed tissues (muscle, brain, etc.) as well as separate body parts. Human tissues and secretions should be differentiated from animal or plant origin, as well as from non-biological nature substances (e. g., human blood, the colour or fruit juice). Traces of biological origin, such as blood, semen, sweat, saliva, vaginal secretions, urine, faeces, hair, human body tissues and bones provide extensive information about the event and eventual suspects. The human body and its organs is biological source of the traces. Blood is a fluid connective tissue, main mass of which is constantly moving. These are the red blood cells and blood platelet suspension in blood plasma. Blood with the lymph and tissue fluid form body's internal environment. An adult person has 4–6 litres of blood, which is 6–8% of body weight. In physiological resting state whole blood quantity does not circulate as part of the blood is in depot organs. Of this total amount 40–50% is blood components, that is, blood cells, but 55–60% is fluid intercellular substance, also known as the blood plasma. Human blood and its functions can be carried out if it constantly rotates through a closed circulatory system. Semen consists of sperm and seed liquid, consisting of testis suffix, seeds vesicle, prostate and Cooper gland secretions. These secretions activate the sperm mobility and protects from environmental influences. Saliva is the substance which liberates the human salivary glands and the oral cavity of other animals. Saliva contains about 99% water as their primary task is to take part in carbohydrate digestion, maintaining a constant pH, to moisturize the mouth cavity, as well as to protect the teeth from damage. Every day in the human mouth around a litre of the secretion is formed. During human life, about 30.000 litres of this liquid, equivalent to the volume of about 40 baths, is generated.

Sweat glands are in the true skin layer. They are hosted diffusely throughout the body, but in some areas their amount is particularly high – on the hands, feet and armpits. It is known that on a square

[3] Evardsons A. Kriminālistikas tehniskie līdzekļi. – Rīga: Biznesa Augstskola Turība, 2007. – 52. lpp. (Technical means of criminalities).

centimetre there are 500–1000 sweat glands. The main functions of sweat glands are the regulation of temperature and elimination of metabolism end products. Sweat is the fluid secretion, which consists of water, salts, proteins and other substances. Sweating is how the body regulates body temperature. By exuding of sweat, body is cooled. The human body's fibrous tissues and secretions, desiccation of no hygroscopic surfaces, mould a crust, while on the absorbent planes the spots.

By a man's touching objects or exuding biological substances from the body, they relatively form traces, which can be used in crime detection.

The legal justification of identification of biological traces

To perform proceedings and person identification the State Police officers should do this in accordance with applicable laws and regulations that determine when and what persons are entitled to remove the traces in the crime scene, and take out the necessary samples from individuals.

According to the Law "On Police" Article 12, Part 14, "a police officer, performing his/her obligations under the competence of service are eligible to register, take fingerprints, acquire other data necessary for identification of persons, obtain audio recordings, take photographs and film persons who have been detained, accused of committing a criminal offence, are under administrative arrest, as well as persons who have committed other violations of the law, if such persons knowingly resist identification".[4]

Criminal Procedure Law Article 64, Part 2 provides that a detained person has a duty to allow for him or herself to be subjected to a study of an expert, and to submit samples for comparative study or to allow that such samples be obtained. Criminal Procedure Law Article 67, Part 4 provides that the suspected person has to permit that he or she is subjected to the study of an expert, and to submit samples for comparative study or to permit such samples to be obtained.

Based on the aforementioned Article 64, Part 2 of the Criminal Procedure Law and Article 67, Part 4, the police officer has the right with the consent of detainees or suspects to subject their biological removal of samples to obtain a comparative sample.

Criminal Procedure Law Article 74 stipulates that the accused in all stages of criminal proceedings has the same obligations as the suspect. On the basis of this law the author concludes that if a person until one has the status of the accused has not been taken out biological comparative sample, it can be removed even if the person is granted the status of the suspect.

In cases where traces of biological origin are found on the crime scene, and it is necessary to ascertain whether they belong to the victim or witness, a police officer on the basis of the Criminal Procedure Law Article 207, Part 2, which provides that "in order to ascertain whether traces on objects, or circumstances significant in criminal proceedings, have arisen as a result of the activities of other persons, samples may also be taken from such persons, examining such persons accordingly as victims or witnesses"[5] and to remove samples from the victim or witness. Biological material removed from the sample givers is saliva. Saliva is taken using the biological material removal kit, which is issued on request by Forensic Department.

With the exception the biological material from sample givers must be made in accordance with biological material removal act in triplicate. If the person directing the proceedings has a reasonable suspicion that a person is related to the offense, but the process is in the interest not to reveal that the person directing the proceedings has suspicion, then a police officer on the basis of Article 226, Part 1 of the Criminal Procedure Law, which states that "if the interests of proceedings require that it not be disclosed to a person that suspicions exist regarding his or her association with the committing of a criminal offence, samples for a comparative study may be obtained without informing the relevant person regarding the obtaining thereof".[6] If the person does not want to give a comparative sample, but

[4] Likums "Par policiju" (04.06.1991. , Ziņotājs, 37, 24.09.1992.) ar grozījumiem, spēkā ar 04.06.1991., 12. pants (Law "On Police", Article 12).

[5] Kriminālprocesa likums (21.04.2005., "LV", 74 (3232), 11.05.2005.) ar grozījumiem, spēkā ar 01.10.2005., 207. pants (Criminal Procedure Law, Article 207).

[6] Kriminālprocesa likums (21.04.2005., "LV", 74 (3232), 11.05.2005.) ar grozījumiem, spēkā ar 01.10.2005., 226. pants (Article 226).

the person directing the proceedings needs it Part 1 of Article 109 of Criminal Procedure Law stipulates that "the detainee, the suspect and the accused is obliged to allow from him / her to take samples for the comparative studies, but from the person against whom criminal proceedings are initiated, the witness or victim to the comparative studies needed samples are forced to be removed only with the investigating judge's permission." [7]

Under the Emergency Operation Law Article 6, Part 4 "operational samples, including biological samples can be obtained and their operational research can be carried out, but these funds must not cause harm to human health and the environment and their use shall be determined by the operational entity".[8] According to the above statutory requirements of the Criminal Procedure Law, the comparative biological samples seized from persons are sent to the Biological Expertise Department of State Police Forensic Department.

Search of biological traces on the crime scene

To make a search and seizure of trace of biological origin, before leaving to the scene it is necessary to equip a kit, which includes hemophan, Fosfotesma, 3% hydrogen peroxide various magnifying glasses, UV lamp, tweezers (eye, medium and large anatomic), scalpels (eye, medium and sharp end), scissors, cobbler's knife, rubber gloves, gauze pads, cotton wool, adhesive tape (lifting tape), 3–4 tubes, household aluminium foil, 0.5 l glass jars, flannel cloth napkin.[9]

During the scene of examination it is necessary to know the facts of the violent death, or eventual staging, that is, the time and location of crime implementation, as not always corpse's location is in the location of the offence commitment, information on victim and perpetrator, crime tools and their application forms. Crime scene examination protocol describes in details the posture of the dead body (position and location (as opposed to other objects); injuries on the body, clothing damage, daubs (different lay-up traces of biologic origin: blood, semen, hair, soil particles, plants, etc.); dead body bunk and the adjacent surroundings (left or lost offender subjects: cigarette butts, matches, scourers, loop, etc.); different traces (objects) on the dead body and clothes (in order to secure against the extinction of the trace and the emergence of new lay-up traces).

Analysis of practical activities which are carried out at the time of the crime scene examination, publications and literature has helped to conclude that murder and rape cases resulting injuries, and the resulting formation of the victim and the perpetrator's physical interactions, thus the place, where is the formation of the physical contact of different nature and origin of the traces: person's blood, semen, saliva, urine, faeces, hair, human body tissues, a personal odour, fabric and other materials, fibres, soil particles, various micro objects of the victim or perpetrator's clothing and body. By analyzing the location of left traces it is generally possible to determine the tool of the offense and where the victim in relation to the criminals was present during the committing of the offense. To take full advantage of the information that can be received and understood on the scene, it is known that the biological traces change over the time because of time factors and environmental conditions (sunlight exposure, environmental temperature, humidity) affect the presence or absence and the identification of opportunities for detection of the offense during crime scene examination.

During the crime scene examination the officer, who is in charge and performs the task, has to understand that one of the primary objectives is trace search on the crime scene, as well as understand that in the search of the biological traces similar investigative techniques like trace detection should be applied, speciality of searchable objects should be taken into account though. By the analysis of blood trace's localization it is generally possible to identify the alleged offense, the tool, its shape, size, and

[7] Kriminālprocesa likums (21.04.2005., "LV", 74 (3232), 11.05.2005.) ar grozījumiem, spēkā ar 01.10.2005., 109. pants (Article 109).

[8] Operatīvās darbības likums ("LV", 131, 30.12.1993.) ar grozījumiem), spēkā ar 13.01.1994., 6. pants (Emergency Operation Law, Article 6).

[9] Miezis V., Vasiļevska L. Pēdu un lietisko pierādījumu atrašanas, izņemšanas un saglabāšanas līdzekļi un tehniskie paņēmieni. – Rīga: Latvijas Policijas akadēmija,1994. – 34. lpp.

the manner in which this tool has been in effect for the victims. The victim's initial state shows the change of blood trickle stain, its shape and configuration of the face or clothes. If there are visible traces of blood in the intersection of the expiry of the dead body, it shows that the victim's initial position has been changed, but daub traces lane way indicative of the victim's being dragged along the ground. When around the victim is visible blood puddle border, it means that the posture has not been changed. If the victim has suffered bleeding injuries, but near its location are no blood traces, this shows that the dead body has been moved from the crime scene. If the victim has suffered personal injuries while in the upright position, the blood traces may be found on the victim's shoes, but most definitely on the offender's upper part of the clothes or on hands. If the victim gets personal injuries while in the horizontal position, the blood traces may be located on the offender's pants or shoes. If traces of blood are on the offender's back and shoulders, it shows that the beats ave been made on the bloody body with the object that has a large force of the lever (axe, hammer, etc.). If the victim has been strangled, there are no blood traces on the offender's clothing found.

In murder, which is linked to the rape, the victim's saliva, blood traces, traces of semen, vaginal secretions and faeces may be present in the offender's genitals, on the legs, underwear, pants, garment linings, etc. Due to the fact that the biological traces remain on its properties for a short time it is necessary to use special techniques and technical means. Trace search efficiency can be increased by using conventional light sources and viewing the surface of obliquely incident light. If the offender has tried to destroy the traces, then, using technical means, for example, 3.5 × magnification magnifiers with light, forensic magnifying glasses, lighting tubes ("Svet 500", "Svet 1000"), an ultraviolet lamp ("204 Fluotest", "Square"), self-lighting means ("UK-1", "OLD-41"), may facilitate the search.[10] Blood traces by absorbing ultraviolet rays, appear as dark spots. Semen fluoresce pale blue. Blood and semen mixed traces, do not fluoresce. Treated with the reagent suspicious spots are beaming forth light. This phenomenon is rapidly disappearing, but, regardless of it, luminescence indicates the presence of blood. Use of luminol significantly impairs blood analysis; therefore, a small part of the room is handled for obtaining a positive result, and reagent application is terminated. For sperm trace searching in the crime scene the reagent Fosfotesma is used. The indicator layer pad is soaked with the reagent, previously wetting tray with water, pressed to explore the edge of the object, if the tray turns bright purple, it has a positive reaction. For affixing traces of biological origin the same methods as for the other traces are mainly used. For finding concealed traces light filters are used to transparently show the direction of the traces, depending on the trace gathering surface colour, taking photographs white and black arrows should be used. In compiling the sketch of crime scene, legends are applied to the scheme: a single blood trace – "AT", the bloodstain – "T" (stain), trace consisting of perspiration and body oils – "STP", sperm trace – "Sp". In the crime scene examination protocol is required recording of the traces in the order and manner in which they are found during the examination.[11] Incomplete and superficial way of a protocol often makes it difficult in crime detection and use of evidence as well as search of the criminal. Careless drawing up of the crime scene examination protocol and incomplete presentation of information in it (such as wrong description of blood traces by the colour, the formation of trace type, shape and conjunction to a particular crime scene) may further lead to procedural problems in a criminal case, which may result in difficulty to bring an individual to criminal liability. During the crime scene examination of possible blood traces the records shall identify the time and place of trace finding (stains on the victim or the suspect's clothes or belongings, whether they are wet, dry or dirty), trace colour (light red, brownish red, light brown, gray, greenish), trace physical condition (dense, dry, exterior dry, humid, moist in centre, fully wet), trace dimensions (two dimensions present, or each trace diameter), shape of the trace being either a drop (some or many), a puddle of blood, blood trickle stain, bloodstain (round, oblong, smooth or coin shaped, with smooth or toothed edges), splashes, daubs, fingerprint pattern. After the blood trace physical conditions

[10] Miezis V., Vasiļevska L. Pēdu un lietisko pierādījumu atrašanas, izņemšanas un saglabāšanas līdzekļi un tehniskie paņēmieni. – Rīga: Latvijas Policijas akadēmija, 1994. – 36. lpp.

[11] Evardsons A. Kriminālistikas tehniskie līdzekļi. – Rīga: Biznesa Augstskola Turība, 1994. – 37. lpp.

and colour it is possible to establish the approximate timing of the formation of blood traces, if officers carrying out the crime scene examination take into account the influence of the environmental factors on the traces of biological origin – blood.

Light red colour is characteristic to liquid blood, which remains only a few minutes, but then changes gradually to a light brown, brownish-red and finally brown, but without losing the reddish tinge. The blood colour remains for 3 days, after a month changing into brown, but after two months into gray. Colour factor is determined not only by the time but also the environment, temperature and sunlight. Blood during drying acquire the greenish tinge. So the timing can be determined by the colour of blood. For the accurate determination of blood colour, the forensic colour atlas should be used. Certain blood stains are in a star-like shape, if they are located near one another in chains, indicative of the rapid movement of the source of bleeding, but the puddles of blood – a serious bleeding. Various forms of stains indicate falling drops, for example, coin-shape traces with smooth edges on a horizontal surface are formed where the bleeding object is no more than 50 cm from the surface, when the object is located above the stain on the edges, the teeth appear, the size of which depends on droplet drop height.[12]

Splash of blood appears at the moment of punch, moving the tools of crime, or when a series of shocks are done, as well as in arterial injury cases. Arterioles appear in small artery damage cases. Blood trickle stains indicate blood flow along an inclined surface. Various form daubs indicate touching bloody objects or dead body's contact with the traces receiving surface. Contact can result in the creation of fingerprint pattern bloody traces, etc. At the finding of trace, photo fixation and documentation in the crime scene examination protocol, sketch or scheme of biological origin objects must be seized under the following conditions: all the actions are performed with rubber gloves, tweezers and scalpels are used as tools, after each object removal tools must be cleaned with ethanol-wetted cotton swab, but then should be wiped with a dry cotton wool or gauze piece not to transfer trace from one object to another, all wet seized items must be dried at room temperature before packing, avoiding direct sunlight. Taking into account the above mentioned blood traces located on smaller items or pieces of clothing, these should be removed with an object. But if the blood and semen traces are located on large or valuable items, they can be removed with adhesive tape or lifting tape assistance. If the traces are on walls, doors, frames or floor, they can be removed by scraping or cutting the sector.

Hair should be removed with anatomical tweezers. Perspiration and body oil consisting fingerprints, which are not valid for personal identification, what should be established during the crime scene examination must be removed on a specificl adhesive tape, the finger trace or lifting tape. Individual human odour is taken out on 10×15 cm size cotton or flannel wipe. It is closely applied to the fragrance subject, covering it with aluminium foil and keeping in contact for one hour. The wipe with the odour is placed in a glass jar, hermetically closed by a rigid lid. Individual human odour must be removed under specific precautionary methods to avoid damage of it. Officer must have rubber gloves, and cover the objects with a cotton or flannel cloth, and it should be done with a clean pair of tweezers sterilized in advance; disinfection is done by allowing the possibility of an open flame to increase exposure of the tweezers. And in those areas smoking is categorically prohibited. In conclusion, the relatively frequent mistakes are made packing items in one package, because the traces are often irretrievably damaged, and experts – biologists are not able to continue to study and get any useful results or information from the object. In a situation where there is doubt whether a found substance is blood, they can do the express research already on the scene. Usually it is done by an expert who participates in investigation. This study is indicative, therefore, subsequent laboratory study of spectral, micro spectral, chromatographic methods of analysis is indispensable. For on-site expert examination various chemical methods are used. Professionals in laboratory are in disfavour towards it, because stains are damaged, sometimes destroyed. Therefore, the present methods would be admissible if large stains are found.

The substance can be studied by using freshly prepared 3% hydrogen peroxide aqueous solution (hydrogen peroxide). It reacts with the blood decomposition and the resulting form of oxygen and water

[12] Miezis V., Vasiļevska L. Pēdu un lietisko pierādījumu atrašanas, izņemšanas un saglabāšanas līdzekļi un tehniskie paņēmieni. – Rīga: Latvijas Policijas akadēmija, 1994. – 38. lpp.

(free oxygen released in small bubbles form, leading to foaming). Detailed white foam material suggests that the found substance contains catalyse and peroxidise (includes blood composition) that reacts to hydrogen peroxide. Almost every person in his / her life has seen it, the reaction is the same as treating a bleeding wound with hydrogen peroxide – this allows to use the method to the person with little experience. This method also has significant drawbacks: the hydrogen peroxide can not be used for old blood stain express research as where blood catalyses are pulled down, the result will be negative; hydrogen peroxide can not be stored for a long time. A situation may be possible where the traces of existing blood do not react with hydrogen peroxide (test results will be negative), while at the same time it can respond to any other substances which contain blood-free substances (various juices, dyes, chemical reagents, inks, rust, etc.).

Another type of research involves benzidine method. One of the variations of this method is Voskobonykov test to detect the presence of old blood in the traces, and traces exposed to high temperatures (such as explosions and fire cases) and washed traces. Moreover, this test allows the removal from the blood of similar traces in blood-free traces. Benzidine method is based on the blood enzyme peroxidise ability to transfer oxygen from one substance to another, which in turn oxidizes the reaction of introducing indicating substance, changing its colour (from colourless to blue). However, even this method has its drawbacks – positive result is possible with iodine salts, formalin, etc.

Experts do not recommend the use of this method of the 50s of the last century, because blood stains will have challenged and the human health is threatened; benzidine is a carcinogenic substance, it is acceptable to work with it only under strict precautions.

As a preliminary method, experts of the National Centre for Forensic Medical Expertise of Forensic Clinical Laboratory Association Organic serological and DNA laboratory investigations use a similar colour reaction taken over from colleagues in the Netherlands, who use it as probative. The particular stain is rubbed with the folded filter paper corner, so it does not get damaged or influenced by chemicals and is saved. Firstly, 0.5% tetra base solution of 10% acetic acid solution is dripped on the folder filter, to which blood is irresponsive, but other substances (chlorine compounds, bacteria, banana peel, citrus fruits, melons and all other plant peroxidises, washing powders, formalin, metals which oxidize), which allow to exclude blood stains, are. If there is no blue colouring, 5% barium peroxide solution in 10% acetic acid is dropped, which specifically reacts with the blood, giving a blue colouration. The reaction is highly sensitive. If a bucket of water contains only one drop of blood, it gives a positive reaction. In practice, it is proved that by rubbing filter paper on spotted washed clothes with no visible stains, it is possible to detect the invisible blood stain traces. Like on the dirty clothes among hundreds of other stains mainly household dirt; it is possible to detect blood including older stains, which have changed their typical colour at the aging and external environmental exposure process and visually differ from the surrounding dirt stains.

The substances can also be studied using luminol (chemiluminescent reaction). The method is appropriate to use if there are reasonable grounds for believing that the blood has been changed. For example, it has been scraped from the object; garments and other textile products have been washed with soap, washing powder, chemically cleaned, ironed with hot iron. However, if the substance is carefully removed from the smooth no absorbing surfaces (polished, nickel plated, painted, plastics, etc.), this method will not always give the result. It can not be said that luminol prevents blood exposure studies because use of luminol can lead to various depletions of genetic markers, as well as other important properties of blood, used for testing. Moreover, if a very small blood sample is found, it can be further diluted with luminol solution. The essence of the method is the oxidation of alkaline conditions. It best results in the dark, when a special ultraviolet light, luminescence appears – the stain painting pales blue.

Currently this method is sufficiently widely used in various countries for the determination of the presence of blood, although this method and other methods described above have been quite deficient. As George Siro, Louisiana State (USA) police forensic laboratory scientific officer in his article "Collection and Preservation of Blood Evidence from Crime scene" noted, "in recent years the visualization of blood, using chemical agents has gained popularity. Luminol is usually used as a chemical substance, in contact with blood stains, even in diluted form, makes them shine in the dark. But this method has several disadvantages. Stains have to be similar to blood. The blood must be enough for the genetic traits test. Luminol reacts with copper ions, copper and iron compounds, and cobalt ions. It also reacts to different

colours of existing potassium permanganate and sodium hypochlorite hydrate, which is bleaching agent. Iron cyanide and plant peroxidise can cause false positive reaction. Studies have shown that luminol can destroy genetic characteristics." Some investigators used luminol as a first feature of the determination of blood. With such reckless action it is possible to lose valuable blood stain information. When blood is searched on a crime scene, investigator firstly must use high-intensity light. Diluted blood often forms into a brownish stain where it has been tried to clean. The blood also tends to flow into the floor boards in the slots, soak into the carpet, behind the floor slats, etc. Luminol sensitivity to the diluted blood stains is sometimes used in a bloody trace remova, but it is best is to use volatile organic solvents (merbromyn and ortolidyn), or in the water dissolved chemicals after traces are treated with a fixative agent.

Use of luminol for the detection of hidden blood stains is justified itself, so it has been developed and now new solutions have been created, which do not damage the blood stains and allow it to be successfully used for further genetic research. International Association of Identification conference in 2004 in the United States presented a new luminol blend BLUESTAR, while it was demonstrated as a successful example of the use. An m-car driver had shot a pedestrian, blood spatter on the truck had been washed, the truck was left outdoors for 75 days after the event, besides it had been exposed to the adverse external environment factors. Nevertheless, with the new luminol help traces of blood were successfully discovered, in which the DNA profile was later determined and the victim's relationship with the truck was proved.[13]

During the crime scene examination on the packages of the seized objects the following information should be noted: criminal case number, package number (in cases where several items were removed); investigative operation during which the trace or object was removed; what was taken out, when it was removed (date), where it was removed (address), why it was removed (as by the fact happened), where it was taken out (object, its features), how much has been removed; and how it was removed (method), as well as who withdrew it.

During the survey of experts of the State Police Forensic Department Biological Expertise Section who perform biological it was revieled that approximately 400 research facilities are sent to the Forensic Department monthly, of which 2–5% is not possible to carry out research, because research facilities are not properly wrapped. For example, packaged in an airtight container, biological traces are permanently damaged. So it can be concluded that the police officers who face with the biological trace removal and packaging need professional development courses in which experts theoretically could explain and practically demonstrate how the research objects should be removed and packed on the crime scene for the forwarding for the research. Therefore, professional development courses are necessary for law enforcement officials.

Expert examination of traces of biological origin

Nowadays saliva is used as biological sampling method (with the help of swab), which is taken from the oral cavity, as in such way properly removed sample is valid for a person's identification using DNA methodology.

Hair samples of the victims, also from suspected individuals are taken from five scalping places: forehead, knob, nape and temples (right and left side). If the files show that they could be separated from other parts of the body, samples are taken.

Human hair is located on different parts of the body (head, face, armpits, around the genitals) and on each part of the body they have a specific structure. Thus, for example, comparative samples for morphological inspection must be removed from various hair points in case of suspicion of a rape case. At the same time it can be concluded that this kind of expertise does not always reach the best result because it is not always possible to identify a specific person only at the group home, so in cases of rape on the crime scene a special attention should be paid to the hair with ganglia on the victim's body and clothing, to further identify the person using the DNA method.

One of the latest biological object research techniques is a personal identification with the DNA analysis.

[13] Konovalovs J. Vielas kā noziedzīga nodarījuma pēdas. – Rīga: Petrovskis un Ko, 2007. – P. 112.

For investigation, blood and semen stains, which have formed a direct fall on the object, in the size of 2 lats are used. With the DNA analysis it is not possible to explore the traces, which have been attempted to be destroyed or removed with a wet swab, washing of blood, or in case of the semen stain only 1 to 2 spermatozoa are found. The DNA analysis can be applied if no more than 1 to 1.5 month has passed since the event of the crime; the specimens must be stored in paper packets at room temperature. If during this time it is not possible to send items to the laboratory, they could be kept in cold storage at –20 °C up to 6 months.

Using DNA analysis it is possible to accurately determine the human who blood and semen stains are from, to combine similar investigation of crimes committed by the same person, to determine whether the pregnancy occurred from the suspected person.

Since 1999 in Latvian State Police Expertise Centre the use of deoxyribonucleic acid (DNA) techniques has been initiated to accurately identify suspects or wanted persons by biological (blood, saliva, etc.) traces in connection with criminal offence. In 2001, in the State Police Expertise Centre (State Police Forensic Institute) DNA laboratory was established, but the United States presented a specific laboratory equipment for the DNA method.

Currently, in the State Police Forensic Department biological expertise of a DNA detection method is carried out within the framework of general expertise on the basis of the Latvian Criminal Procedure Code provisions, and the results are used only for criminal investigation or civil proceedings to determine paternity or maternity, identifying a specific individual. Parliament has passed and the President proclaimed the law "The law of National DNA database creation and its use", which came into force on January 1, 2005. (www.likumi.lv/doc.php?=90819), and the performance requirements of this Act are enforced by:

- Cabinet Regulations No 620 (23/08/2005) "About the information to be included in the provision of the national DNA database, as well as arrangements of biological material and biological-traces removal";
- Cabinet Regulations No 319 (05/10/2005) "On the procedure how close relatives of a missing person give written consent to the reference of sample and information for inclusion in the national DNA database and their treatment".

The National DNA database contains the information about DNA profiles and information about suspected, accused or convicted persons, of unrecognized bodies, of missing persons of the Republic of Latvia and of biological traces.

Conclusions

1. For the expert, who accordingly to the CPL standards on behalf of a person directing the proceedings and participates in the proceedings in such places as the crime scene, seizure of samples, traces and other objects, etc. has not exactly defined requirements as to his possible knowledge over a given branch (minimum of knowledge) and possibility to check or verify them.
2. Debatable question of whether CPL Article 326, Part 2, Point 6 (current version – "used scientific technical means") does not need to be made into another version, for example, "used technical means" thus allowing in the disclosure of a criminal offence to use a variety of technical means.
3. In 1980–90ies, by removing traces of biological origin on the crime scene it was possible to determine only group of blood, and partly identify the person by blood group, which was not the direct evidence. Nowadays, an expert in exploring the traces of biological origin using DNA method can identify a particular person, and a person directing the proceedings for this expert examination can use it as the direct evidence in criminal proceedings.
4. In murder and rape cases personal injuries resulting from the victim and the perpetrator's physical interactions develop, thus if the physical contact has taken place, traces of different nature and origin from the victim or the offender's clothing and body can be shped, but these traces are removed imperfectly, or they are removed without understanding the essential meaning and usefulness, and in some cases, officials do not make sense of their use as potential evidence in the future criminal proceedings.

5. Studying traces of biological origin (blood) shapes on the crime scene, law enforcement officers can better determine a person's body movement direction, speed and height of the fall, which allows identifying the mechanism of the crime. If during the examination of the crime scene the biological traces are fixed loosely in the examination protocol reflecting the incomplete information in it (e. g., blood trace incomplete description of colour, formation of trace type, shape and conjunction to a particular crime scene), this activity can lead to procedural problems in criminal case which may result in difficulty in a specific individual criminal liability.
6. The most common mistakes made on crime scene in connection with removal of biological traces are fluffed in the packaging, as a result the traces are permanently damaged, and experts – biologists are not able to continue to make the trace research and identify a specific person.
7. To take full advantage of blood, saliva, semen and other biological traces of the person identification, law enforcement officers must have specialized knowledge in this field (professional development courses).

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Nature and Content of Criminal Policy

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Abstract

Criminal policy, depending on the coverage level of feasible measures can be differentiated as: global, regional, national and administratively territorial which are implemented in definite towns, counties or civil parishes. In criminal policy, its development, realization and correction of political statements a significant meaning belongs to criminal policy methods.

Analyzing the place and importance of criminal policy in political system, one can come across various views of the place and status of criminal policy in the whole political structure of the public administration, as well as the content and nature of the term mentioned.

Keywords: crime, criminal policy, crime prevention, development, deviant behaviour, law, penal system, political system, security, social policy.

Introduction

Security is a support of successful development and welfare of any country, the reason of which is the people's fear of physical, property, sexual, moral, intellectual and other kind of threats. Responsibility of the government and its corresponding institutions is to provide stability of any individual, as well as public system. Crime and other violations of law cause irreparable harm both for separate public representatives and society and civilization at large. Thus, since the time when the mankind began to be aware of these deviations from the generally accepted ones, violations, machanisms and forms were developed how to protect oneself against violation and the prevention it.

The nature of Criminal policy

Even though studies of legal vocabulary much better recognize the term "Criminal justice" to "Criminal policy" due to it not being admitted in legal lexicon and having certain difficulties by forming and realizing the legal policy in the system of legal procedure here in Latvia, it would be more suitable when discussing deviant behaviour. The lack of popularity of the term is largely connected with the legal policy at large, as well as the low level of the government (policy) mechanism

The well-known Finnish criminologist and sociologist *Matti Laineen*, 1994, not without foundation is of the opinion that the regulation of criminal, as well as socially deviant behaviour, as well as public and political attitude towards socially negative phenomena began to develop alongside the development of civilization itself [2]. Delinquents of social norms almost always got severely punished. Undoubtedly, with the development of civilization, there also changed types and forms of responsibilities and punishments.

Human fantasy on how to inflict greater suffering and pain to others, among them creating in the public a model of preventive behaviour and possible motivation, not infringing the rules in order not to suffer torture, has never had any limits nor lack of imagination. Just the corresponding public attitude and cruel repression system were the foundation for the evolution of criminal policy.

Legal literature mentions that the term "criminal policy" for the first time was used in 1804 by a German specialist in law Paul Johann Anselm Feuerbach.

P. A. Feuerbach had doubtlessly great importance in working out the fundamentals of criminal policy [1]. At the beginning of the 19th century he published a very significant textbook in criminal law where the Draft Criminal Code in perspective was also included, which was analyzed in detail using the Roman law. The draft mentioned was approved as the German Penal Code (statute) in 1813. In the cycle of criminal science, P. A. Feuerbach identified criminal policy, criminal psychology and penal philosophy as independent fields of epistemology.

In the criminal policy aspect P. A. Feuerbach paid special attention to the importance of penalty. According to the idea of the founder of criminal policy as a science, the wish to commit a crime may come to an end when the evil of the offence (penalty) can be greater than the unsatisfied need which is at the basis of the offence. Penalty, according to P. A. Feuerbach, was divided into two groups: threatening penalty and the enforceable penalty. The first had a general preventive meaning to deter individuals from criminal conduct due to possible sentence realization in the future. The meaning of the second was connected with the fact that penalty was enforced and the guilty person was punished in correspondence with the norms of criminal proceedings.

Penal system and the practice of its application in general had to correspond to the political viewpoint on the basis of the statements mentioned. It was important to establish the penal system which could prevent certain part of the society from committing criminal offences, as well as penal institutions having the possibility to impose effective sanctions.

Various approaches of revealing the notion and nature of criminal policy are encountered in the criminal law theory According to M. Voronin [6] the nature of criminal policy can be differentiated in three levels:

1. Criminal policy is a wide spectre of measures starting from those of criminal law and ending with measures for public's social development;
2. Criminal policy is the package of measures addressing the social prevention of the crime, including the actions which affect its determinants, as well as the practice of application of measures of criminal law;
3. Criminal policy is the package of measures which include the measures affecting the criminal law.

But the realization level of criminal policy can be differentiated also in a slightly different way:

1. Global or transnational level of criminal policy;
2. Regional level of criminal policy based on country groups;
3. National level of country policy;
4. Administratively territorial level of criminal policy.

Thus, criminal policy depending on the coverage level of feasible measures can be differentiated as global, regional, national and administratively territorial which are implemented in definite towns, counties or civil parishes.

Analyzing the place and importance of criminal policy in political system, one can come across various views of the place and status of criminal policy in the political structure of the public administration, as well as the content and nature of the term mentioned. Without doubt, depending on stating the place of criminal policy in political system, as well as content, one could formulate the aims, objectives, principles, methods of criminal policy and prospects for its further development.

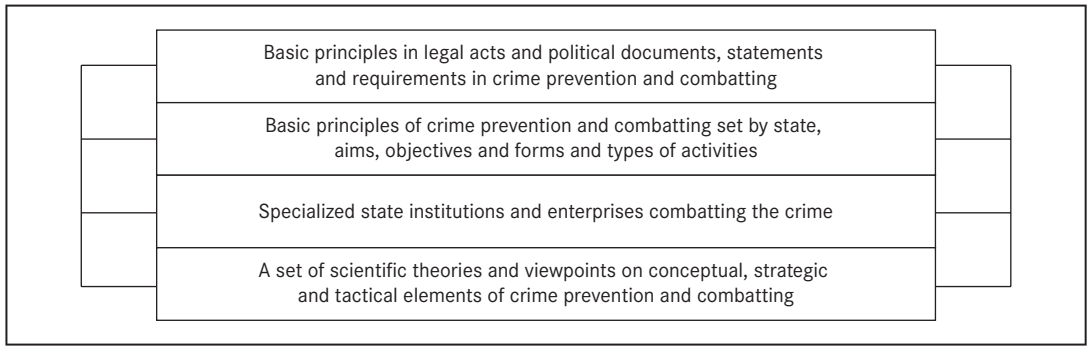
J. Teivāns-Treinovskis [5] admits that at present the term criminal policy is used to reveal the combat of general crime, in which preventive, criminal, penal and strategic aspects are included. From the political point of view, J. Teivans-Treinovskis treats criminal policy like "a special art of politics for guiding the human behaviour into the right direction, i. e., demanding from them, using both positive motivation and coercive measures, refrain from criminal behaviour". One cannot disagree that politics is the art of administration, while, at the same time, the administrational activities are reduced to certain levels – mega, macro and micro. Adoption of political decisions and their realization at the micro level, in reference to a definite individual, refraining them from criminal behaviour, and also at mega and macro levels undergoes several higher stages (legislature, executive institutions, local governments). The crime

determining factors, the so-called socially economic, legal, of administratively organizational character are depicted also at an individual level, forming corresponding values and norms, as well as deforming them. Criminal policy, first of all, is directed towards reduction of the influence of negative socially economic factors as to the society in general, as well as to separate social groups, regions and single individuals. Accordingly, the idea that criminal policy involves only the elements mentioned below is disputable:

- criminal,
- criminal procedding,
- enforcement of penalties,
- crime preventio.

We are more confident that the dependance of penal policy mix on its coverage and content can be differentiated sufficiently diversely (see Figure 1).

Figure 1. Criminal policy



Statements of the issues of criminal policy are determined in international legal acts, developed in the UNO, Interpol, the EU, Europol. It is doubtless that the international acts, accepted by appropriate bodies in Latvia, are binding in our country. The basic principles of criminal policy, its aims, objectives, strategies, and specific measures have been also worked out at the national level. They have been adopted by the Saeima of the Republic of Latvia, the Cabinet of Ministers or other institutions (Crime Prevention Council, National Security Council, etc.).

Issues of criminal policy, principles and strategies are also worked out at institutions, which are implementing a package of measures in the field of crime prevention and combatting, penalty execution sphere, as well as at the level of local governments, in line with the competence and specificities of criminal manifestations.

Criminal policy can be perceived, evaluated and realized as a totality of knowledge and theories on conceptual, strategic and tactical elements of crime prevention and combatting. The appropriate theories and conceptual issues are mainly worked out by research, academic institutions and highly professional groups of authors. Just scientific papers, positive practice and innovative expierence are the basis for working out criminal policy issues and principles at other levels and fields.

The well-known Norwegian criminologist Neil Christie [3] in his monography "Fight with crime as an industry" admits that he has devoted this work to warn people against adverse tendencies in fight with crimes in the future. Crime prevention and its combatting are allegorically compared to companies, enterprises and institutions taken together to satisfy the individuals' basic needs in society, the need for safety, protection against high degree unlawful threats to one's life, health and property, etc. In this context we can say that in the field of ensuring security from criminal threats there is practically no competition observed as a sign of industry (the competence level, rights, duties and responsibility of the police, public procurator, courts and penal institutions do not have any alternatives).

N. Christie admits that the Western society is constantly facing two problems, which are the ground for disorders and crime – inequality in distribution of wealth and products and inequality in paid work. The industry, in its fight with crime (criminal policy) does not suffer from lack of resources, since there

cannot be seen the end of criminal offences, consequently, the demand for legal protection services does not reduce. Price for security and wishes to pay for it increase. Although Christie's work was written more than ten years ago, we can admit that the meaning of crime combatting industry has not decreased even today, but has certainly grown. The demand for legal protection due to criminal offences has increased. The reason for it is the increase in inequality and insufficient provision of paid working places and the amount of salaries, which do not comply with the level of increasing prices. The competence of criminal policy, or that of N. Christie's interpretation of the industry of combatting the crime implies not only optimal development and realization of criminal policy, but also the influence of socioeconomic system, which determines the corresponding crime level, as well as sets for the potential of legal institutions and that of security.

Fight with crime by N. Christie is perceived as a public cultural element. According to him, one cannot achieve the effectiveness of functioning of rights, not linking them to generally accepted norms and values [4]. Except for the notion of criminal policy, legal literature quite often uses such terms as criminal policy; policy in crime prevention and combatting; social policy in fight with the crime; criminal-organizational policy; criminal justice policy. **Policy in the field of crime prevention and combatting**, according to its content, is the state policy which might imply also economic, social, educatively informational, administratively organizational and other ideas. **Social policy in fight with crime** is a set of measures of social character which implies in itself the establishment of territorial planning and refurbishment, building, creation of infrastructural elements, establishing and providing for communication system, taking down socially unfavourable environmental elements (slums), care for groups at social risk and disadvantaged population groups. **Criminal-organizational policy** deals with the management of crime prevention and combatting process and the making of order in institutions and enterprises which are involved in fight with crime (reformation, formation of structural models), perfection of the cooperation, provision of resources and informational base. **Criminal justice policy** is a sufficiently broad concept which implies not only the real action in crime prevention and combatting, but also legal creativity, i. e., a package of measures directed towards the self development of the system. A specific term in criminal law policy discourse analysis is **criminal policy**. It is specific because in many cases the concept mentioned is used as an analogue to the term criminal policy. But such interpretation can be applied not in all cases. If criminal policy involves the element of justice, the close linkage of the policy to the existing legal norms, their improvement, assessment of its effectivity is much broader. In criminological cognitive process it is said that criminal policy is not only the instrument of criminal justice institutions, but also politics, management, strategy and tactics which are used, and is also the base in the criminal structure arsenal.

For example, when new joint companies are organized, new goods and service markets are open, new companies coming into a definite region (town, country), when there is a change of criminal policy (decriminalization of some criminal offenses, liberalization or also criminalization, illegal alcohol production and manufacturing business), when there are changes in the structure of legal protection institutions, management, etc., cause respective criminal activities, strategies and tactics of the activities of respective criminal structures.

In the structure of criminal policy, correspondingly to legal subbranches, or according to the legal activity type, scientists identify also other types of criminal policy, which can be represented as follows:

1. Criminologic policy;
2. Criminal policy;
3. Criminal proceeding policy;
4. Penal policy;
5. Administratively legal policy;
6. Investigation field work policy;
7. Civil policy;
8. International legal policy.

Criminologic policy deals with learning how effective the measures of crime are, determining factors of it, as well as crime prevention and combatting. Criminologic knowledge and results of specific

fundamental and applied research is at the base of adopting effective decisions in the field of criminal policy. To some extent, criminologic knowledge and criminologic policy are at the base of criminal policy and criminal proceeding policy. Amendments to the Criminal Law or Criminal Procedure Law could be based on the study of the effectivity of norm validity and usefulness. No doubt that by surveying the legal practice, one can conclude which Criminal Law norms or procedural provisions of the law are ineffective, outdated and do not fit criminal reality. Besides, criminologic knowledge, adaptation of corresponding methods are also at the basis of the study of foreign positive experience and positively functioning norms, which can be implemented into the national legal system.

However, at the same time we can admit that types of criminal policy, criminal proceeding policy, administratively legal, penal policy may exist and function independently, firstly, at the theoretically conceptual level, secondly, based on historycally stable traditions.

Criminal policy has also its basic concepts, ideas, leading base which can be determined as the basic principles. The basic ideas of the criminal policy depict the principal trends of the state, tasks in the field of crime prevention and combatting. Below the model of basic principles of criminal policy is presented:

1. Social conditionality;
2. Scientific validity;
3. Independence;
4. Legitimacy;
5. Humanism;
6. Justice;
7. Publicity;
8. Interaction of national and individual; interests;
9. Human rights as priority.

What is the essence of the above mentioned basic principles of criminal policy? Doubtless to say that criminal policy must be socially conditioned. The basic idea of criminal policy comes from and is closely connected to the national or its regional social conditions and economic situation. Criminal policy, its basic ideas and strategy must come not from politicians' wishes, but from the corresponding regularities and causal relationship in the society which can be diagnosed only by scientific methods and scientific concept, which states the unity of criminal policy and its scientific validity.

Criminal policy like basic stance in the field of crime prevention and combatting cannot markedly voluntarily change. It is impossible to prevent the crime within a period of twenty years, as it had earlier been proclaimed at the XX congress of the CP of the USSR. Criminal policy has to be sustainable, successive and constant, despite certain political slogans and visions.

Criminal policy and its basic concepts have to be accepted and adopted by the respective national institutions for their further realization. Realization of the criminal policy must be not only legitimate – adopted in a legal way, but also its realization has to be guaranteed by means of respective national resources.

The basic value of criminal policy is connected with the fact how political statements defend human values – a man's, whose rights and legal values as well as law breaker's interests are violated, legal protection and responsibility being must be envisaged alongside with the existing legal acts. The basic principle of criminal policy deals with another essential aspect, meaning that criminal policy must be really humane to those who stand guard over the law and who daily, correspondingly to their competence and status, really participate in undertaking steps in crime prevention and combatting.

There is no doubt that criminal policy should be fair both in relation to the victims of violence and also to the offenders. We have to mention, that at present the legal interests of the offenders in many cases much broader defend the offenders than the persons who had been robbed or raped.

Criminal policy has to be worked out openly, providing a wide discussion of the basic statements if necessary organizing discussions and public debates. The acceptance of political statements should be open but their execution – transparent.

Criminal policy like any other political sphere is the field of national, public and single individuals' interest interaction. Working out political statements, as well as implemeting them in real life is mainly guided considering the national interest dominants. What is essential is doubtlessly the fact that politics is the polygon of communication between various interests, their interaction and protection. In single cases in criminal policy a man seems to be completely ignored as to his / her not less important rights. In hard economic crisis those woul be conditions of insolvency process, defending creditors' interests destroying families, taking away the property which is later destroyed. As a result, one can admit that in criminal policy the primary items are still every person's interests and rights. Consistent taking care of these facts are at the basis of any stable and harmoniously developed country.

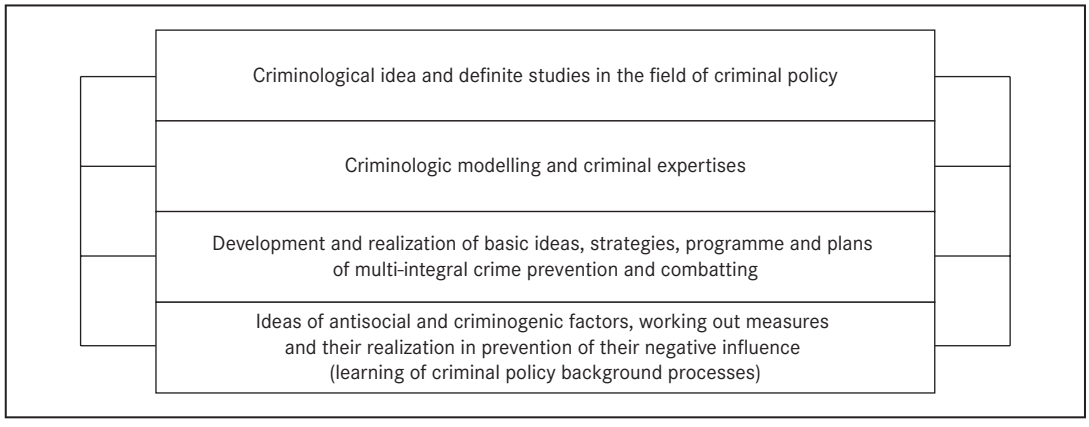
The theory of criminal policy recognizes that except for its basic principles, more definite and more detailed principles may be formulated (see Figure 2) as well. They may be referred to as the general political principles (they may be realized practically in any political coma), as well as include the common criminal policy principles (equality, responsibility or fine inevitability principle). Besides, direct criminal policy principles are clearly identified in criminal policy, which could be included into working out criminal policy, as well as special criminal policy principles.

In criminal policy, its development, realization and correction of political statements a significant meaning belongs to criminal policy methods. In this case the sttention has to be paid attention to the most essential measures, means and instruments, such as criminalistic policy technology (see Figure 2).

We can analyze the criminal policy methods, relying on the adequate stages of political element development. One of the first methods and stages in working out criminal policy is the criminological cognition and definite studies in the field of criminal policy. Initial information, its coverage, objectivity and precision on the situation in criminal sphere has a primary meaning in the further activity in the field of assessment, correction and politechnology creativeness.

In the future it is necessary to do criminologic modelling and criminal expertise. In this case we turn the attention to the fact that a new model is being made in the present and information basis acquired, a sample which could positively change the situation in criminal policy field (to reduce the total number of the recorded offences, the increased number of revealed offences, provided compensation for the damage done, etc.). However, even the further developed model needs to be subjected to the criminal expertise whether the recommended new political statements will bring the necessary positive changes in the society,. whether the repeated drug use after decriminalization of the inflicted administrative fine earlier in the year (excluding the criminal liability from the Criminal Law) will bring some positive changes (will allow to economize on police resources), whether it will disorganize the structures in drug dealing or decrease the price and demand of drugs. It must be carefully studied as the model may develop reverse processes in the society; the narcotics' subculture is possible to develop and progress. It is important to model proper perspective situations and to do the expertise of respective amendments.

Figure 2. Common methods of criminal policy



Methodological provision of criminal policy is in development when working on multi-integral crime prevention and combatting basis notions, strategy, programme and plans and their realization. The method mentioned deals with the fact that in the development of respective political documents and their realization, an interdisciplinary approach is used by involving scientific staff and practical resources and practitioners of great experience in crime prevention and combatting.

One of the most interesting approaches in developing criminal policy statements and strategies deals with learning of antisocial and criminal factors, working out measures and realizing them in preventing their negative influence which is to a full extent outside the criminalistic sphere (learning of criminal policy background processes). Therefore, everybody may agree that law specialists will not be the most perfect professionals in decreasing the unemployment, working out of adequate programmes. The same refers to alcoholism, which is mostly the field of work for health care specialists. Yet, the mentioned methodological approach shows only that all spheres are organically united and interrelated. In the criminal policy development field this fact must certainly be taken into account.

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The Finality, Recognition and Enforcement of Awards in International Investment Arbitration

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Abstract

The article discusses issues related to enforcement of investment arbitration awards. Bilateral investment treaties provide dispute settlement mechanisms for solving investment disputes between the host state and foreign investor without intervention of investor's home state. Nevertheless, there is a number of obstacles that might interfere with successful enforcement of awards of international investment arbitration.

Keywords: investment arbitration, bilateral investment treaties, awards, enforcement, sovereign immunity, act of state doctrine.

Introduction

Since regaining independence, Latvia has greatly expanded its international ties. The transition to market economy and liberalization of financial transactions has enhanced the inflow of foreign capital.

The idea in both industrialised and less developed countries is that private investment is a catalyst for development and prosperity. Therefore, there is considerable competition among states in attracting foreign capital. This competition probably is the primary motivating factor behind the move towards higher standards of substantive and procedural protection of foreign investment transactions. But these higher standards of protection also mean greater derogation of state sovereignty. The state sacrifices freedom of action for the purpose of attracting foreign investment in order to facilitate international co-operation for economic development [1, P. 286].

Latvia, which can be characterised as a capital-importing state, has also worked to improve its legal system and protection of foreign investors. So far Latvia has concluded 44 bilateral investment treaties (hereafter – BITs) that provide basic legal framework for the protection of foreign investment and has become a contracting state of the Convention on the Settlement of Investment Disputes between States and Nationals of Other States (hereafter – the ICSID Convention or Washington Convention) and the New York Convention on the Enforcement of Foreign Arbitral Awards (hereafter – the New York Convention).

Historically the protection of interests and rights of investors was carried out by the investor's home state. Analysis of recent state practice shows that in many BITs the host states have given their consent to settle an investment dispute in international arbitration, therefore providing foreign investor with a possibility of directly invoking state's responsibility for alleged violation of its obligations towards foreign investors.

The aim

The aim of this article is to analyse issues concerning the enforcement of international arbitral awards in foreign investment disputes based on investor-host state dispute settlement provisions of bilateral investment treaties concluded by Latvia.

Materials and methods

To reach the above stated aim research analysis of BITs concluded by Latvia as well as investment arbitration practice will be conducted.

Results

Analysis shows that the enforcement of arbitral award in a foreign investment dispute involving a state party may be impossible if the state party does not comply with the arbitral award voluntarily. Nonetheless, state has legal obligation to comply with such arbitral award.

Discussion

BITs, finality and the binding force of awards

A bilateral treaty for the promotion and protection of foreign investments can be defined as a legally binding international agreement between two states, whereby each state promises, on a reciprocal basis, to observe the standards of treatment laid down by the treaty in its dealings with investors from the other contracting state [2, P. 617]. In addition, a BIT sets forth the form of dispute available to parties in disputes between nationals of one party (home state) and the other one (host state) [3, P. 207].

BITs' standards are designed to protect the proprietary and other commercial interests of the investor against arbitrary and prejudicial action on the part of the host contracting state, thereby ensuring the maintenance of secure and stable investment conditions within that state. The core provisions of BITs concern the standards of treatment to be applied to investments made by nationals and companies of one contracting party in the territory of the other.

One of the most important functions of BITs is to provide an effective and efficient means for the settlement of investment disputes. Thus every modern BIT makes a provision for the settlement of disputes between the investor and the host state. Without such means for dispute settlement, investors are limited to recourse in the domestic courts of the country in which the dispute takes place or perhaps diplomatic protection from the investor's home state.

One of the most important elements of an effective system of dispute resolution is that decisions must be enforceable [4, P. 1172].

Although the recognition and enforcement of arbitral awards rendered pursuant to BITs' provisions on the settlement of investment disputes is regulated by applicable international conventions, such as the 1958 New York Convention and the Washington Convention, several BITs expressly include additional specific provisions in this respect. They state that contracting states undertake to recognise and enforce such awards in their respective territories according to their domestic law. For example, the Latvia-Greece BIT states:

"The awards of arbitration shall be final and binding on both parties to the dispute. Each Contracting Party shall carry out without delay any such award and such award shall be enforced in accordance with domestic law" [5].

Some BITs even specify that enforcement must be granted in accordance with the 1958 New York Convention [6]. For example, the Latvia-Finland BIT states:

"The arbitral awards shall be recognized and enforced by the Contracting Parties in accordance with the 1958 New York Convention on the Recognition and Enforcement of Foreign Arbitral Awards" [7].

But the undertakings found in BITs as to this matter may be considered superfluous when the effect of a final award is already specified in the instrument dealing with the relevant procedure, such as the Washington Convention and the New York Convention [8, P. 449].

Although some BITs as well as the aforementioned international conventions stipulate that the awards of arbitration shall be final and binding on both parties to the dispute, the enforcement of

arbitral awards in foreign investment disputes has been a far more difficult issue than the enforcement of an arbitral award in other transnational disputes involving private parties. The difficulties stem from the presence of a sovereign party. The existence of a sovereign defendant immediately raises issues relating to sovereign immunity and act of state. Sovereign immunity has been a bar to the jurisdiction of courts and act of state has been a substantive requirement that courts do not pronounce upon the legality of the act of a foreign sovereign performed within its own territory [9, P. 289]. Since both issues are relevant to the enforcement of arbitral awards against states or state entities, these will be studied more closely.

The sovereign immunity of the state

Sovereign immunity is a doctrine that prohibits one state from exercising jurisdiction over another state, or its agents or instrumentalities [10, P. 13]. Sovereign immunity may prevent the forced execution of judgements obtained against foreign states or against the state in which execution is sought.

An overview on the sovereign immunity of the state would not be complete without a reference to the two main theories on the subject. The first theory, expressed in the maxim *par in parem non habet jurisdictionem*, states that a foreign state enjoys absolute immunity from jurisdiction in another state, because that other state cannot exercise jurisdiction over its equal. The second theory, called the restrictive theory of sovereign immunity, says that the sovereign immunity of the state exists only for *acta iure imperii*, but not for *acta iure gestionis*.

The plea of sovereign immunity requires the court to withhold its jurisdiction on the basis that principles of comity, and require that it does not assume jurisdiction over the foreign state. The rule stems from the days when European sovereigns refused to exercise jurisdiction over each other. When states became increasingly involved in commercial activities the European courts began to depart from absolute immunity [11] to a restrictive theory of immunity which confined immunity to purely governmental functions and enabled the courts to exercise jurisdiction over the commercial acts of states [12, P. 291]. After some time the United States courts also began to make this distinction [13]. Although the distinction between governmental and commercial acts is now well accepted, the criteria for drawing the distinction remain problematic. In some cases distinction is not difficult, but in complex cases the nature of the transaction might not be easy to determine.

In theory there are two approaches that can be taken in determining whether an act of a state should be immune from jurisdiction. The first is the nature test: is the act of the state one that only a sovereign usually performs? The other is the purpose test: does the purpose of the act further a sovereign concern or a private concern of the state? In determining whether the restrictive immunity doctrine is applicable, many states look to the nature, rather than the purpose of the act of the foreign state [14, P. 47]. Despite this clear preference for the nature test indicated in the legislation, courts do not seem to have followed this legislative direction. They have formulated alternative tests which have relied on the purpose as well as the nature of the transaction [15, Pp. 292–293]. This two-part test [16] requires firstly the examination of the transaction and a determination that it was a private law act. If it was, the second stage is to examine the breach of the transaction and determine whether the manner of the breach was also a private law act. If both can be regarded as conduct falling within realm of private law, immunity could be denied. Nevertheless, in each case the courts will also assess several other factors which will influence the decision concerning immunity from jurisdiction and the execution of foreign arbitral awards. They include the extent of the conflict that could be provoked by the assumption of jurisdiction and the likelihood of the foreign sovereign conforming to its orders, the possibility of the flight of sovereign capital from its jurisdiction in the event of enforcement and other similar factors.

Sovereign immunity becomes relevant even after court assumes jurisdiction to enforce the award on the grounds that the award was based on a commercial transaction. The question is whether the property sought to be attached has sovereign characteristics which prevent it from being attached.

Waiver of immunity

A state is a subject to the jurisdiction of foreign courts if it explicitly waives sovereign immunity, either in a contract between the investor and the state or in an investment protection treaty [17, P. 49]. Thus, the negotiation of a waiver of the sovereign immunity clause in the contract between the state and the investor is the most direct and effective way for an investor to ensure that a foreign sovereign will be the subject to the jurisdiction of foreign courts.

In case of waiver, the principle, which is still generally recognized, is that consent to the exercise of jurisdiction does not involve an implicit waiver of separate immunity from measures of execution [18, P. 347]. This means that a mere arbitration clause should not be relied upon as an implicit waiver of immunity from execution of the resulting award. Therefore, the inclusion of an express waiver of immunity from execution of arbitral awards is highly advisable [19, P. 1168, at para 73].

Nevertheless express waivers of immunity from execution do not seem to be used very often. Only one Latvia BIT contains such a waiver of sovereign immunity. Latvia-Kuwait BIT Article 9 (10) states:

"In any proceedings, judicial, arbitral or otherwise or in an enforcement of any decision or award, concerning an investment dispute between a Contracting Party and an investor of the other Contracting Party, a Contracting Party shall not assert, as a defence, its sovereign immunity" [20].

A waiver of immunity from execution is possible, in principle, but may be subject to specific conditions or limitations under the law of the country where execution is sought. Since most statutes provide for the non-immunity of commercial property anyway, provisions on the waiver of immunity from execution make sense only if they encompass non-commercial property.

The act of state doctrine

The act of state doctrine is another doctrine which constitutes an obstacle to the enforcement of arbitral awards. Sometimes courts which overcome the impediment presented by the sovereign immunity plea use the act of state doctrine as a way out of the difficult task of enforcing an award made against a foreign sovereign.

The act of state doctrine states that no domestic court of a state should pronounce upon the legality of a legislative or executive act performed by a foreign government intended to take effect within the territory of that foreign state [21, P. 307]. For the act of state to apply, the court must have declared an official act of the foreign state invalid in resolving the case before the court [22, P. 424].

Although the act of state doctrine has most often been stated by the United States' courts, it also exists in the jurisprudence of France, Germany, Greece, Italy, the Netherlands, Switzerland, the United Kingdom and other countries.

Given this state of law in most European states as well as the United States, the enforcement of an arbitral award in a foreign investment dispute involving a state party may be impossible if a state party to the investment dispute does not comply with the arbitral award voluntarily. Nonetheless, a state has legal obligation to comply with such arbitral award.

Enforcement of ICSID awards

Under Article 53 of the Washington Convention, ICSID awards are final and binding on the parties to the proceedings. They are not subject to any appeal or other remedy except as provided for by the Washington Convention itself. Under the Convention, post-award remedies are limited to supplementation and rectification [23], interpretation [24], revision [25] and annulment [26]. Annulment of the award may be made on the grounds specified in Article 52. These grounds are the improper constitution of the tribunal, excess of powers on the part of the tribunal, corruption by a member of the tribunal, failure to follow a fundamental rule of procedure and failure to state the reasons on which it is based. The procedure for annulment requires a new tribunal to consider the case. Unlike in the case of ad hoc arbitration, awards are not subject to any review by national courts. National courts only have a role in that they enforce awards made by the Convention under the auspices of the ICSID.

Article 54 (1) provides for a general obligation to recognise and enforce ICSID award. Thus, all state parties to the Washington Convention as well as foreign investors who are parties to the investment

dispute are under legal obligation to comply with awards as if they were final judgements of local courts. Non-compliance by a party with an award would be a breach of a treaty obligation and would carry the usual consequences of state responsibility, including diplomatic protection.

Normally states comply with rendered awards voluntarily. If compliance is not forthcoming, the Washington Convention provides for enforcement. Enforcement under the Washington Convention is independent of the New York Convention and other international and domestic rules dealing with the enforcement of foreign arbitral awards. Recognition and enforcement of awards may be sought in any state party to the Washington Convention not just in the state party to the arbitration proceedings and the state of the nationality of the investor who was a party to the proceedings. Therefore, the party seeking recognition and enforcement of an award has the possibility to select the forum most favourable for this purpose. This selection will be determined primarily by the availability of suitable assets. Therefore, execution against foreign states will usually be attempted in one of the major commercial centres where states are likely to own assets. Proceedings for recognition and enforcement of an ICSID award can even be initiated in several states simultaneously. Only a party to the original ICSID arbitration proceeding may submit the award for recognition and enforcement.

It must be admitted that enforcement has its limit in state immunity. Participation in the Washington Convention cannot be interpreted as an implicit waiver of immunity from execution because Article 55 specifically preserves immunity [27, P. 1166, at para 67]. Under Article 55, a state's immunity from execution remains unaffected by the Washington Convention's provisions on enforcement. An award against a host state need not be enforced if this were in violation of the rules on state immunity as applied in the enforcing state. State immunity applies to the execution of an ICSID award in the same way as it would apply to the execution of a judgement of a domestic court. The procedure for enforcement is governed by the laws of the country where enforcement is sought [28]. This law includes the law on state immunity. In practice, this means that only state property serving commercial purposes is subject to execution for the enforcement of an ICSID award.

At the same time, state immunity cannot be used to impede with the proceedings for the recognition of an award. Article 55 of the Washington Convention only applies to immunity from execution. The obligation to recognise an award as binding under Article 54 (1) is unconditional. State immunity only comes into play when specific measures of execution are taken to enforce the award's pecuniary obligations, typically after recognition has been granted.

Refusal to comply with the award and reliance on state immunity leads to the revival of the right of diplomatic protection under Article 27 (1) of the Washington Convention and may lead to the submission of the dispute to the ICJ in accordance with Article 64 of the Washington Convention.

Overall, one can conclude that due to state immunity ICSID arbitration has a weak point when it comes to the actual execution against states of pecuniary obligations under awards. The self-contained nature of the procedure which excludes the intervention of domestic courts does not extend to the state of execution. The availability and extent of execution depends on the domestic law. If state immunity from execution is not granted or is limited under the local law of the enforcing state, ICSID awards will be enforceable to that extent [29, Pp. 1145–1146].

Enforcement under the New York Convention [30]

The provisions for enforcement of arbitration awards under the UNCITRAL and ICC Arbitration Rules are similar. They embody the principles of finality and binding force of arbitral awards. Though the award of an ad hoc tribunal is final, it is subject to the possibility that the courts with jurisdiction over the seat of arbitration may review these awards. Even an arbitral institution's award reviewed by an institution's internal machinery may not be final and may be reviewed by the courts of the place where the tribunal sat. Recognition and enforcement of awards made under the UNCITRAL and ICC Arbitration Rules are governed by the national law of the place of arbitration and by any applicable treaties. Thus, it appears that efforts to delocalise the award have not generally succeeded and that review by the courts of the place where the tribunal sat cannot be avoided.

Whereas the machinery for the enforcement of ICSID awards is contained in the ICSID Convention, non-ICSID awards, whether made by arbitral institutions or by ad hoc tribunals, have to depend

on the New York Convention on the Enforcement of Foreign Arbitral Awards [31] as the only other international convention providing for the enforcement of foreign arbitral awards [32]. Although the New York Convention is not specifically directed at arbitration involving states, it is argued that its provisions are broad enough to cover arbitration between private parties and states [33, P. 1246]. The New York Convention's central provision is an undertaking to recognise and enforce arbitral awards rendered under the law of another contracting state. Therefore, countries that have ratified this Convention recognise arbitration clauses and enforce foreign arbitration awards in the same way as domestic court judgements.

Although the New York Convention was not designated for the enforcement of arbitral awards against state parties and despite the fact that the New York Convention provides little solace to a plaintiff with an arbitral award against the state, there seems to be a general impression that awards in foreign investment disputes could be enforced under the New York Convention [34, P. 310].

The New York Convention itself does not mention the issue of state immunity. The question of whether the state could raise a plea of immunity depends on the decision of the courts of the country where enforcement is sought. Therefore, decisions on state immunity largely depend on what national legislation may stipulate regarding this subject [35, P. 192]. In the opinion of Schreuer, the function of the New York Convention is to create an obligation for the courts of contracting states to the Convention to enforce arbitral agreements and awards rendered in other states' parties to the Convention. Thus, the combination of an agreement to arbitrate in a state party to the Convention and of the obligations under the Convention should lead to a withdrawal of immunity for the purposes of the arbitration in all other states parties to the Convention. According to this opinion, submission to arbitration also operates as a waiver of immunity [36, P. 1219]. However, since these views are not unequivocally accepted, it is strongly advisable that a waiver of immunity relating to the execution of an arbitral award is explicitly expressed.

When comparing the two conventions we see that under the Washington Convention the domestic court's or other authority's task is limited to verifying the authenticity of the ICSID awards. This means that it may not re-examine the ICSID tribunal's award on the merits, or the fairness and propriety of the proceedings before the ICSID tribunal. Not even the *ordre public* [37] of the state where recognition and enforcement of an ICSID award is sought is valid grounds for a refusal to recognise and enforce. This is in contrast to non-ICSID awards, which, as mentioned before, may be reviewed under domestic law and applicable treaties at the time of their recognition and enforcement. Awards that a party seeks to have enforced under the New York Convention will be subject to the reasons for non-enforcement listed in Article V of the New York Convention. Nonetheless, state parties to the investment disputes have to be aware of the fact that domestic courts dealing with recognition and enforcement of investment arbitral awards usually take a restrictive approach when interpreting Article V of the New York Convention.

Conclusion

Although the recognition and enforcement of arbitral awards rendered pursuant to BITs' provisions on the settlement of investment disputes is regulated by applicable international conventions, such as the 1958 New York Convention and the Washington Convention, several BITs expressly include additional specific provisions in this respect.

Although some BITs as well as the aforementioned international conventions stipulate that the awards of arbitration shall be final and binding on both parties to the dispute, the enforcement of arbitral awards in foreign investment disputes has been a far more difficult issue than the enforcement of an arbitral award in other transnational disputes involving private parties. The difficulties stem from the presence of a sovereign party. The existence of a sovereign defendant immediately raises issues relating to sovereign immunity and act of state.

Given the state of law in most European states as well as the United States, the enforcement of an arbitral award in a foreign investment dispute involving a state party may be impossible if a state party to the investment dispute does not comply with the arbitral award voluntarily. Nonetheless, a state has legal obligation to comply with such arbitral award. And it will comply with the award if it cannot afford to lose foreign investment or damage its international economic and diplomatic relations with other states.

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32. The New York Convention does not make a direct reference to a state as party to an arbitration agreement. The idea of arbitral awards made against state parties may not have arisen at the time of the drafting of the New York Convention. In the period in which the New York Convention was drafted, the change as to a restrictive theory was emerging but was not established.
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