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RAKSTI

SOCIOLOĢIJA

Soledad Las Heras, Maria Johanna Schouten

PARENTHOOD AND EVERYDAY MOBILITIES IN PORTUGAL: A GENDER APPROACH (1)

The spatial transition of individuals and their families between the different contexts of home, work/school, and leisure activities, as well as the time spent during this “interface”, are attracting growing attention from sociologists. The focus in the present study is the transportation of children to and from day-care, school or extracurricular activities, with as central objective an examination of the sharing of responsibility for this task between parents. A secondary question relates to the types of transport employed and their possible correlation with the gender of the user. In an analysis of the various dimensions of this parental task, attention is paid to the central place children occupy in today’s families, strengthening parents’ protective instincts. The data presented result from a study of households in two zones in Portugal with diverse geographical and demographic characteristics. The quantitative and qualitative data indicate differences between men and women in types and patterns of mobility, and also in the access to and use of means of transport. The daily school run, in its broadest sense, can be taken as an activity pertaining to the domain of “caring” and to a certain extent this is reflected in its gendered character, as mainly women are responsible for it.

Keywords: children’s mobility, parents’ role, gender, time use, Portugal.

Vecāku loma un ikdienas mobilitāte Portugālē: dzimumu pieceja (1)

Indivīdu un viņu ģimeņu pārvietošanās telpā starp māju, darbu/skolu un atpūtas vietām, ka arī laiks, kas tiek patērēts šīm aktivitātēm, piesaista paaugstinātu sociologu uzmanību. Dotā pētījuma priekšmets ir bērnu nogādāšana uz/no skolas un ārpusstabilizācijas pasākumiem, savukārt, pētījuma mērķis ir novērtēt šī pienākuma sadalījumu starp vecākiem. Pētījumā arī tiek izskatīti izmantota transporta tipi un to iespējama saikne ar lietotāja dzimumu. Analizējot dažādus šāda vecāku uzdevuma aspektus, uzmanība tiek veltīta bērnu centrālajai vietai mūsdienu ģimenēs, kā arī vecāku aizsargājošo instinktu pastiprināšanai. Rakstā piedāvātie rezultāti tika iegūti, pētot mājsaimniecības no diviem Portugāles reģioniem, kuri atšķiras pēc ģeogrāfiskām un demogrāfiskām iezīmēm. Kvantitatīvie un kvalitatīvie pētījuma rezultāti parāda atšķirības starp vīriešiem un sievietēm pēc mobilitātes tiptiem un formām, kā arī pēc transportlīdzekļu pieejamības un to izmantošanas. Ikdienas skolas gaitas, to plašākajā nozīmē, var tikt uztvertas kā aktivitātes, kuras attiecas uz rūpēm par bērnu un zināmā mērā tās izpaužas caur dzimumu piederību, jo, galvenokārt, par šīm aktivitātēm ir atbildīgas sievietes.

Atslēgas vārdi: bērnu mobilitāte, vecāku loma, dzimums, laika izmantošana, Portugāle.

Роль родителей и повседневная мобильность в Португалии: гендерный подход (1)

Передвижение индивидов и их семей в пространстве между домом, работой/школой и местами отдыха, а также время, затрачиваемое на данную деятельность, привлекает повышенное внимание со стороны социологов. Основным предметом настоящего исследования является доставка детей в/со школы и внешкольных мероприятий, в свою очередь, разделение данной обязанности между родителями является целью данного исследования. При анализе различных аспектов данной задачи родителей внимание уделяется центральному месту, которое дети занимают в современных семьях, а также усилению защитных инстинктов родителей. Результаты, представленные в данной статье, получены посредством исследования домашних хозяйств из двух регионов Португалии с различными географическими и демографическими характеристиками. Количественные и качественные данные исследования демонстрируют различия между мужчинами и женщинами по типам и формам мобильности, а также по доступу к транспортным средствам и их использованию. Повседневная школа, в ее самом широком смысле, может восприниматься как деятельность, относящаяся к проявлению заботы, и в определенной степени это находит отражение через гендерный признак, поскольку, в основном, это является обязанностью женщины.

Ключевые слова: мобильность детей, роль родителей, пол, использование времени, Португалия.

1. Modern society: automobility

Spatial mobility has been a constant in human society. However, widespread use of the car as an everyday mode of transport is one of the defining characteristics of modern society (for example, Oakil et al. 2016). This model of automobility has a major impact on society, particularly in terms of land usage and time management. According to Urry (2004), the exceptional strength of this model lies in a unique combination of flexibility and coercion. On the one hand, the car offers great autonomy and freedom of movement, but on the other, the management of spatial and temporal limitations and opportunities arising from car ownership demands extreme flexibility. The question of time spent travelling illustrates the ambiguous nature of automobility. Although the car reduces distances, being a faster mode of transport than walking, people who travel by car tend to spend more time in transit than those who use other modes of transport, since car access incentivises them to travel greater distances and make more trips (Robinson, Godbey 1997).

The ambivalent nature of automobility is particularly relevant when analysing differences in the everyday mobility patterns of men and women and the influence which automobility exerts on the production and/or reproduction of gender. Women's mobility patterns are generally characterised by lower rates of car access and more journeys made on foot or by public transport; shorter trips than men; and more complex journeys, which include series of short stops (trip-chaining), for purposes related to family life (taking children to school, shopping etc.). Meanwhile, men tend to travel more for professional reasons (Urry 2004; McGuckin, Nakamoto 1995; Oliveira 2014). There is a widespread belief that an increase in car usage among women has given them greater freedom of movement, contributing to their emancipation and enabling them to join the workforce. However, some authors stress that women who drive often do so to fulfil their role as a wife and mother (Scharff 1991; Dowling 2000; Murray 2008).

2. The centrality of children in family life

In recent decades, family life has undergone major changes, in particular a tendency towards sentimentalisation, privatisation, individualisation and secularisation (Torres et al. 2006; Wall 2005; Cunha 2007). The modern family attaches great importance to emotional life, manifested in a search for fulfilment and personal wellbeing within the family environment. It also exhibits greater equality between the sexes. Not unrelated to these changes is the new role of children within the family. Seen as a rare and precious gift, they occupy a central position in family life, and in the construction of their parents' identity.

According to Beck (2002), the significance which parenthood has acquired in the lives of individuals can be explained by the process of individualisation. Children have become the last resort against solitude in a society facing major risks and uncertainties, which trains individuals for rationalism, efficiency, speed and success. Children, as a source of happiness and wellbeing, represent the opposite of these qualities. They allow parents to express affection and form part of their search for personal self-fulfilment. According to Beck, children offer a private type of *re-enchantment*, bringing new meaning and purpose to the lives of individuals. The centrality of children within the family therefore stems from the important role they play as a source of socially valorised identity and self-fulfilment for their parents (Cunha 2007).

In the modern family, parenthood has ceased to be a natural destiny, instead becoming a deliberate choice and an unconditional lifelong relationship, founded on personal and emotional bonds. However, this conscious desire brings with it enormous responsibilities for the parents, with great emphasis placed on parenting. Parenting now focuses on shaping the child's identity by providing a stable environment, constant attention and a more egalitarian relationship. Viewed in this light, parenting is a demanding task and although the number of children per household has decreased dramatically, financial and emotional investment has increased considerably.

In this regard, numerous studies have demonstrated an increase in the amount of time that parents in Western countries devote to their children, in terms of activities such as everyday care, leisure, help with school work, shopping, transport, etc. (Bianchi 2000; Hallberg, Klevmarken 2003; Gershuny 2000). However, modern parenting not only requires parents to devote a greater quantity of time to children, but also focuses on the quality of this time. It assumes that in order to maintain and improve family wellbeing, there is a need for quality family time, defined as uninterrupted, concentrated and stress-free time shared with other family members. This idea of quality family time, more widespread among middle class households, contributes to creating feelings of guilt among parents with less free time (Kremer-Sadlik, Paugh 2007).

Great demands are placed on parents, who do not always have the necessary resources (money and time, but also patience and energy) to fulfil them, and are often forced to sacrifice their own interests. This situation heightens pressure within the daily routine, especially for mothers who, despite increasing employment rates, continue to bear the brunt of childcare responsibilities. Nevertheless, pressure is felt by both parents, leading to changes in their relationship due to the shortage of time. Children are not only a source of gratification for their parents, but also introduce potential

tension, conflict and worry (Marques 2008, p. 9). As such, family life represents a constant balancing act between various conflicting demands: the need to travel for work, parenting obligations, childcare duties and routine household chores (Beck 2002, p. 148).

3. Transporting children and perception of risk

The child-centeredness of parental behaviour is also reflected in the way children are transported, which is viewed as one of the parents' duties. Parents see the routine of dropping off and picking up children as one of the many tasks involved in their care, and as such it requires dedicated time and adjustments to the family schedule. These moments of interface between locations visited by parents and children on a daily basis (home, school, nursery, extracurricular activities, work, etc.) take on a range of meanings. In general, these journeys are viewed as tiresome and time-consuming (Cruz 2004; Torres et al. 1998), especially by women, to whom this task is usually assigned. However, they can also represent an opportunity for quality family time, a chance for parents to converse and share with their children (Kremer-Sadlik, Paugh 2007).

Portugal, the country on which we focus in this article, is no exception to this development. In this state the duration of parental leave (which can be shared, to a certain extent, between the mother and the father) is between 120 and 180 days. Another important feature is that usually both the father and the mother have a full-time job. Therefore, many children are from an early age accustomed to spending the day outside their home, in particular in childcare facilities, with grandparents, and in pre-school, and so the daily "school run" is a common routine long before the children have reached the age of mandatory schooling (6 years).

In an effort to keep children as safe as possible, they are accompanied on their daily journeys to an increasingly advanced age. We are witnessing a generational shift in the travel patterns of children, with a tendency towards decreasing independence and increasing car usage. The majority of children aged between 6 and 15 travel to school with adults, usually their parents, and the car is the dominant mode of transport (Cordovil et al. 2012). This trend is linked to the parental perception that public space is dangerous. Parents' concerns regarding independent travel through public areas focus on the possibility of children being injured in a traffic accident or abducted by strangers, while the children's own concerns centre around the presence of unfamiliar people and the fear of bullying (Cordovil et al. 2012; Trocado 2012).

According to Murray (2008), the perception of risk entertained by parents is shaped by the discourses of specialists, the mass media, and their own experience, especially among women. In Portugal, the extensive coverage of certain cases of disappearance of children by the mass media has increased the anxieties of parents. Consequently, the car has gained new significances associated with the idea of security and protection, features also associated with motherhood (Murray 2008). In fact, the mobility of daily life might be contributing to the construction of motherhood. Referring to the middle-class suburbs of Sydney, Dowling (2000) reports how the transport-

ation of children by car is considered to be one of the qualities of a “good mother”. The car helps in the management of the complex daily routines and is an emotional investment in the children, as it creates an affective context for the relationship with them (Sheller 2004). The car transforms into a mobile extension of the family space and in this sense it is experienced as a safe place and a multipurpose instrument for the care of children.

As has been stated, modern parenting, with its features of child-centeredness and concerns for child welfare, often results in an overprotective approach, the effects of which are reflected in travel habits. The use of the car often is a welcome and even obvious solution. Taking into consideration these characteristics of modern life, this article assumes a gender perspective in discussing everyday mobilities. We will concentrate on the following questions: How is the responsibility for the transport of children shared between parents? And which are the means of transport used? The analysis of these questions will be based on data from a survey conducted in the Castelo Branco and Braga districts, in Portugal. A brief description of its methodology is provided in the following section. Next, we will consider everyday journey types according to sex, age and area type. Then, we will analyse the amount of time which families with dependent children spend travelling, with an emphasis on gendered differences. These differences also come to the fore in the final topic addressed, the school run, which is viewed as a childcare task. In the following sections, we will consider the empirical reality within the context described in the opening paragraphs of this article.

4. Methodology

The empirical evidence presented comes from the study “Time and Technology: a gender approach for the Portuguese context” (2), which combines qualitative and quantitative methodologies.

In the first phase, a questionnaire was designed and used to gather descriptive information on the time and technology use among individuals living with a partner in the Castelo Branco and Braga districts. The questionnaire is divided into four thematic areas: sociodemographic data on the households, the time participants spend on domestic tasks, technology use and ownership within the household and, finally, a section on transport. This final section contains a series of questions concerning the modes of transport which participants use, the journeys they make, their purpose and duration. The growing importance of travel in everyday life, with more time spent in transit and car use on the rise, was a major factor in the decision to devote a whole section of our research to this topic. On the one hand, journeys form part of the daily routine of the couples, and despite taking place outside of the domestic sphere they do, to a certain extent, reflect the division of domestic responsibilities, as well as connections to spaces outside the home. On the other, the fact that the majority of these trips are made by car (whether as a driver or a passenger), presents an opportunity to explore the use of a traditionally gendered technology, in particular in single-car households.

The questionnaire was completed by a non-random sample. This sample consisted of couples living together in both districts. First, they were stratified non-proportionally by district and by classification of the parish (*freguesia*, the smallest administrative unit in Portugal) according to the INE (National Institute for Statistics) typology of urban areas (TIPAU 2009). In each district and area type, parishes were chosen at random. In order to select the final survey participants, quotas were established according to age and sex. After validation of the questionnaires, we were left with a sample size of 430 people (211 men and 219 women), of whom 212 lived in the district of Braga and 218 lived in the district of Castelo Branco.

During the second phase, qualitative methodologies were used to identify and explain the range of descriptions, meanings and practices regarding time and technology use within the domestic sphere, focusing on the gender relations underlying the couples' everyday interactions. To this end, we conducted four focus group sessions. Each focus group was composed of participants with the same sociographic profile, in terms of sex and employment status. One consisted of working women with and without children; another consisted of men with the same characteristics; a third was formed of unemployed and retired women with and without children, and the final group consisted of unemployed men with and without children.

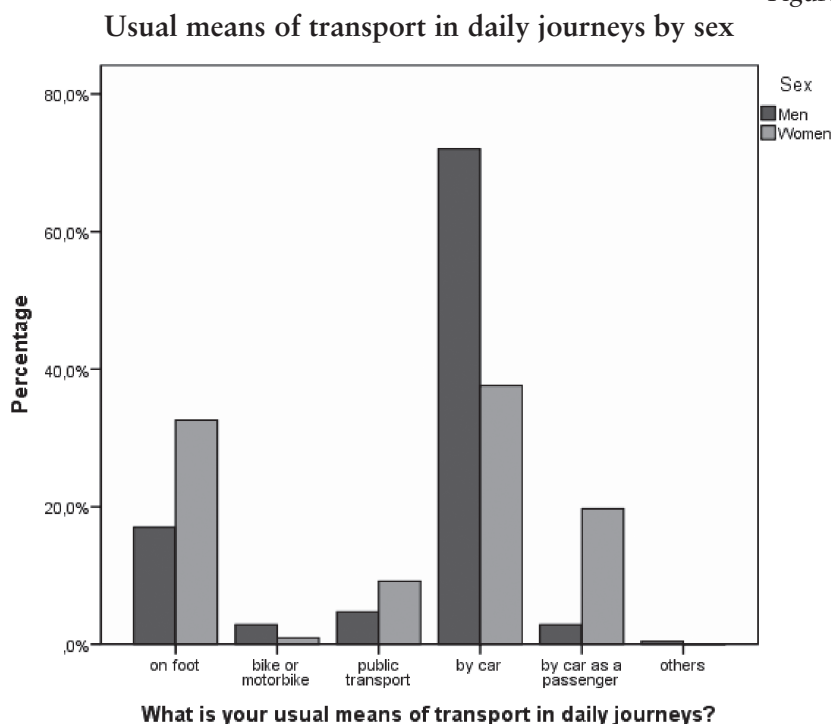
20 semi-structured interviews were conducted with a total of 10 couples, divided between the Castelo Branco and Braga districts. We opted to interview the two partners separately, as trials of joint interviews proved unsatisfactory in terms of data collection. The interviewees were aged between 25 and 45. The sample structure was established according to level of education, whether or not they have children and employment status, mainly targeting couples where both partners work.

5. Modes of transport in daily life

The car is the principal mode of transport among survey participants, whether as drivers (54.5%), or passengers (11.4%). This is followed by journeys made on foot (24.9%) and by public transport (7%). As for motorbikes and bicycles, these are only used by 1.9% of participants. This reaffirms the dominance of the private car for everyday trips, as already demonstrated by other authors (Oliveira 2014; Urry 2004). When we break down modes of transport according to gender, this hierarchy remains unchanged, with the car occupying the dominant position with regards to the other modes of transport. However, some interesting differences emerge, in particular a strong link between men and cars, suggesting that the car continues to be perceived as a masculine mode of transport, despite increasing use by women. This is illustrated by the fact that men drive considerably more than women (72% of men compared to 37.6% of women) (Pearson Chi-Squared 66,564^a, df=5, sig 0.000). For men, this mode of transport is followed by walking, in a distant second place (17.1%). The use of other modes of transport, such as public transport, traveling by car as a passenger, motorcycle or bicycle is even lower. As for women, their usage of the various modes of transport is considerably different and more evenly balanced. Journeys made by car as the driver do, however, remain the most frequent choice (37.6%), followed by

journeys on foot (32.6%), by car as a passenger (19.7%), by public transport (9.2%) and by motorcycle or bicycle (Figure 1). In short, although driving is the most common form of transport for those surveyed, women travel as passengers and by foot considerably more often than men and drive less, as well as using public transport notably more often (Pearson Chi-square 66.564^a, df=5, sig 0.000). These gender differences remain unchanged when cross-checking with other variables such as age and area type, as we will see in greater detail in the following sections.

Figure 1

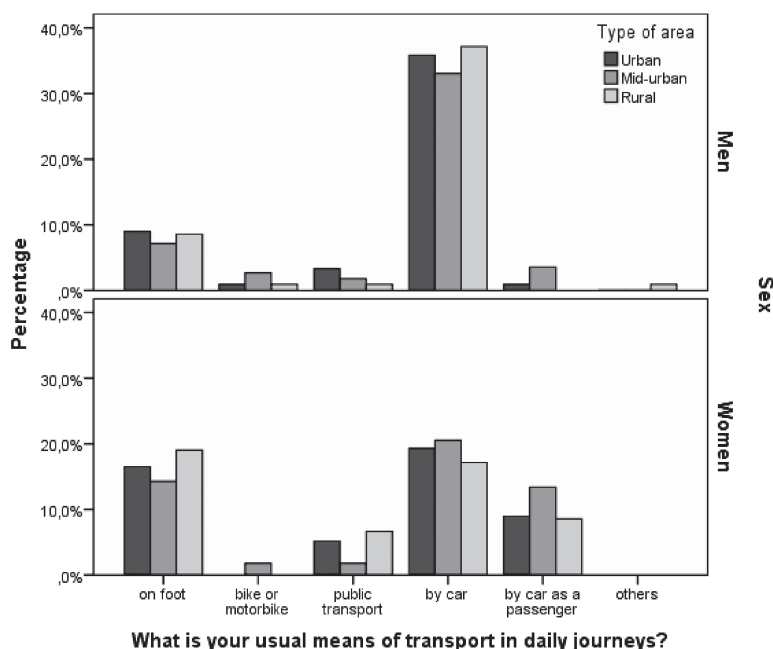


Source: elaborated by the authors, based on data of the project “Time and Technology: a gender approach for the Portuguese context”.

The existence of certain services and the population density within certain areas tend to influence the chosen mode of transport. In order to analyse these differences, we will use the Urban Area Typology (TIPAU 2009) categories, developed by the National Institute of Statistics (INE), on the basis of functional and planning criteria. This typology brings together a range of demographic and administrative territorial indicators and distinguishes between three area types: predominantly urban areas (APUs), semi-urban areas (AMUs) and predominantly rural areas (APRs). However, among the sample surveyed, there were no major statistical differences in terms of habitual mode of transport. The only difference observed concerned usage of the car as a passenger, which is significantly higher in AMUs.

When the survey results are broken down by sex, distinct gender patterns once again emerge, almost independently of area category (Figure 2). Half of the participants mention driving a car, irrespective of area in which they live, with men using this mode of transport considerably more than women. These gendered differences are more striking in rural areas (APRs) than in other area types. The next most common form of transport chosen by women is walking, particularly in rural areas (37% in APRs compared to 27.6% in AMUs and 33% in APU). On the other hand, men in semi-urban areas travel on foot less than men living in other areas. It is important to note that travelling by car as a passenger, a mode of transport used overwhelmingly by women, is significantly more common among women living in AMU areas (25.9%, compared to 17.9% in APU and 16.7% in APRs). Finally, public transport is also used more frequently by women than men, particularly among those living in rural and urban areas.

Figure 2
Usual means of transport in daily journeys by type of area and sex



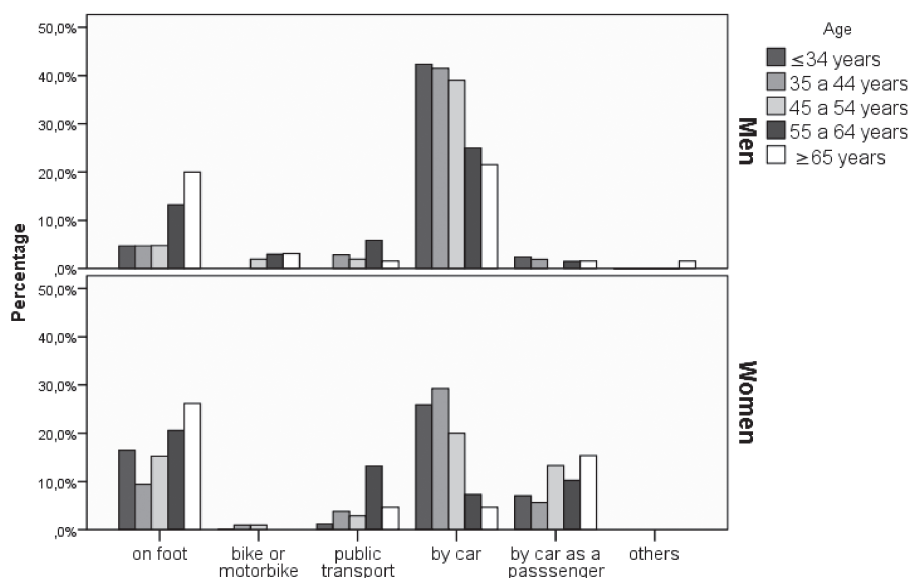
Source: elaborated by the authors, based on data of the project “Time and Technology: a gender approach for the Portuguese context”.

Age is another variable which goes some way towards explaining the variations in use of the different modes of transport. In effect, as age increases, we see a decrease in rates of car driving, in favour of journeys made on foot or by car as a passenger. Public transport is a residual or minority choice among all age groups, being used significantly less by younger people in both districts.

When we break down data by the age and sex, we can see that rates of driving decrease with age. This is more pronounced in men than women (Figure 3). Men aged over 55 travel by foot more and drive less, a trend replicated in women. It should also be noted that as age decreases, women are considerably less likely to travel by as car passengers. This coincides with the growing percentage of young women who drive, the increasing number of women belonging to the younger generations who hold a driving license, and the rising rate of household car ownership, in particular the phenomenon of the “two car” family (3). Of the sample studied, 87.6% of participants own a car, with car ownership at its highest in younger households. Ownership of a second car also appears fairly widespread among families (40% own two). It must be noted that when a family owns one car, 55% of survey participants of both sexes report that the man is the principal car user.

Figure 3

Usual means of transport in daily journeys by age and sex



Source: elaborated by the authors, based on data of the project “Time and Technology: a gender approach for the Portuguese context”.

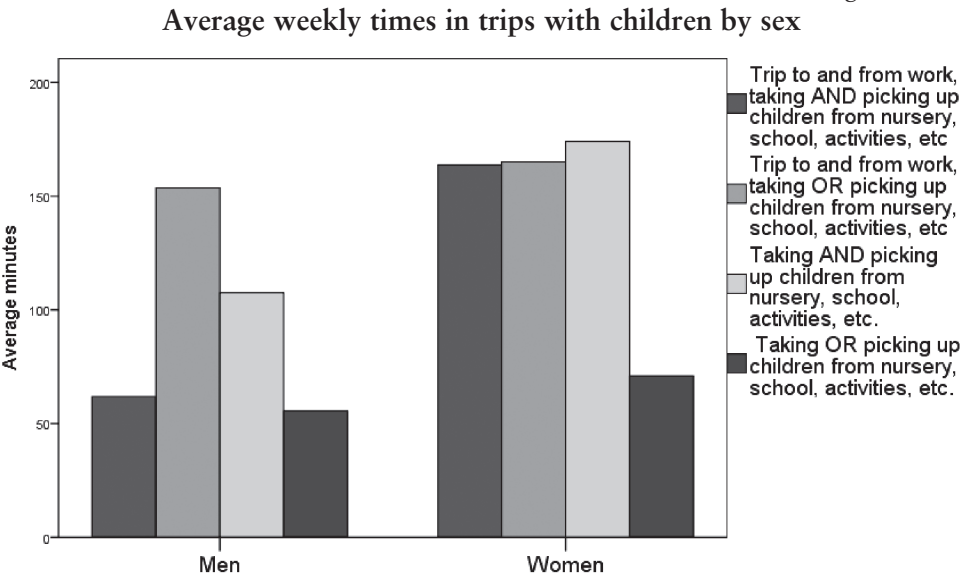
Both sex and age are significant when explaining the car’s status as the principal mode of transport, either as a driver or a passenger. One of the main differences revealed by our survey data relates to the roles played by men and women, and their relationship with technologies which have traditionally been considered masculine, such as the car. IMTT (4) data illustrate a gradual increase in the percentage of female drivers. Among the younger generation, a similar proportion of men and women hold licenses. However, gendered differences in this area increase with age.

5.1. Time spent on routine journeys during the week

In addition to the means of transport used, it is important to understand how much time the survey participants spend on routine journeys during the week. To this end, the survey included questions about journeys made and their purpose. These included simple trips (the commute to and from work, the school run, visits to family and friends, shopping and errands, and leisure trips), as well as more complex, or chained, journeys, which involve a series of consecutive trips combining different purposes, in particular the commute to work and the school run.

Focusing only on families with dependent children, the first finding to emerge from our analysis concerns gendered differences in mobility patterns. When the sole purpose of a journey is to take children to school, nursery etc. or pick them up, we observed that this task tends to be performed by women. However, when the journey combines the commute to work with the school run, the figures for men and women are similar. Likewise, more women than men travel for shopping and to visit friends and family, while more men than women mention travelling for leisure activities. These disparities appear to reveal a gender bias, with women, in the great majority of cases, continuing to bear the brunt of responsibility for childcare (including the school run), everyday shopping and maintaining contact with friends and family (Perista et al. 2016). This persistence of gendered roles is reflected in their mobility patterns.

Figure 4



Source: elaborated by the authors, based on data of the project “Time and Technology: a gender approach for the Portuguese context”.

In terms of the average time, survey participants usually spend on the trip types studied, significant gender differences only emerge in two situations (Figure 4). Men

tend to spend less time on all but two trip types (leisure and commuting to work), and the statistical difference is only significant in the first of these cases ($t=2.226$; $df=80.222$; $sig=0.026$). Hence, men spend considerably more time travelling for leisure purposes (92 minutes per week, as opposed to 60 minutes for women), as well as spending 201 minutes per week on journeys where the sole purpose is “commuting to and from work”, compared to 171 minutes for women. With regards to the second point, it is also worth noting, that women have shorter commutes to work, both in terms of time and distance, detailed in the existing literature. The principal explanations suggested for this difference are precarious employment and family responsibilities (leading to a preference for jobs closer to home), and a lower rate of car access among women (McGuckin, Nakamoto 2005). Indeed, among those who took part in the survey, focus groups and interviews, we found that men travel further for work than women with children. The mobility demanded by many jobs today (both in terms of location and time), leads to longer journeys to more distant locations. The fact that this is more prevalent among men than women with family responsibilities can be explained, to a great extent, by the assumption of gendered roles, specifically motherhood, which demands that the mother remains close to the child.

Women spend more time than men on all of the remaining journey types do. These trips, the school run, shopping and errands are more strongly associated with the traditional role of the women as the person responsible for children and the home. This disparity between men and women in terms of average weekly journey times is particularly striking for trips which include “commuting to and from work, dropping off AND picking up children from school, nursery etc.” ($t=3,111$, $df=14$; $sig=0.008$ – 163 minutes for women compared to 62 minutes for men), and “dropping off children at school, nursery etc. AND picking them up” (174 minutes for women compared to 107 minutes for men”. These complex journey types are bound by rigid schedules at two times of day, further increasing time pressure on women.

5.2. The school run

The school run is part of the daily routine of families. It not only demands time, but also requires coordination efforts between the various family members. What is more, transporting children entails a series of preparatory tasks and considerations, such as settling the children into their seats, packing rucksacks, bags, lunchboxes and baby buggies etc. There is a whole set of tasks, which increase or decrease depending on the age of the child, their level of independence and the mode of transport chosen for the journey. This routine, which generally involves multiple trips made according to a set schedule, is experienced as a stressful chore. The following quotes illustrate the feeling of time pressure which results from these temporal and spatial constraints and the necessary feats of organisation which parents perform in order to reconcile their schedules with those of their children.

“One of us drops them off at school, the other picks them up; one packs the rucksack, the other helps with their homework. Sometimes it’s a little difficult, because of our schedules, as my husband also works shifts. Generally when he’s free when I’m

at work, so it's rare that we... that's why we need to plan". (Focus Group: Female, age 40, with 1 daughter aged 12, operations assistant).

"Quarter past seven or half past seven... I wake up, then my wife and daughter... I have to wake them up too... They both start at the same time. I drop one off at work and then rush to get the other to school, then from school, I go to work, but I always arrive at the last minute, we're always in a rush". (Focus Group: Male, age 38, with 1 daughter aged 10, warehouse employee).

Although the school run is less markedly gendered than other tasks such as laundry, cleaning, or preparing meals, more women than men take responsibility for the transport of their children (59.4%), particularly when the sole purpose of the trip is to drop children off at school or nursery and picking them up.

By analysing the profiles of men responsible for the school run, we gain an insight into the circumstances which lead them to assume this duty. Male participation depends mainly on the employment status of the couple and their location. Thus, 70% of men responsible for the school run are in relationships where both partners work. However, when neither partner works, more women tend to assume this task. It is worth noting that in urban areas, the percentages are similar for both sexes (51.4% women and 48.6% men). However, as we move into semi-urban and rural areas, the percentage of women responsible for the transport of their children increases, (63.2% in semi-urban areas and 83.3% in predominantly rural areas). In addition to living in urban areas and being in relationships where both partners work, these men tend to have long working days (72% work forty or more hours a week), reflected in a strong feeling of time pressure in half (50%) of all cases. In terms of habitual mode of transport, an overwhelming majority (89.3%) of men drive, generally combining the journey with their commute to and from work. Furthermore, with regards to the perceived balance of domestic chores within the couple, 30% of men who do the school run say that they share household chores evenly with their partner, while 60% claim that the woman does most of the chores.

Another factor which has contributed to increased male participation in the school run is the shift brought about by new interpretations of, and approaches to, fatherhood (Mendes 2007). This has led to the valorisation of a more hands on role for fathers in raising their children and a more even distribution of domestic chores.

"Because it is important, maybe that's why, because I want to be there. A child is part of your life, the most important person in your life. [...]"

– Of all of the tasks you mentioned, is one particular task more important?

– They're all important, aren't they? They're all.... all necessary. Each has its relative importance, so there isn't just one, one which is special. The one which brings me most pleasure, which I like the most? That's got to be looking after our son, hasn't it? Definitely looking after my son.... You understand". (Interview: Man, age 37, 1 son aged 4, working in services of public sector).

With this new view of fatherhood comes the explicit recognition that the school run is a domestic task comparable to any other. The school run is not only considered a logistical necessity within the family, but also a parental responsibility. Consequently, the performance of this task is recorded in the "imaginary account" of times and tasks kept by couples who divide household chores evenly, or aspire to do so.

“... my wife manages to take him to school. She has a work schedule and a type of job which make this easier for her, but it counts as a domestic chore, it is still her time she uses, maybe she could be doing something else [...]. In professional terms, for example, my wife has more free time than me, but she spends it with our son... you see... on the school run... you have to account for that”. (Focus group: Man, age 41, 1 son aged 9, technical sales consultant).

As noted above, women, on average, tend to dedicate more time than men to transporting their children, irrespective of the type of journey made. This is unsurprising when we consider that it is usually women who make series of short, chained trips.

When looking at the school run, we must also consider the mode of transport used and the justification for its choice. This can reveal a great deal about the various time constraints on families, who tend to prioritise speed, as well as the choices and limitations of the local area, in terms of distances and infrastructure. It must also be noted that routine trips made with children during the week depend on the location of services or venues, mainly those associated with childcare: schools, nurseries, family members, activities, etc. The location of these services, in particular schools, is of prime importance for parents, who tend to choose options close to their home or workplace (Cordovil et al. 2012).

Firstly, we will consider routine trips made during the week which combine two purposes: commuting to work and the school run (“travelling to and from work, picking up AND dropping off the children”). Nobody is able to choose public transport for this type of journey, for the simple reason that it does not exist or is inadequate, making it impossible to successfully reconcile work and school timetables. The overwhelming majority (80%) travel by “car as the driver”, the reasons for this choice being that it is “quicker” (33.3%), because “there is no alternative” (26.7%), or because it is “more flexible and allows greater independence” (13.3%). The second most commonly used mode of transport is “walking” (13.3%), which is followed by “travelling by car as a passenger” (6.7%) in last place. Both of these options are chosen for their speed. It should also be noted that the breakdown of these results by sex simply reaffirms the overall usage figures for the various modes of transport. In other words, women are slightly less likely to drive and slightly more likely to be passengers. More women also claim to use the car because “it is cheaper”, or because “there is no alternative”.

The big picture is similar for combined journeys, which only include half of the daily school run, in other words commuting to and from work, either picking up OR dropping off children”. The overwhelming majority of people drive (92.9%), and only a small minority (7.1%, all of whom are women) use public transport, stating price (“it’s cheaper”) as the reason for this choice. The reasons given for driving are speed (28.6%), flexibility and independence (28.6%), a lack of alternatives (21.4%) and convenience (14.3%). It is worth highlighting that it is mostly women who refer to a lack of alternatives when explaining their choice of car as a means of transport, while men mention the convenience of this option.

In the case of journeys made solely for the purpose of transporting the children, “picking them up AND dropping them off”, without any other stops, it is observed

that the majority of people travel by car (63.2%), the remainder making this journey on foot (36.8%). Once again, women are more likely to walk than men, stating proximity as the reason for this choice. The reasons for using the car are related to speed (especially among women), a lack of alternatives, and convenience, particularly among men.

Finally, in cases where an individual makes only one of the routine journeys with the children, “picking up **OR** dropping off the children”, the results are similar with regards to the mode of transport used. The majority opt to drive (61.3%) and a third (33.1%) walk, while the remainder, all of whom are women (5.6%), travel by car “as a passenger”. More women than men make this journey on foot, and the reasons cited for this choice are proximity or the belief that this is the quickest or cheapest mode of transport. On the other hand, the car is chosen due to its convenience, because it offers greater flexibility and independence, for its speed, and due to a lack of alternatives.

In summary, more complex journeys, combining trips associated with the everyday tasks of the parents and their children, are usually made by car, with the mother or father at the wheel. For this kind of journey, with rigid schedules and greater time pressure, participants prioritise speed and flexibility, which they see as being offered by the car. When journeys are less complex (only picking up and/or dropping off the children), a greater number of people walk. A third of those surveyed, mainly women, claim to travel on foot, citing proximity as the main reason for choosing this mode of transport.

6. Final Remarks

In this article, based on field research in some areas in Portugal, we have analysed the school run as an aspect of the labour of childcare. The centrality of children in family life has led to greater paternal involvement in childcare tasks, and to the school run being included among their number. Regarding the question about the sharing of the responsibility of the routine transport, it was found that the involvement in this task lays particularly with the women, which is reflected in their mobility patterns: in comparison with men, they practice more trip-chaining, have lower rates of car use, and spend more time travelling with the children. More recent studies in Portugal, based on national samples, show the same pattern (Perista et al. 2016).

The reasons cited for using each mode of transport elucidate the gendered differences in terms of time management within families. Women tend to plan their time according to the schedules of their children and other domestic duties which require them to travel (shopping and errands), as they assume the principal responsibility for these tasks. The required coordination of schedules places women under severe time pressure, and as a result they prioritise speed (either by car or on foot), as well as the flexibility and independence offered by the car, while men tend to highlight convenience.

The results suggest that in families with dependent children, there is a prevailing pattern of automobility in everyday journeys, which has allowed for the development

of more flexible and complex schedules, in particular for women. The car is perceived not only as a mode of transport, but also a means of looking after the children: private space which extends the protective sphere of the family beyond the walls of the home.

Notes:

(1) A version of this text was presented at the Ninth Portuguese Congress of Sociology, at the University of Algarve (Faro), in July 2016.

(2) Project financed by funds of FEDER through the COMPETE programme and by Portuguese funding through FCT, the Foundation for Science and Technology (project number: PIHM/GC/0037/2008). The research team consisted of: Maria Johanna Schouten (coordination), Emília Araújo, Maria João Simões, Amélia Augusto, Helena Sousa, Lia Lourenço and Soledad Las Heras. The final report of this project (2012) can be viewed at: <http://ubibliorum.ubi.pt/handle/10400.6/3296>.

(3) According to Associação Automóvel de Portugal (Portuguese Automobile Association) data, the number of people carriers and off-road vehicles has increased exponentially in Portugal, from 692,000 in 1974 to 4,457,000 in 2009. Available: <http://www.acap.pt/pt/noticia/14/estatisticas-do-sector-automovel-em-portugal/>

(4) Instituto da Mobilidade e dos Transportes Terrestres (Institute for Mobility and Land Transport). Available: http://www.imtt.pt/sites/IMTT/Portugues/Noticias/Documents/Evolucao_Cartas_Conducao_Genero_1950-2009.pdf

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Artur Zimny

PROBLEMS AND CHALLENGES FACING HIGHER VOCATIONAL EDUCATION IN POLAND

The aim of the paper is to outline the key problems and challenges facing public higher vocational education sector in Poland. The public higher vocational education sector at present is constituted by state schools of higher vocational education, which usually play the role of subregional centres in smaller towns. In the author's opinion, the problems, which these schools have to deal with, and challenges facing them, can be divided into general and specific. General problems and challenges are the same as for the whole higher education system in Poland, in turn, specific are conditioned mainly by the abiding legal regulations and relatively short presence of state schools of higher vocational education in Polish system of higher education. General problems and challenges, undoubtedly, relate to demographic decline and financing. Specific problems and challenges relate to making the education process more practical, aiming to increase the number of academic teachers employed in only one school, developing international cooperation and obtaining foreign students, offering second-cycle studies, conducting research, obtaining additional sources of financing and optimising operating costs, mutual competition among schools. The paper mostly focuses on specific problems and challenges facing public higher vocational education. The considerations presented in this paper result from the knowledge, observation and experience gained by the author's throughout almost 20 years of functioning in the sector of public higher vocational education.

Keywords: higher vocational education, state schools of higher vocational education, problems and challenges, funding for higher education, practical training.

Augstākās profesionālās izglītības problēmas un uzdevumi Polijā

Raksta mērķis ir apzināt valsts augstākās profesionālās izglītības sektorā pastāvošās problēmas un uzdevumus Polijā. Valsts augstākās profesionālās izglītības sektors šobrīd funkcionē kā valsts skolas, kuras realizē augstākās profesionālās izglītības programmas un vienlaicīgi pilda apakšreģionu centru lomu nelielās pilsētās. Pēc autora domām, problēmas, ar kurām saskaras un uzdevumi, kuri jārisina valsts augstākās profesionālās izglītības skolām, ir sadalāmi kopējās un specifiskajās problēmās un uzdevumos. Kopējās problēmas un uzdevumi ir līdzīgi kā visai Polijas augstākās izglītības sistēmai, savukārt, specifiskās problēmas un uzdevumi pārsvarā rodas, jo normatīvais regulējums nemainās un valsts augstākās profesionālās izglītības skolas Polijas augstākās izglītības sistēmā funkcionē salīdzinoši neilgu laiku. Kopējās problēmas un uzdevumi neapšaubāmi ir attiecināmi uz demogrāfiskās situācijas pasliktināšanos un finansējumu. Specifiskās problēmas un uzdevumi ir attiecināmi uz spilgti izteiktas praktiskas izglītības attīstību, akadēmiska personāla skaita, kuri būtu nodarbināti tikai vienā skolā, paaugstināšanu, starptautiskas sadarbības veicināšanu un ārvalstu studentu piesaisti, otra cikla izglītības piedāvājumu, papildus finansējuma piesaisti un izmaksu optimizāciju, skolu savstarpēju konkurenci. Raksts pārsvarā koncentrē uzmanību uz valsts augstākās profesionālās izglītības specifiskajām problēmām un uzdevumiem. Rakstā piedāvātas pārdomas izriet no autora zināšanām, novērojumiem un pieredzes, kas gūti vairāk nekā divdesmit gadus strādājot valsts augstākās profesionālās izglītības sektorā.

Atslēgas vārdi: augstākā profesionālā izglītība, valsts augstākās profesionālās izglītības skolas, problēmas un uzdevumi, augstākās izglītības finansēšana, praktiska izglītība.

Проблемы и задачи высшего профессионального образования в Польше

Целью статьи является намерение обозначить ключевые проблемы и задачи сектора государственного высшего профессионального образования в Польше. Сектор государственного высшего профессионального образования на данный момент представлен государственными школами, которые реализуют программы высшего профессионального образования и одновременно играют роль субрегиональных центров в небольших городах. По мнению автора, проблемы, с которыми данные школы сталкиваются и задачи, которые должны решать, возможно разделить на общие и специфические. Общие проблемы и задачи относятся ко всей системе высшего образования Польши, в свою очередь, специфические, в основном, обусловлены неизменностью нормативного регулирования и относительно коротким сроком функционирования государственных школ высшего профессионального образования в системе высшего образования Польши. Основные проблемы и задачи, несомненно, относятся к ухудшению демографической ситуации и вопросам финансирования. Специфические проблемы и задачи относятся к необходимости в процессе обучения с более ярко выраженным практическим уклоном, увеличению количества академического персонала занятого только в одной школе, развитию международного сотрудничества и привлечению зарубежных студентов, предложению второго цикла обучения, привлечению дополнительного финансирования и оптимизации издержек, взаимной конкуренции среди школ. Основное внимание в статье уделяется специфическим проблемам и задачам государственного высшего профессионального образования. Размышления, представленные в данной статье, исходят из знаний, наблюдений и опыта автора на протяжении более чем двадцатилетней работы в секторе государственного высшего профессионального образования.

Ключевые слова: высшее профессиональное образование, государственные школы высшего профессионального образования, проблемы и задачи, финансирование высшего образования, практическое обучение.

1. Introduction

The idea of higher vocational education emerged in Poland already in the 19th century, but it had to wait for its realisation over 100 years (Grzybowski 2010, p. 28). Only in the 1960s, as a result of the fast growth of social educational aspirations, there was the development of higher vocational schools which started to serve as an alternative for traditional higher education institutions, which have always been constituted by universities (Pachociński 2004, p. 9). The development of vocational studies was regarded as a chance for the quick restoration of higher education in post-war Poland, and, at the same time, it was stressed that studies should be shortened, considering it necessary for economic and social reasons (Kowalska 2013, p. 38). The result of the introduced legislative changes was expanding higher vocational education on a large scale, which, on the one hand, allowed meeting the demands for highly qualified staff, but on the other, it negatively affected the quality of education because of significant staff shortages in many higher schools and tendencies to use school teaching methods (Tymowski 1975). Turning to less distant times, it must be emphasised that significant changes in the field of higher vocational education in Poland took place at the beginning of 1990s, that is, in the new socio-economic and political reality.

The aim of the paper is to attempt to outline the key problems and challenges facing the sector of public higher vocational education in Poland, which at present comprises 33 state schools of higher vocational education that is higher schools operating in smaller towns, usually playing the role of subregional centres.

In the author's opinion, the problems which these schools have to deal with, and challenges facing them, can be divided into general, that is the same as with reference to the whole higher education system in Poland (undoubtedly it is demographic decline and financing issues), and specific, that is the ones, which are conditioned mainly by the abiding legal regulations and relatively short presence of state schools of higher vocational education in Polish system of higher education. The considerations presented in the paper are the effect of the author's knowledge, observation and experience gained throughout almost 20 years of functioning in the sector of higher vocational education in Poland (1).

The paper is structured as follows: the second chapter presents the characteristics of higher vocational education, third chapter deals with general problems and challenges facing higher vocational education, fourth chapter focuses on specific problems and challenges facing higher vocational education, and the fifth chapter concludes the paper.

2. The characteristics of higher vocational education (2)

Establishing at the turn of the 20th to the 21st century state schools of higher vocational education, partly based on the German system (Mosakowski 2002, p. 187), was associated with the process of system transformation of Poland and building new administrative and structural model of Poland (Bajerski 2009, p. 136). The administrative reform of Poland came into force in 1999, undoubtedly it enhanced the process of creating these schools – as they were to constitute a compensation for the cities which had lost their status of regional capitals following the reform, by creating potential opportunities for the development of culturally active centres in local communities (Draus 2008, p. 23). However, the main reasons for establishing state schools of higher vocational education in Polish higher education system were, on the one hand, the need to increase low enrolment ratio on tertiary level which impeded regional development process, and on the other, implementing the rule of equal educational opportunities by bringing studies closer to the less wealthy secondary education graduates, especially young people from small towns for whom for various reasons large academic centres were unavailable (Winnicki 2008, p. 34). Other significant grounds which underpin the establishment of state schools of higher vocational education are: demographic decline, relatively lower costs of studying in mid-size towns, satisfying the aspirations of local communities to create higher schools and educate local intellectual elite, promoting mid-size towns, bringing out the hidden intellectual potential in local communities and building academic traditions. It must be stressed here that most state schools of higher vocational education were established thanks to the efforts and endeavours of self-government authorities and local organisations (Pyra 2014, p. 134).

The discussed schools were established on the basis of the Act of 26 June 1997 on Higher Vocational Schools (The Act of 26 June 1997 on Higher Vocational Schools, Journal of Laws of 1997, No 96, item 590), which created conditions for the development of higher vocational education on the Bachelor's degree and engineering level. Currently, their functioning, as well as all higher education institutions in Poland, is regulated by the Law on Higher Education of 27 July 2005 (The Act of 27 July 2005 Law on Higher Education. Official Journal of Laws of 2005, No 164, item 1365, as amended). In accordance with its provisions, higher vocational school is an establishment providing first cycle, second cycle or long cycle programmes, which does not have the authority to confer the degree of doctor (article 2, section 1, items 23). State schools of higher vocational education are spread out throughout Poland quite evenly, namely in 15 out of 16 voivodships. It must be stressed here that only one state school of higher vocational education is located in a city which is currently the capital of the voivodship where public university-type higher education institutions exist, while as many as 25 are located in the cities which lost their status of regional capital in 1999.

Typically, state schools of higher vocational education are based in cities with a population over 100 thousand inhabitants. In academic year 2015/2016, there operated 36 state schools of higher vocational education, which constituted almost 9% of all higher education institutions in Poland and over 27% of public higher education institutions (currently, as of 1 September 2017, there are 33 higher schools of this type). In these higher schools studied 62.7 thousand students, who constituted 4.5% of students of all higher education institutions in Poland and 5.8% of students of public higher education institutions. At the same time, these schools employed almost 7.4 thousand people, which constituted 4.3% of employers of all higher education institutions in Poland and 4.8% of employers of public higher education institutions. The discussed schools undoubtedly contributed to the increase in the overall level of social education, which is confirmed by the number of their graduates, which in 2015 exceeded 304.1 thousand people.

3. General problems and challenges facing higher vocational education

The demographic decline, which increasingly negatively affects the enrolment ratio in Polish higher education institutions, also affects state schools of higher vocational education. In 2011–2015 the number of students of these schools dropped every year by about 5–6 thousand people (about 7%), which generated the drop from 82.4 thousand people in 2011 to 62.7 thousand people in 2015, that is, by almost 25%. However, the drop was significantly greater with reference to part-time studies (total by 50%) as compared to full-time studies (total by 12%). Obviously, the situation, additionally compounded by the need to clearly separate funding both forms of studies, causes that each year there grows the number of state schools of higher vocational education which abandon running part-time studies, leaving this segment of educational market to non-public schools of higher education.

It is important that, in the recent years, almost all discussed higher schools obtained modern hard, teaching, and often, scientific infrastructure, which, taking into account

the asset which is the nearness of the higher schools and lower costs of studying, causes that the decrease of students of first-cycle studies is relatively smaller as compared to university-type higher education institutions (Draus 2014, p. 34). In the author's opinion, the decrease in the number of students of state schools of higher vocational education, affected by the demographic decline, is not significant for one more reason. Demographic problems are accompanied by economic crisis. Young people from poorer families often cannot afford to study in large academic centres. In these circumstances, the discussed higher schools fulfill a social function as they reduce the risk of excluding the aforementioned youth, who, thanks to better education, have a chance of a better life.

There could be lengthy discussions and considerations over the issue of financing state schools of higher vocational education, as well as financing the whole system of higher education in Poland. Apart from the issue, which comes up from time to time in political debate and in academic environment, and which concerns the possibility of financing the discussed schools by regional and local self-governments, it must be signalled that with regard to underfunding of Polish higher education institutions, there are sometimes opinions calling into question the reasonability of financing, and in this way maintaining state schools of higher vocational education.

For example, D. Antonowicz (2007) claims that contribution of these higher schools to scientific development is marginal, education level leaves much to be desired, and their upkeep costs take up part of the funds allocated to higher education. As a result, in his opinion, financing state schools of higher vocational education causes dispersal of allocation of limited budgetary funds, which prevents the development of other higher education institutions. It is hard to disagree with the argument that financing state schools of higher vocational education causes fragmentation of the funds allocated to higher education in Poland. On the other hand, it must be taken into consideration that the funds from the state budget for the discussed higher schools constitute barely 4.9% of the total funds allocated to Polish higher education institutions (GUS 2016, p. 195). Discussing the question of financing state schools of higher vocational education, it is worth noting that the schools are entitled to conversion factor 1.4 for students of practical profile (Regulation of the Minister of Science and Higher Education of 27 March 2015 on division of funds from the state budget for public and non-public higher education institutions, Journal of Laws of 2015, item 463, as amended). Such a solution under determining the level of the grant is fully justified as it takes into consideration higher costs of running practical profile studies. Another question is the way of providing grants (the same with reference to all higher education institutions in Poland), which does not have the form of administrative decision, which therefore not only prevents higher schools from appealing but also from taking legal action. In the opinion of some higher schools' authorities, the legal form of administrative decision would be a test and a guarantee of, on the one hand, fulfilling by the Ministry of Science and Higher Education the legal provisions towards particular higher schools, and on the other, a more effective realisation of the statutory tasks and duties imposed on the higher schools.

4. Specific problems and challenges facing higher vocational education

In the author's opinion, the most important specific problems and challenges facing state schools of higher vocational education are: making the educational process more practical as a result of running only practical profile studies, aiming to increase the share of academic teachers working in the place of primary employment (that is employed in only one higher education institution), developing international cooperation and obtaining foreign students, offering second-cycle studies, conducting scientific research, obtaining additional sources of financing and optimising operating costs. It is also significant that state schools of higher vocational education compete for funds in the form of grants from the state budget, and they have increasingly different developmental goals and aspirations. Furthermore, recently, the subject of lively debates in academic environment became the prospect of liquidating some of them – particularly the smallest ones, with a small number of students. These issues are discussed further in the paper.

Since their establishment, state schools of higher vocational education have been functioning in dynamic legal environment, which has its consequences for the education process. If the Act on Schools of Higher Vocational Education of 26 June 1997 (The Act of 26 June 1997 on Higher Vocational Schools, Journal of Laws of 1997, No 96, item 590) distinguished the process of vocational training, then the following legislative changes standardized education on first-cycle studies in academic and vocational higher education institutions. In the face of current legislative changes, state schools of higher vocational education are returning to the roots. The Amendment to the Law on Higher Education which took place in 2014 (The Act of 11 July 2014 on the Amendment to the Law on Higher Education and several other laws, Journal of Laws of 2014, item 1198), obliged these higher schools to conduct practical profile studies. Currently, the legal provisions specify that these are studies including “modules of classes focused on the acquisition of practical skills and social competences, while practical courses shaping these skills and competences, including skills obtained during workshops run by people with professional experience gained outside the higher education institution constitute more than half of the curriculum determined in ECTS credits”. The experience state schools of higher vocational education have at the moment indicates that introducing practical profile studies meant the necessity to make many changes in the organisation of education with reference to intended learning outcomes, study programmes and the education process itself.

Making education more practical involved, in particular, taking the following actions: consulting curricula with external stakeholders including the intended learning outcomes and study programmes; formalising the cooperation with socio-economic entities of the school environment by signing appropriate agreements; increasing in the education process the share of people with professional experience gained outside higher education institution; increasing in study programmes the number of apprenticeships and practical courses; decreasing the size of student groups of practical courses; increasing the role of project-based learning during practical courses; realising some subjects in conditions typical for the student's future professional activity; introducing an obligation to prepare practical diploma theses (Zimny 2014).

The changes in the education organisation aiming to make the studies more practical, naturally lead to the increase in the cost of the learning process. One reason for that growth is increasing in curricula the share of practical courses, which are conducted in smaller student groups. Another significant reason is engagement in the education process of people having professional experience gained outside the higher education institution and conducting some courses in conditions typical for the students' future professional activity. Both situations involve the necessity to bear significant costs – paying the staff of “practitioners”, whose financial expectations are often higher than those of academic teachers and organising workshops and training in outdoor units conducted in very small groups and supervised by an experienced employee of the relevant company or institution, being in a sense a mentor for students. However, conducting practical profile studies does not only involve risks arising from the increase in educating costs including personnel costs. It also means facilities and opportunities for state schools of higher vocational education conducting such studies arising from abiding legal provisions. Firstly, which was mentioned before, while determining the level of grants from the state budget for state schools of higher vocational education, the converting factor 1.4 is used with reference to students of practical profile studies (for the remaining students the converting factor amounts to 1.0). Secondly, in accordance with the provisions of the Act it is possible, basically, to replace in the minimum staff resources the professor or a person with post-doctoral degree with two doctors, and a doctor – with two holders of a master's degree, with these persons having considerable professional experience gained in the appropriate field outside the higher education institution. From the point of view of the discussed higher schools, it should be considered vital that the aforementioned persons can be included in the minimum staff resources in case of their employment on a part-time basis, precisely, on at least 1/4 time basis. In the author's opinion, such a solution considerably facilitates functioning of higher schools conducting practical profile studies, and, first and foremost, it can contribute to reducing personnel costs in these schools.

Nowadays, it is significant, when learning process is linked with workplace (for example, Tarábková 2014). Despite transforming their fields of studies into practical profile by state schools of higher vocational education, and also quite frequent attempts to introduce, with greater or lesser success, dual studies, within which students combine learning at schools with professional work in companies cooperating with the school, there are also critical opinions on these schools. A. Jajszczyk (2013) turns attention to the fact that these higher schools do not fulfil their purpose as education carried out there is too academic, and study programmes are poorly correlated with the needs of economy and public institutions in the regions where they operate.

Classes in state schools of higher vocational education are often run by secondary employment university teachers who duplicate their theory-oriented lectures, instead of “practitioners” with considerable professional experience. Furthermore, in his opinion, the weakness of these schools is the fact that they try to copy and pretend to be university type higher education institutions instead of focusing on their appropriate tasks. Obviously, these objections have a point. However, it must be taken into account that as a result of the subsequent legal changes after 2005, state schools of higher vocational education have been obliged to provide the so called minimum staff resources

on the conducted courses of study which had to include professors or persons holding post-doctoral degree and persons with post-doctoral degree and doctors who are usually employees of university type higher education institutions. Employing practitioners with master's degree to run practical courses was also possible but they could not be included in the aforementioned minimum staff resources. Only the latest amendments to the Act provided for the option. The education process in state schools of higher vocational education is gradually changing, basically, it is returning to its roots. In the author's opinion, the paramount benefit of running practical profile studies by the discussed state schools of higher vocational education, despite many problems and costs, should be better preparation of their graduates to access the labour market. The first results of monitoring graduates' professional career published by the Ministry of Science and Higher Education show that the graduates of state schools of higher vocational education earn more and find employment more quickly than those who complete the worst university type higher education institutions, coming lowest in different kinds of rankings.

A significant challenge facing state schools of higher vocational education is teaching staff structure based on place of employment. In 2013, these schools were the place of primary employment for merely 52% of the teaching staff employed by them, which means that such a share of persons did not work in other higher schools. The discussed schools have become to a certain extent less staff-dependent on university type higher education institutions. However, if this independence is noticeable in the group of doctors, then, in the group of professors the persons employed in secondary place of employment (that is, working additionally in another higher education institution) still constitute a considerable share. In the author's opinion, increasing the share of academic teachers working in their primary place of employment and, in this way having own teaching staff is extremely important for several reasons. Firstly, in recent years, university type higher schools institutions have been transforming from the position of cooperation and giving consent to supplementary employment of their teaching staff to the position of competition for students. Rectors of universities less and less frequently agree to give consent to supplementary employment undertaken by their teaching staff. In these circumstances, state schools of higher vocational education may come up against serious problems with providing the aforementioned minimum staff resources for particular study courses. Secondly, it is basically hard to expect serious engagement in the matters of higher vocational schools from the teaching staff for whom these schools are supplementary place of employment (and income). Thirdly, the legal changes introduced in the recent years make employing teaching staff on supplementary place of employment basis less and less profitable. Academic teachers for whom the higher vocational schools are not a place of primary employment are included in calculating the staff component of the basic grant with the use of converting factor 0.6 (for teachers employed on the primary place of employment basis the converting factor is 1.0). Fourthly, having ones own teaching staff allows including some teachers in the minimum staff resources of two study courses, which in this way allows expanding the educational offer (establishing and launching new degree courses) without a significant increase in personnel costs. Finally, fifthly, in the light of new legal provisions, starting from the academic year 2018/2019, the minimum staff resources

for the degree courses of first-cycle practical profile studies will only include academic teachers employed on the place of primary employment basis (Regulation of the Minister of Science and Higher Education of 26 September 2016 on the conditions of conducting studies, Journal of Laws of 2016, item 1596, § 9 act 2).

State schools of higher vocational education try to develop international cooperation and obtain foreign students. Till academic year 2013/2014, the cooperation was, to a large extent, implemented within the framework of the Erasmus programme, and since 2014/2015 it has been carried out under the Erasmus + programme. The benefits of international exchange of students, academic and administrative staff are obvious and there is no need to list them here. The best evidence for the great importance attached to international contacts by the analyzed schools is the fact that all of them currently participate in the aforementioned programme, having the Erasmus card entitling them to apply for education mobility funds in higher education. The scale of cooperation with foreign higher education institutions is shown in the number of mobilities carried out in academic year 2013/2014 that is the last year of the Erasmus programme. The number of students of state schools of higher vocational education participating in the international exchange is systematically growing. The most popular destinations for studying are: Turkey, Portugal, Spain and Germany, while in the case of practical training: Spain, Greece and Germany. When it comes to teachers going abroad to conduct classes, the most frequently chosen destinations are universities in Slovakia, Spain, Turkey and Germany. Analyzing the structure of foreign students and teachers visiting state schools of higher vocational education, it can be noticed that there prevail citizens of Turkey. In general, the discussed schools, as well as all higher schools in Poland, have limited opportunities to attract foreign students from wide range of countries and, particularly, from the so called “old European Union countries”. Therefore, it is a significant challenge for the state schools of higher vocational education to obtain foreign students not only from those countries that already have high interest as for example Turkey (in the case of pursuing part of their studies abroad) or Belarus and Ukraine (in the case of pursuing full studies in Poland), but also from other countries. This challenge seems to be particularly important in the light of the aforementioned demographic decline affecting Polish higher education institutions.

The Act on Schools of Higher Vocational Education of 26 June 1997 (The Act of 26 June 1997 on Higher Vocational Schools, Journal of Laws of 1997, No 96, item 590) restricted conducting education by these schools only to vocational studies (first cycle) and, in this way, to conferring graduates the degree of bachelor or engineer. Running Master’s degree studies (second cycle) by higher vocational schools was enabled by the Law on Higher Education of 27 July 2005. State schools of higher vocational education started to take this opportunity quite quickly. With each passing year, second-cycle studies were offered and run by the growing number of state schools of higher vocational education. In academic year 2015/2016, there were 18 of them, which constitutes the half of this type of schools. On 30 November 2015 there were altogether 4.7 thousand students of these studies in state schools of higher vocational education. Running second-cycle studies by the discussed higher schools raises certain controversies, among representatives of university type higher education institutions

as well as the Ministry of Science and Higher Education. Critics claim that state schools of higher vocational education should only run first-cycle studies (not to mention postgraduate studies and other forms of lifelong learning), clearly oriented towards the needs of economic units and other regional institutions. Bachelor's or engineering studies should enable students to take up professional work, and, in the case of especially talented and motivated persons, enable them to continue education on second-cycle studies in university type higher education institutions (Jajszczyk 2013, p. 221). Such views are shared by some rectors of the discussed schools, who are of the opinion that these schools should focus mainly on enhancing practical aspects of education and not on applying for authorisation to run second-cycle studies.

In the author's opinion, in the environment of state schools of higher vocational education there can be observed a certain dilemma. On the one hand, the authorities of many higher schools are aware what role these schools should play in Polish education system running first-cycle studies, for which they were founded, on the other hand, they fear they remaining on the sixth level of education (ISCED 6) may, in the near future, depreciate the importance of these schools, and may even, as a result of introducing a new law, restrict the education possibilities only to the fifth level of education (ISCED 5). This solution is being discussed more and more often – so far in the context of new opportunities for state schools of higher vocational education. Launching second-cycle studies by state schools of higher vocational education is therefore regarded as a kind of “forward escape”, and, at the same time, the way to compensate for the decline of students of bachelor's degree and engineering studies with students of master's degree studies. And although running second-cycle studies by these schools somewhat goes against logic and values that guided the establishment of this type of schools, the tendencies all over Poland and perceived system confusion in higher education sector in Poland, as well as in most countries of Central and Eastern Europe (Kwiek 2015, p. 16) cause that more and more state schools of higher vocational education go along with the mainstream of the ongoing phenomena. It seems that the question asked currently by rectors of many schools of higher vocational education is not: “should we provide and run master's degree studies?”, but: “which master's degree courses should we offer and run to provide the sufficient number of candidates?”

Another challenge facing state schools of higher vocational education, which is worth signalling, is conducting scientific research. Although higher education institutions running only practical profile studies are not obliged to conduct scientific research and development work as well as provide research services and conduct the transfer of technology to the economy, still many of them take the trouble institutionalising the discussed field of activity and applying for, quite often successfully, obtaining scientific categories. J. Draus (2014) is of the opinion that conducting scientific research has a fundamental meaning not only for the development of the discussed schools, but also for the development of cities, subregions and regions where these schools operate. On the one hand, conducting scientific research allows obtaining academic degrees by their own staff, on the other, this research could be associated with social and economic needs of their environment. An important argument for conducting research is also the fact that many state schools of higher vocational education have recently obtained modern material base with well-organized and well-equipped science

laboratories. It would be mismanagement if these laboratories served only for the purposes of educating students. The demand of scientific research is becoming nowadays the necessity of the further development of state schools of higher vocational education and fulfilling by them social functions for their cities, subregions and regions. Additionally, in scientific literature education is considered as factor that stimulates labour markets to adapt to modern changes also at regional level (e.g. Šipilova 2014) and presence of institutions of vocational education and training in regions is important for their economic activity as well (for example, see Šipilova et al. (2016) for the case of small municipalities in Latvia).

In the face of the demographic decline, and taking into consideration that grants from the state budget for learning activity constitute over 75% of overall revenue of state schools of higher vocational education, these schools currently face the necessity to obtain additional sources of financing and to optimise operating costs. Analysing total revenue of public higher education institutions in Poland, in which the aforementioned grant does not exceed 60%, while about 15% is constituted by revenues from research activities, the new sources of financing for state schools of higher vocational education could be sought in statutory activity grants, funds for implementation of projects financed by the National Research and Development Centre and the National Centre for Science, sources for financing scientific cooperation with the foreign countries and sales of other research and development work and services. However, taking into consideration that scientific activity in most state schools of higher vocational education is at an early stage, obtaining the aforementioned sources, to a greater extent, is highly unlikely in the nearest future. Easier to obtain seem to be European funds – especially that the discussed schools already have experience in implementing the EU projects and the financial envelope available for the schools during the programming period 2014–2020 is significant. Particular attention should be paid to the Operational Programme Knowledge Education Development, and precisely priority axis III “Higher Education for the Economy and Development”, within which there are envisioned four activities addressed to higher education institutions and other entities providing higher education. Apart from seeking additional sources of financing, state schools of higher vocational education are forced to rationalise their operating costs. The most obvious direction of this rationalisation are personnel costs, which, as it was mentioned before, constitute 78% of total costs. The more and more frequently used practice is therefore employing under a contract of employment only the academic teachers who are included in the minimum staff resources with the dissolution of the employment agreement with the teachers, for whom the discussed schools are not the place of primary employment, and also outsourcing of security and cleaning services.

Many rectors of state schools of higher vocational education frequently emphasise that the schools do not compete with one another because of their geographic location. This claim, however, is not fully justified. Admittedly, the distance between particular schools usually amounts to several dozen kilometres, so it goes beyond the abilities of daily commuting for most young people, among whom there are students of the discussed schools, however, it must be noticed that in the case of some state schools of higher vocational education the distance does not exceed 40 kilometres. However,

more important than competing for students, is competing for financial sources provided in the form of grants from the state budget. These schools annually share the financial envelope of budget funds allocated to them and determined by the Ministry of Science and Higher Education. This means that the funds distribution algorithm functions within the aforementioned envelope, which in 2015 amounted to PLN 624.7 million. In other words, a bigger grant for one schools means a smaller grant for another. Such a solution inevitably forces competition among the discussed schools, which make efforts to obtain more students as compared with other higher schools of this type, through, among other things, launching second-cycle studies. In the author's opinion, this situation, conditioned by systemic solutions, may unfortunately lead to undesirable phenomena, particularly, to decreasing education level and further depreciation of the professional Master's title.

The sector of state higher vocational education in Poland ceases to be homogeneous. Although the indications of establishing state schools of higher vocational education were the same, and currently the legal framework of their functioning is also the same, their current development objectives and aspirations are becoming increasingly different. It is manifested in the notations included in development strategies of these schools, as well as activities undertaken in the recent years. Part of the analyzed schools places clear emphasis on academism and scientific research, while others aim to make the education process more practical by implementing dual studies. Some experts dealing with higher education issues and providing higher schools with consulting services stress that they are observing with optimism the shaping of educational offer and development planning by state schools of higher vocational education – especially that most of these schools do it very carefully together with conducting market research at the same time. In their opinion, these schools, are able to combine successfully academism with their original mission and function they were to fulfil. They are no longer an intermediate stage for academic staff. A big chance for their development are Professional Doctorates for Industry, which are being increasingly discussed, and which naturally fit in this type of schools.

As it was mentioned before, all higher education institutions in Poland, including state schools of higher vocational education are, to a greater or lesser degree, affected by the deepening demographic decline. The decreasing number of candidates for studies undoubtedly puts in the most difficult situation the smallest higher education institution that is the ones with the smallest number of students. Those, among state schools of higher vocational education, which tackle the aforementioned problem to the greatest extent, are from time to time mentioned in the academic environment as the higher schools, which are to be liquidated or taken over by bigger university type higher education institutions. A lively discussion in this matter was initiated in September 2016 together with the Ministry of Science and Higher Education plans concerning the liquidation of one of them, and finally merging it with a larger higher education institution. The discussion was fostered by the legal changes introduced with the Amendment to the Law of 2016, which authorized the minister to submit a proposal to liquidate state schools of higher vocational education. The prospect of liquidating state schools of higher vocational education is widely commented on by rectors of

these schools and in the Polish press. In the author's opinion, this prospect is by all means possible. It is hard to expect that in the period of seeking budgetary savings, the Ministry of Science and Higher Education will eagerly allocate grants to the functioning of higher education institutions with just a few hundred students.

5. Conclusion

Summing up the considerations concerning problems and challenges facing higher vocational education in Poland, it must be stressed that schools belonging to this sector have been continuously changing. The changes in the higher education organisation are obviously essential, since in the dynamic world the function of science, education and teaching is changing rapidly, causing the necessity to seek new, better and better organisational and legal solutions. As long as they are not confirmed or devalued by experience, they are, to a large extent, experimental. Unfortunately, it gives a distinct impression that the source of the changeability is, to a large extent, the instrumental treatment of state schools of higher vocational education by the government authorities and legislature and the lack of long-term plans for their functioning and tasks. However, it does not change the fact that the discussed schools, taking care of proper education quality, which is confirmed by the effects of work of The Polish Accreditation Committee, that is an independent institution acting to assure and improve the quality of education in Polish higher education institutions, demonstrate at the same time considerable cost-efficiency, evidenced, to a certain extent, by the relatively low unit cost per student and flexibility of their functioning which is manifested in their effective reformability and relatively quick adjustment of education to the regional and local needs. Higher vocational education is undoubtedly in line with the overall Polish higher education system, but its influence on the development of competitive and innovative economy is still quite limited. Until recently, state schools of higher vocational education did not have a proper research base, which made it impossible to build integrated triangles of "knowledge-education-innovations", facilitating the transfer of knowledge and innovation from higher education institutions to companies through permanent link between scientific research and educating students and economic entities operating in the region, and particularly small and mid-size enterprises.

Note:

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(2) The information presented in second part of this paper was prepared by the author for the expertise “State Schools of Higher Vocational Education – state de lege lata and de lege ferenda”. The place of State Schools of Higher Vocational Education in higher education system in the context of the debate on the form of the Law 2.0” which was developed for the Conference of Rectors of Public Vocational Schools (KRePSZ), and then, in the first quarter of 2017, it was submitted to the Ministry of Science and Higher Education in connection with the works on the new law on higher education.

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EKONOMIKA

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GEOPOLITICS OF ENERGY VERSUS GEOENERGY OF POLITICS

This study focuses on the significance of energy resources, supply networks and security, recognizing their key role in the analysis and interpretation of national and international politics and economics. Furthermore, the pursuit of ensuring guaranteed availability of oil and natural gas in the desirable quantities is gradually expected to play a pivotal role in the foreign policies and priorities of all the countries on the planet, especially those of the “Great Powers” having increased dependence on hydrocarbons. Due to the consequent high stakes of energy security, governments and businesses are strategically required to focus on and cope with rivalries as well as partnerships on a national, multinational and global scale. This development has led authors to revise the assessments of “Geopolitics” and “Goeconomics” and look for a successful substitute approach. In the paper authors continue to discuss about own proposed new term and concept of “Geoenergy” (*Geoenergeia*), justifying the added value of a respective approach. “Geoenergy” acknowledges the existence of international approaches, like “Geopolitics” and “Goeconomics” do, and even more, it may essentially be a tool searching for the main causes behind political and economic decisions, which are usually triggered by long lasting conflicts around the control of scarce energy resources. Additionally, the approach “Geoenergy” emphasizes the energy power as a factor that contributes considerably to establishing the dominant countries and utilising their capacities over long historical periods in the world power system. The new approach “Geoenergy” applies mainly when a “Great Power” has a deficit in energy resources and is energy-dependent.

Keywords: energy resources, Geopolitics, Goeconomics, Geoenergy (*Geoenergeia*), energy policy, energy security, Middle East.

Enerģijas ģeopolitika salīdzinājumā ar ģeoenerģijas politiku

Pētījums koncentrē uzmanību uz energoresursu, sagādes tīklu un drošības nozīmi, izvērtējot to atslēgas lomu nacionālas un starptautiskas politikas un ekonomikas analizē un interpretācijā. Turklāt, aktivitātes, kuras ir vērstas uz garantētas piekļuves nodrošināšanu naftai un gāzei vēlamās apjomos, drīzumā spēlēs nozīmīgu lomu starptautiskajā politikā un visu pasaules valstu prioritātēs, īpaši Lielvarās, kuras ir palielinājušas savu atkarību no ogļūdeņražiem. Ņemot vērā enerģētiskas drošības jautājumus, valdības un uzņēmējdarbības pārstāvjiem no stratēģiska skatu punkta jākoncentrējas uz sadarbību kā nacionālajā, tā arī starptautiskajā līmenī. Minētas tendences veicināja autoru interesi pārskatīt “Ģeopolitikas” un “Ģeoekonomikas” pieejas, kā arī meklēt un piedāvāt jaunu pieeju. Rakstā autori turpina diskusiju par viņu piedāvāto jaunu terminu un jaunu pieeju “Ģeoenerģija” (*Geoenergeia*), uzsverot šīs pieejas savlaicīgumu. Jaunā pieeja “Ģeoenerģija” atzīst starptautisku pieeju “Ģeopolitika” un “Ģeoeconomika” eksistenci. Tomēr, pēc autoru domām, “Ģeoenerģija” var būt vairāk veiksmīgs instruments iemeslu meklējumiem par noteiktiem politiskiem un ekonomiskiem lēmumiem, kurus pieņem ilgstošo konfliktu iespaidā par kontroli par ierobežotiem energoresursiem. “Ģeoenerģijas” pieeja uzsver,

ka enerģētika ir faktors, kas lielā mērā nosaka valstu dominējošo stāvokli pasaules varas sadales sistēmā ilgstošā vēstures laika posmā. Jaunā pieceja “Ģeoenerģija” var tikt piemērota situācijas analīzei, kad Lielvarai ir energoresursu deficīts un tā ir energoatkarīga.

Atslēgas vārdi: enerģētiskie resursi, Ģeopolitika, Ģeoekonomika, Ģeoenerģija (*Geoenergeia*), enerģētikas politika, enerģētikas drošība, Tuvie Austrumi.

Геополитика энергии в сравнении с геоэнергией политики

Данное исследование концентрирует внимание на важности энергоресурсов, сетей снабжения и безопасности, рассматривая их ключевую роль в анализе и интерпретации национальной и международной политики и экономики. Более того, деятельность, направленная на обеспечение гарантированного доступа к нефти и газу в желаемых объемах, в скором времени будет играть важную роль в международной политике и приоритетах всех стран мира, особенно Великих Держав, которые увеличили свою зависимость от углеводородов. Учитывая актуальность вопросов энергетической безопасности, правительства и представители бизнеса со стратегической точки зрения должны концентрироваться на сотрудничестве на национальном и международном уровне. Данные тенденции побудили авторов пересмотреть подходы «Геополитики» и «Геоэкономики» и искать новый подход. В статье авторы продолжают дискуссию о предложенном ими новом термине и новом подходе «Геоэнергия» (*Geoenergeia*), подчёркивая своевременность данного подхода. Новый подход «Геоэнергия» признает существование международных подходов, таких как «Геополитика» и «Геоэкономика», но, по мнению авторов, «Геоэнергия» может быть более успешным инструментом поиска основных причин политических и экономических решений, которые обычно вызваны длительными конфликтами из-за контроля над дефицитными энергетическими ресурсами. Подход «Геоэнергия» подчёркивает, что энергетика является фактором, который в значительной степени обуславливает доминирующее положение стран на протяжении длительного исторического периода в мировой системе разделения власти. Новый подход «Геоэнергия» может применяться к анализу ситуации, когда Великая Держава имеет дефицит энергоресурсов и является энергозависимой.

Ключевые слова: энергоресурсы, Геополитика, Геоэкономика, Геоэнергия (*Geoenergeia*), энергетическая политика, энергетическая безопасность, Ближний Восток.

Introduction

Security in general is the mainstay upon which man's creativity lies and flourishes through the times. However, it is almost impossible to accept secure societies where the energy is scarce. Every form of life involves continuous processes, changes, transformations which consume, convert and release energy. This continuous flow ensures the survival of both individual organisms and societies. Therefore, energy and man's achievement to initially tame and then exploit it, in an increasing number of forms and applications, has freed the world from many physical limitations.

Besides, progress in societies results in the increase of energy requirements in order to support new production processes. Thus, all modern and developed economies are dependent on the abundant supply of energy. Over the last decades, shortages in the global oil market, the recent price decreases, and the threats of terrorist attacks against crucial oil infrastructures have once more brought to the limelight the energy security as an issue of strategic importance. Trade and transportation lines, among others, are

extremely vulnerable. Almost half of the oil and natural gas produced per year is transported by ocean-going tankers. In addition, just a few countries play a huge role in the supply of hydrocarbons in the global market, which means that their policies and domestic developments also exert high impact on the global economy. For instance, 60% of the global natural gas resources are found in two countries, Russia and Iran (Index Mundi 2017).

Very few commodities have ever been of such vital importance as petroleum. This is so because it has many uses, both as an energy source and as the raw material for the production of many industrial products (Vidakis, Baltos, Chomata 2012). Thus, petroleum (and petroleum-derived products) is the most widely traded commodity on the planet, being undoubtedly the “epitome” of the globalisation. The dependence on imported hydrocarbons remains the “Achilles heel” of the economy of most developed countries. Oil still accounts for 40% of the global “energy mix” due to its supreme fuelling performance in the transportation sector (World Energy Council 2017).

In addition, as far as supply is concerned, there is increasing evidence that it is not an easy task to increase production or find new energy resources (cost-effectively exploitable) in order to meet the increasing demand, especially from China and India. Unlike many other sectors of economy, the greatest part of the global oil drilling is under government control. 80% of all the oil drilling facilities are state-owned (Central Intelligence Agency 2017), while the countries that profit from the high prices of oil have actually no incentives to increase production levels. This is the reason why high prices and shortages in the oil market, with very small margins in back-up auxiliary drilling, combined with even small declines in production, shall have in future a significant impact both on North America and Europe. However, the recent developments in Iraq, Libya, Egypt and Syria have marked the gradual comeback of multinational oil companies to the Middle East, and the re-distribution of the respective shares between state-owned and private companies. On the other hand, switching to energy-secure and environmentally friendly energy sources is perhaps the best alternative road-map to the survival and safe development of humanity. Producing energy in economical, safe and renewable ways is the new ecological challenge, as it has been highlighted by V. Nelson and K. Starcher (Nelson, Starcher 2015). In other words, to fulfill essential human needs, energy management and use will be the focus of our attention over the next decades.

This paper aims to consolidate and capitalize on the research opportunities that are being developed in the field of energy policies and management over the last years. The authors have already introduced a new scientific approach that identifies and examines the motives of national and international decision making in relation to the energy needs and resources equilibrium (Vidakis, Baltos 2015). The analysis is being now continued since, as it is presented in the following lines, the relevant hypotheses find year after year sound support, stemming out of several main axes of global politics evolution like the energy security concerns. Therefore, the structure of this study includes a qualitative analysis of the energy security concept, assessing the increase of incidents that jeopardize the current energy security systems along with the broader public opinion perception that respective breaches exert major impact on the achievement of peace and progress all over the world.

Then, another pivotal point discussed is the scarcity of resources, the marginal characteristics of a contemporary industrial era that will be soon obliged to completely redesign its energy production and logistics patterns. It is being approached through a historical review aiming to an alternative energy-centered interpretation of political motivation and action, benchmarking and challenging the interpretation models monopolised for decades mainly by geopolitics. In this context it was also considered useful to track down plethora of latest bibliographic references reflecting a shift in the academia approach towards the increased use of the energy-related terms and notions in the geostrategic studies.

1. Energy Security

Energy security is a relatively new issue on the international agenda, but of increasing significance. Due to the rise in the global energy demand, any decline in supply levels may lead to an international crisis. Another characteristic of energy security is that most countries depend on supplies which are transferred over long distances (Weissenbacher 2009). In order to meet the rising demand, more and more complex and increasingly vulnerable infrastructures are constructed (e.g. projects for new pipelines and construction of new liquefied natural gas stations). This is one aspect of internationalisation, since it highlights the interdependence of consumers and hydrocarbon producers in a complex manner which makes security a “must” both on land and at sea.

The Middle East will continue to be of vital importance insofar as energy security is concerned – 2/3 of the globally known oil deposits as well as high natural gas deposits are found in this region (Vidakis, Baltos 2013). In an international market which is highly dependent on oil and natural gas, threats on energy supply may come from a number of different sources: natural disasters, business and governments’ interests, political – economic “bullying” and/or blackmailing, terrorist attacks and asymmetric threats etc. Therefore, a need emerges for a strategic prevention of disruptions as well as for arrangements in order to minimise the effects on the quantities of hydrocarbons available in the event of major international unrests (Vidakis, Baltos, Chomata 2012). Furthermore, the pursuit of ensuring guaranteed availability of oil and natural gas in the desirable quantities is gradually expected to play a pivotal role in the foreign policies and priorities of all the countries on the planet, especially those of the “Great Powers” having increased dependence on hydrocarbons. This development has led us to revise the assessments of Geopolitics and Geoeconomics and look for a successful substitute approach.

More specifically, the developed countries around the globe are becoming increasingly dependent on imported energy. For instance, in 2016 the Organization of the Petroleum Exporting Countries (OPEC) supplied the United States with approximately 40% of the crude oil they needed (U.S. Energy Information Administration 2017). Europe imports approximately 60% of its natural gas, half of which comes from Russia (EUROSTAT Statistics Explained 2017). In fact, it is a relationship of reciprocal importance since Russia’s main customer is the European Union (EU).

However, the EU is divided in relation to the politics of energy and its member-states have diverging strategies consistent with their national interests. The different, and often competitive, political and economic interests of the European countries have caused concerns even to NATO which acknowledges Russia's key role in the supply of energy sources to its neighbouring European states. However, the United States strongly react to a potential broader cooperation between the EU and Russia. However, what initially looked like a definitive energy management issue, several decades later was revealed to be a cause of many emerging security problems. A similar analysis could extend even to the latest, usually geopolitically approached, issues like the Libyan or even the current Syrian civil wars, involving international energy management interests in the local energy resources distribution (Karkazis, Vidakis, Baltos 2014).

Switching from oil to natural gas consumption shall increase the dependence of numerable countries. It is not surprising that market shortages shall lead to the search for alternative energy sources, such as bio-fuels or solar energy. Nevertheless, bio-fuels currently account for only 1% of the transportation fuels, while specialists do not believe that this percentage will rise by more than 5% in the next 20 years. Even today, coal is estimated to account for the 2/3 of the energy consumption in China and India, and fossil fuels account for 90% of the global demand for energy, despite its detrimental effects on the environment (OECD 2017). This brief review of global trends with respect to energy resources leads us to conclude that energy management itself is a major and complex security issue. In the next section the authors offer a new alternative model Geoenergy.

2. The proposition of a new alternative model Geoenergy

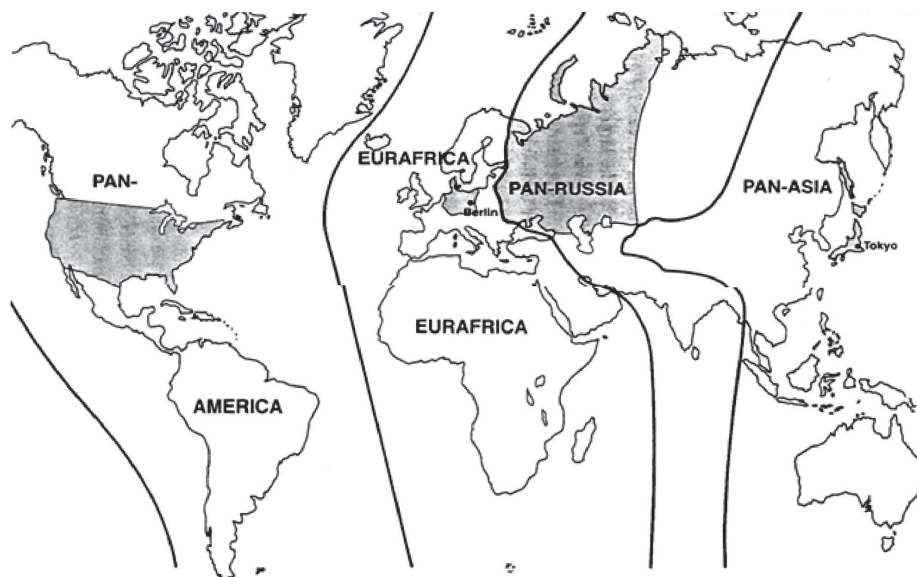
2.1. Geopolitics – historical overview

Geopolitics interconnect political theory, geography and history. In other words, they study the countries' domestic and foreign policies mainly in conjunction with their geographical location (Grygiel 2006). Geopolitics argue that the political, historical and social events in each country and region are more or less dependent on their geographical location on the planet and the related characteristics of any particular location (Sioussiouras, Koutsoukēs 2012). Geopolitics further examine and interpret the interaction between nature/geographical space (the environment) and human activities as well as mankind's cultural relationship with the physical environment towards an increase of power (economic and/or military) at present and mainly in the future time.

It was at the end of the 19th century that this distinct scientific methodology was formed by the Swedish political scientist Rudolf Kjellén who was inspired by Fr. Ratzel's book "The History of Mankind" (Ratzel 2012). After 1924, it was developed by Karl Haushofer (Smith 1986), mainly in Germany (a great power with lack of large metropolitan territory, colonies and access to natural resources). It contains the concept of "living space" (Lebensraum) and suggests the "meridian – vertical" division of the globe, mainly on the basis of cultural characteristics (see Figure 1).

Figure 1

Haushofer's Pan-regions of the World (Map 1)



Source: O'Laughlin, Van der Wusten 1990, p. 7.

Haushofer's work received a strong response from the Nazi leadership and his ideas were used to justify the German expansionary policy during the domination of the National Socialist Party and the redistribution of the international natural resources (Siousiouras, Koutsoukēs 2012). The focal point of Geopolitics is national power and control of a geographical territory. In every historical era in the world system, the dominant countries have been those which are proved most powerful in demonstrating their capacities over extended geographical areas. Therefore, Geopolitics acknowledge the existence of international interests and rivalries and suggest strategic planning in various sectors [e.g. military power (Geostrategy), economy (Geeconomics), demography, environment, etc.].

In Geopolitics, apart from Haushofer's German school, Halford MacKinder's (Knutsen 2014) Anglo-Saxon school of thought (empiricism) is also noted, which suggests a different Geographical division of the globe (see Figure 2). Thus, the "Heartland" is the central and most significant region of Eurasia, in accordance with MacKinder's famous saying: "Whoever held the "Heartland" would control the world" (Demarest 2014, p. 114). It concludes that containment of the power controlling the "Heartland" is necessary in order to prevent the "Heartland's" unhindered access to the sea. This theory was adopted in the British – Russian confrontation in Central Asia during the period 1813–1907 (the so-called "Great Game"), in the Napoleonic wars during the period 1803–1815 (Britain vs France), in the Ottoman Empire region during the period 1814–1922 (Britain vs Russia and Germany), during the two World Wars (Britain vs Germany) and, in a more advanced form, during the cold war period

(containment of the Soviet Union), and it still bears validity nowadays to a certain extent (EnerGeoPolitics 2016).

Figure 2
The 1904 “Heartland” theory – PIVOT AREA (Map 2)



Source: MacKinder 1904, p. 435.

More specifically, MacKinder (1904) formulated his “World Island” theory (Eurasia and Africa) and his “Heartland” hypothesis, underlining its importance in ruling the world: if a land power, beginning from the (continental land) “Heartland” succeed in acquiring maritime supremacy, then such power could act as the “Geographical Pivot of History”, and the historic supremacy of the maritime powers shall have ended. Prior to MacKinder, the American Alfred Thayer Mahan (Thayer Mahan 2012) had presented and advocated for the maritime supremacy. Later on, the American (of Dutch origin) professor Nicholas John Spykman (Wilkinson 2013) argued that the Eurasian Rimland is more important (hence specifying the main target of the American Geostrategy), heralding the North Atlantic Treaty.

According to K. Grivas (Grivas 2008), Washington’s primary target has been to prevent the USSR/Russian cooperation with Europe, to keep Western Europe under American control and in order to “surround” Moscow. During the Cold War period the Geopolitical “Heartland” coincided with the area then ruled by the Soviet Union. In the year of Spykman’s death, MacKinder formulated a first Geopolitical perception of the “Atlantic area” (Wilkinson 2013), when, in one of his articles, outlined the “unified North Atlantic area” composed of three elements: an advanced airport in Britain, a bridgehead in France as well as a back-up of trained human resources and supplies in the U.S.A. and Canada.

2.2. Geoeconomics – historical overview

Unlike Geopolitics, Geoeconomics are considered the scientific methodology whose object is to study human economic activity in relation to the Geographic environment; however, not in a static, as is the case of Economic Geography, but in a dynamic sense. Another alternative definition (Vidakis, Baltos 2013) for Geoeconomics may be the study of economic conditions which are influenced by geographical factors. The term was initially used for the study of the underground resources from an economic aspect. It then extended to include land resources and ultimately maritime resources.

According to Murphy (Murphy 1977), it was German Geographer Arthur Dix who formulated the broader sense of Geoeconomics in 1925. Geoeconomics may be considered a type of “bridge” between Political Economy and Economic Geography. Among others, Geoeconomics study the role of economic interaction and the limitations of economy in resolving or preventing conflicts, the relationship between economic growth and the political and social conditions in different countries (such as corruption, the establishment of organised crime networks and/or terrorist groups interfacing with conventional forms of crime). Geoeconomics study the aspects of a geographical region on a local, regional and/or international scale, which are related to economic power (economic activities in relation to the geographical environment) (IISS Research and Analysis 2015).

According to other analyses, Geopolitics consists of two components: Geostrategy and Geoeconomics. It is directly linked with Geoeconomics and further correlates the geopolitical factors with military power and political goals. The main factors determining a country’s geostrategic value are its location, its political-social standards, its military power and international status.

2.3. Interdependence between Geopolitics, Geoeconomics and Geoenergy

Following the above considerations, it can be established that there is a common chronological (mid 1920s) and geographical (Germany) starting point of the emergence and evolution of the two concepts cited above, namely Geopolitics and Geoeconomics. However, despite their apparent interdependence, a substantial controversy is discerned – when they are not oriented towards the same direction:

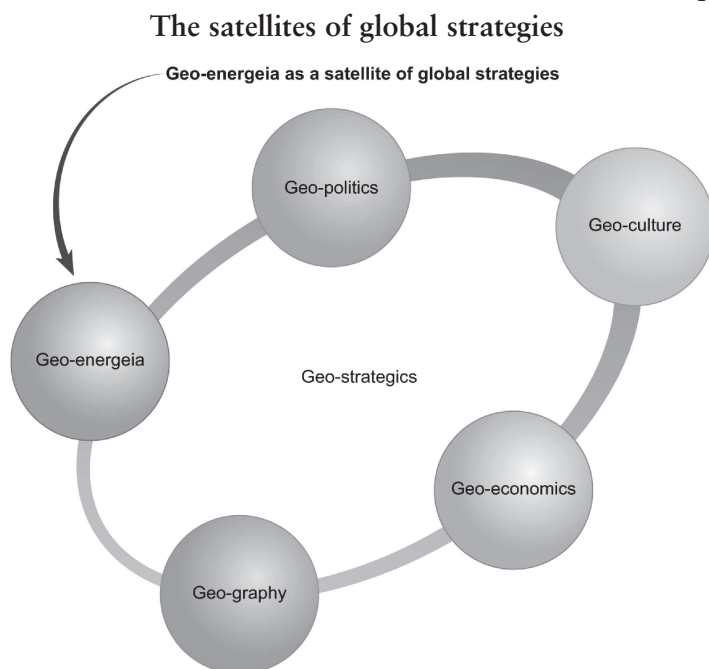
- *Do Geopolitics lead and Geoeconomics follows or vice versa?*
- *Are Geopolitics more or less determined by Geoeconomics or vice versa?*

In math terminology, we should seek to find which is the independent and which the dependent variable in the context of international power.

A first answer is that several possibilities may sometimes apply, depending on the circumstances, the countries and the historical periods, and sometimes the latter. These two considerations may also be partly overlapping or interchangeable (Economist’s View 2006). However, the authors are of the opinion that when both concepts were formulated they had already been overridden by a third consideration-concept: “Geoenergy”, (see Figure 3). The equivalent term “Geoenergeia” is introduced as a less recognizable alternative, but depicting the original greek etymology: Geo + En + Ergeia, “earth-powered work” (Vidakis, Baltos 2015).

It should be made clear that Geopolitics and Geoeconomics may provide a valid analysis of certain events and interpret specific policies. In spite of the differing approaches and considerations, according to many specialists, Geopolitics and Geoeconomics are the tools that provide, among others, the explanations and the reasons for the policies mainly adopted by decision-making government agencies. This, however, was the case before hydrocarbons emerge as a resource of major significance with respect to the energy management and the efforts to control and exploit hydrocarbon deposits.

Figure 3



Source: Vidakis, Baltos 2015, p. 7.

All the above shown research fields claim objectivity and scientific accountability, but they are usually being “manipulated” by Geostrategies in favor of biased national, international and global policies.

2.4. Evidences on Geoenergy significance: Historical background

Nevertheless, in order to make a more analytical and substantiated approach to the proposed concept, the new term, Geoenergy, it is necessary to make a brief reference to the past. Historically, the evolution of societies, which developed both in terms of population density and complexity of their organisation, was accompanied by a parallel increase in their energy requirements. Thus, the initial use of wood as fuel, in Europe, resulted in considerable deforestation (and the gradual degradation of various ecosys-

tems). In the mid-16th century, England's forests were dwindling. Keeping fire and heat in the Geographical and meteorological environment of the island required large quantities of fuel which could no longer be yielded by its deforested hills. Its inhabitants then became conscious of the imperative necessity to substitute other energy sources for wood. During that period, humanity made its first steps in exploiting fossil fuels. Thus, they were forced to turn to a black rock which was easy to burn and could be found in abundant quantities by simply digging the ground (Shah 2004).

In the 18th century the near-surface coal deposits were exhausted and mining had to go to greater depths. However, it would be risky and possibly foolhardy to continue relying on such difficult, costly fuel source. The amount of energy needed to pump the water out of deep holes might be equal to, if not greater than, the quantity of energy gained from the coal mined from the ground (not a cost-effective system from a technical point of view). However, coal trade was a lucrative business (cost-effective system), one of the most significant and costly in Britain. Coal was the driving force in technological progress allowing the construction of machinery for the industry (Roberts 2005).

Therefore, through a process which started in England and expanded both in Europe and America, human labour was gradually replaced with steam engines, which operated with coal and converted thermal energy to kinetic energy. Steam engines were used on ships, trains, excavators and agricultural tractors as well as in the textile industry, in metallurgy and in other industry sectors. Coal was the main source of energy both in the households and in the industry. In 1912 Great Britain converted its warships from coal to oil. This gave a great advantage to its navy, in terms of speed and autonomy. That was the first decision which endorsed the strategic importance of the new fuel. In the World War I, placing their faith in the internal combustion engine and its fuel – the oil, the allied forces were able to vanquish the coal-powered, bulky, German vehicles. Ten days after Germany surrendered, in November 1919, the British politician George Nathaniel Curzon declared that “the Allied cause had floated to victory upon a ‘wave’ of oil” (Roberts 2005, p. 65; Stone, Kuznick 2012).

1912 is viewed as the year when the new scientific field, Geoenergy, was born and began to take form. Naturally, this did not come about immediately, perhaps not even consciously, with respect to the parties concerned. However, the rapidly increasing perception of Geopolitics soon (though, it is believed, temporarily) prevailed. At the same time the concept of Geoeconomics took shape. It stands to reason that the evolution of Geopolitics and the attendant importance of Geostrategy drew the attention of militaries, diplomats and politicians who reinforced it, while the concept of Geoeconomics was advocated by political economy theorists and businessmen. However, both approaches have flaws in that they are rather unilateral, and in many cases contradictory, and do not appear to take into account technological progress and the attendant significance of the energy resources to societies. Nevertheless, it must be realised that, historically, the development of technology has had a multitude of different effects on those adopting new methods and techniques, such as increasing their capacities and eliminating difficulties and restrictions. Therefore, the transition from coal-burning to oil-burning, the replacement of the steam engine with the internal combustion engine and the shortage of the new energy resource have caused the partial

“obsolescence” of Geopolitics and Geoeconomics, highlighting Geoenergy as a new scientific discipline.

On the other hand, engineers, usually being more practical people, according to Z. Smith and K. Taylor (Smith, Taylor 2008), did not show any interest in dealing immediately with the implications of the energy resources in political and economic systems and their impact on international relations (Ó Tuathail, Dalby, Routledge 1998). They focused all their efforts in exploring and drilling new oil deposits, oil transportation and new process and exploitation techniques. However, those who did not grasp the meaning of this change and adhered to and applied the World War I Geopolitics concepts were defeated in the World War II. Thus, in 1941 Hitler invaded the Soviet Union, with aspirations of a rapid and victorious advance of his troops, instead of securing first and foremost his energy supplies; he could reinforce the North African front and manage, with greater certainty, to advance as far as Persia, committing 70% of the then known global oil reserves to his purposes (Vidakis, Baltos 2013).

Besides, it is a well-known and admitted fact that the development of technology and its exploitation by man influences and alters considerably situations and standards (see for instance the rural and industrial revolutions). According to P. Roberts (Roberts 2005), the “energy explosion” began at the end of the 19th century and was connected with the beginnings of mass consumption of oil (Sepehri 2012).

Geopolitics and Geoeconomics then turned into the tools and the means for energy management. However, this was not the case in all historical periods and not for all the Great Powers. Some of these Powers had, at least initially, achieved to increase their oil reserves. Geoenergy applies mainly when a Great Power has a deficit in energy resources and is energy-dependent.

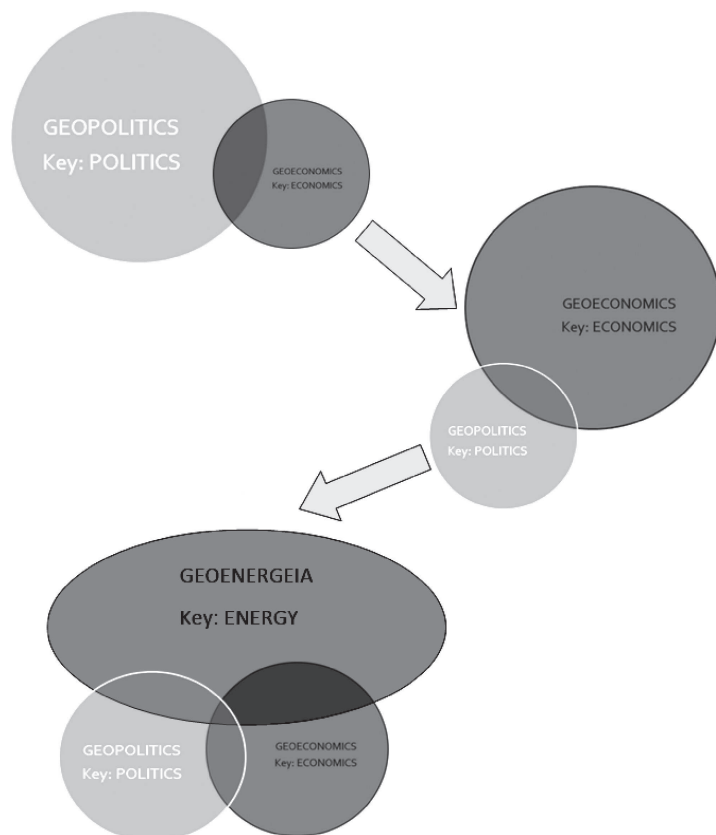
3. Geoenergy as autonomous research methodology

An initial attempt to define Geoenergy would be that: *“it studies, analyses, examines and interprets decisions made by transnational, public as well as private agencies at a political, strategic, economic and even social level in conjunction with the geographical areas but also with the energy resources, existing or considered existing, along with those that are traded, exploited as well as potentially processed in a certain geographical area”* (Vidakis, Baltos 2015).

Geoenergy may offer clear and complete interpretations with respect to the connection of decisions and actions made primarily by collective organs at a national, private, public and multinational level (e.g. the foreign and domestic policies of governments and coalitions) in relation to the existence of any type of energy resources (Stone, Kuznick 2012), the possibility of exploiting such resources and energy security at present and in the future. It studies the realignment of the “energy” powers at an international level (global or regional) and “interfaces such realignment with the political, military and economic (national and business) power” (Vidakis, Baltos 2013, p. 20).

Figure 4

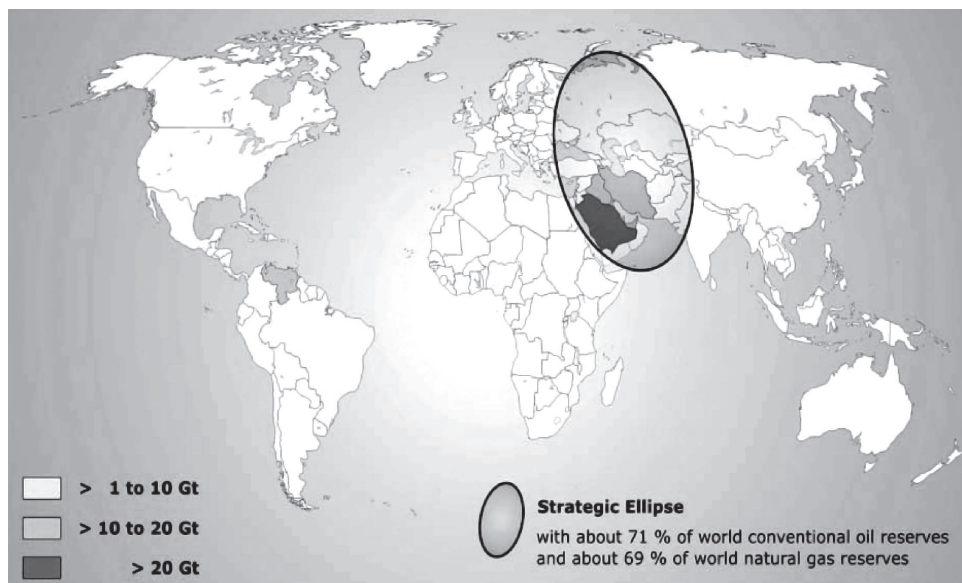
Geoenergy applies, where energy is the key factor ruling the political decision making



Source: elaborated by the authors using Vidakis, Baltos 2015.

Instead of the concept of “living space”, it contains the concept of “Geoenergy” space (see Figure 5 below) and establishes a classification of the world regions based on their abundance/scarcity in energy resources. It utilises Strategy with focal point the national power and the effective control of a Geographical “energy” territory. It examines the Geoenergy elements and data of a Geographical regions and countries, the relationship of such elements and data with their economic growth and development, as well as the way political and social conditions are shaped. It maintains that all political, historical and social events in each country and region depend primarily on the possession, the transportation and utilisation of energy resources. Additionally, it suggests that the energy power is a factor that contributes considerably to establishing the dominant countries and utilising their capacities in every historical era in the world system. The existence of “Geoenergy Systems and Sub-systems” may be observed as well as the operation of “Geoenergy Complexes”.

Figure 5
The “Heartland” of Hydrocarbons Global Geoenergy Space (Map 3)



Source: Rempel 2006, p. 3.

Geoenergy not only acknowledges the existence of international antagonisms, like Geopolitics and Geoconomics do, but it may essentially be a tool supporting them or the basic cause behind political and economic decisions. More specifically, it maintains that there is a marked rivalry for the depleted energy resources and the conflicts arising therefrom are severe and last for years (Grivas 2008). It is mainly concerned with regions, countries and factors which can affect energy security and/or the national interests of all the countries and the powerful transnational businesses. In addition, it can provide a satisfactory interpretation of the phenomenon of stagnation and under-development of countries which are rich in energy resources. It is the independent variable of individual systems, agencies and decisions. In the normal course of events, Geoenergy will cease to play an important role when technology proceeds with mass development of cheap and suitable energy sources, like, for example, the renewable energy sources.

The new comprehensive concept of Geoenergy interprets the events with a high degree of reliability (Karkazis, Vidakis, Baltos 2010). Most analysts continue to use the terms: “Geopolitics”, “Petroleum Geopolitics”, “Energy Geopolitics”, “Energy Security” and so on, persisting in approaches which disadvantaged to provide a valid and overall interpretation of choices, decisions and situations occurring in the world.

The following table shows indicatively the introduction of new meanings and terms to be used instead of “Geopolitics”.

Table 1

Indicative list of new meanings and terms, instead of “Geopolitics”

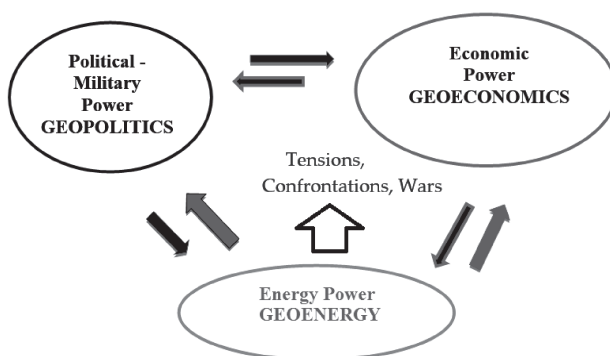
The term	Examples of studies, where term was used
Geopolitics	Chandra (2009); Mityakov et al. (2011); Heinberg (2011)
Geopolitics of Oil	Arvanitopoulos (2002); Bustelo (2005); Patey (2006); Renner (2006); Rangel (2014)
Old Geopolitics	Gupta, Arora (2013)
New Geopolitics	Gere (2007)
New Energy Geopolitics	Coşkun, Carlson (2010)
Energeopolitics	Aribogan, Bilgin (2009)
Geography of Energy	Efstathiadis (2013)
Geoenergy	Mane-Estrada (2006); Karkazis, Vidakis, Baltos (2010); Vidakis, Baltos (2015)

Source: elaborated by the authors.

Corroborating, K. Grivas (Grivas 2008) suggests that the main goal is the uninterrupted and cheap supply of hydrocarbons. The means to this end is the Geostrategic control of the region. The parallel approach of Geoeconomics and Geopolitics may only interpret to a certain extent the historical course and developments in countries with strong Geoenergy interest such as Iran, Mexico and Venezuela. However, Geoenergy provides a comprehensive and substantiated interpretation of the course of events, with the energy sources being the centre of gravity both in corporate and government interests.

Figure 6

Pattern of Power forms interconnected – “The Supremacy Triangle”



Source: elaborated by the authors.

The political (military & diplomatic) power is intertwined with both the economic and energy power to form a “triangle of power and supremacy” (see Figure 6). However, due to its importance, energy usually plays a primary role in the global distribution of power (Pasisis 2008).

Concluding remarks and future policy implications

The Middle East region is rich in oil with more than 2/3 of the global reserves. Due to this fact, the countries in this region can play a significant part in the energy security of both the United States and the global economy, in general. Discoveries of new deposits in Central Asia, the Caspian Sea and Russia are not sufficient to meet the needs of global economy and curtail its dependence on the Arab Gulf oil.

In September 2001, Britain's Cabinet Office on Energy Policy, headed by Colin J. Campbell (Campbell 1997), reached the conclusion that the global hydrocarbon reserves have depleted to an alarming degree. In order to support even a moderate global economic growth in the next decades, the increased global demand for oil would coincide with the dramatic decline in oil production in the North Sea, Alaska, Mexico, Russia and Nigeria. A few years later, Matthew Roy Simmons (Simmons 2011), who was a specialist in energy issues and consultant to the latest Bush administration, reached the same conclusions. More specifically, Simmons reports that the global oil production has already reached its peak. Any decline in the global supply would have detrimental consequences on global economy in the transportation, food and industry sectors. At the same time statistics with respect to finding new sources are quite alarming.

Both Campbell (1997) and Simmons specialists (2011) agree that the only region in the world which continues to have significant amounts of unexploited oil deposits, at a low cost, is the Middle East region. Their research resulted in a common triangular Geological formation which holds 65% of the global reserves and consists of five countries: Iraq, Iran, Saudi Arabia, Kuwait and the United Arab Emirates. The most interesting may be that Iraq is the greatest source of unexploited oil reserves in the Middle East.

There are signs that the strategic importance of Iraq and the wider Middle East region in a global environment where production in most sources has reached its peak is bound to augment in the coming years. It is also important and worth mentioning that, in the Gulf region, oil drilling and transportation costs are considerably low compared to such costs in other oil-producing regions, which makes it much easier to export. During the Cold War period, the U.S. strategy in the region was primarily targeted at securing control of the Gulf region and impeding all actions that would allow oil exploitation by the enemy camp, namely the former USSR.

Currently, more than ninety years after the first "settlement", the authors witness a transitional phase of redistribution of the international power in the Middle East and a rearrangement of the map of the region (Vidakis, Baltos 2013). Once again, the primary cause is the region's energy resources, with the present energy players in the area aspiring to gain benefits, currently and in the future, by taking action against the other major powers.

There are multiple evidences, as it was discussed above, that the energy needs themselves, in reference with certain time and space circumstances, may compete, stimulate and even precede over the factors that are usually considered as the drivers for policy making, mostly the zeal for power, wealth and growth. There are obviously further research questions to be examined. A series of historical milestones, foreign affairs, conflicts, negotiations, agreements and wars could be re-visited and re-interpreted,

in accordance with the Geoenergy research model, under the light of unknown or inadequately analysed motives, plans and aspirations concerning access to utilization of energy resources. In the same context, current world-shaking events from the Arab Spring and the Syrian civil war to the new campaigns for Arctica exploration are worthy to be re-evaluated. The added value out of the Geoenergy application is not only related with the science imperatives for research accuracy and reliability, but significantly affects peace and prosperity worldwide. Therefore, and due to the eventual high stakes of energy security, governments and businesses are strategically required to focus on and cope with rivalries as well as partnerships on a national, multinational and global scale.

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Renata Przygodzka, Adam Sadowski

PROCESS OF LAND CONSOLIDATION IN POLAND – INSTRUMENTS AND THEIR EFFECTS

The paper takes up one of key aspects of land management – land consolidation. This process is of particular significance in Poland, as despite over hundred years of consolidations, the needs in this area are still very high and even increasing since accession to the European Union. Land consolidation aims to reach effective use of arable land, decrease costs of farms, reduce potential spatial, environmental and social conflicts and stimulate development of functions of land. Assessment of this process requires to pay attention to both legal and economic instruments applied for land consolidation. The aim of this paper is to identify legal and economic instruments used in Poland in land consolidation processes as well as their effects. For analysis purposes authors consider respective legislation, statistical data, program documents and reports on structural funds implementation. Considerations in the paper indicate that despite ordering regulations and providing significant funds for land consolidation activities in agriculture and rural areas development programs, these actions meet only a small fracture of existing needs.

Results of the paper are based on the research tasks of the Jean Monnet Networks project No. 564651-EPP-1-2015-1-SK- EPPJMO-NETWORK “Sustainable Land Management Network”.

Keywords: land management, land consolidation, Poland.

Zemes platību konsolidācijas process Polijā – instrumenti un to efekti

Rakstā ir apskatīts viens no zemes platību pārvaldības elementiem – zemes platību konsolidācija. Šis process Polijā ir īpaši nozīmīgs, jo neskatoties uz simts gadus ilgušo konsolidācijas procesu, vajadzības šajā jomā joprojām ir ļoti augstas un pat palielinājās pēc valsts pievienošanās Eiropas Savienībai. Zemes platību konsolidācijas mērķis ir sasniegt efektīvu āramzemes izmantošanu, samazināt lauksaimniecību izmaksas, samazināt potenciālus teritoriālus, vides un sociālus konfliktus un stimulēt zemes platību funkciju attīstību. Šī procesa novērtēšana prasa pievērst uzmanību kā tiesiskajiem, tā arī ekonomiskajiem instrumentiem, kurus izmanto zemes platību konsolidācijā. Raksta mērķis ir noteikt tiesiskus un ekonomiskus instrumentus, kurus Polijā izmanto zemes platību konsolidācijā, kā arī apskatīt to efektus. Analīzes nodrošināšanai autori pēta attiecīgu likumdošanu, statistiskus datus, programmu dokumentus un atskaides par struktūrfondu realizāciju. Pētījuma rezultāti parāda, ka neskatoties uz likumdošanas sakārtošanu un ievērojamiem struktūrfondu līdzekļiem zemes platību konsolidācijas procesa nodrošināšanai lauksaimniecībā, kā arī lauku teritoriju attīstības programmām, šis darbības apmierina tikai nelielu daļu no esošajām vajadzībām.

Pētījuma rezultāti balstās Jean Monnet Networks projekta No. 564651-EPP-1-2015-1-SK- EPPJMO-NETWORK “Zemes platību ilgtspējīgas pārvaldības tīkls” pētījuma uzdevumos.

Atslēgas vārdi: zemes platību pārvaldība, zemes platību konsolidācija, Polija.

Процесс консолидации земель в Польше — инструменты и их эффекты

В статье рассматривается один из ключевых аспектов управления земельными ресурсами, а именно консолидация земель. Это особенно важный процесс в Польше, поскольку, несмотря на работу по консолидации, которая ведется более 100 лет, потребности в этой области по-прежнему очень велики и даже увеличились после присоединения к Евро-

пейскому Союзу. Целью консолидации земель является достижение эффективного использования пахотных угодий, уменьшение издержек сельских хозяйств, уменьшение потенциальных конфликтов по территориальным и социальным вопросам и вопросам окружающей среды, а также стимулирование развития функциональности земель. Оценка данного процесса предусматривает рассмотрение как правовых, так и экономических инструментов, используемых для консолидации земель. Цель статьи – определить правовые и экономические инструменты, используемые в Польше в процессе консолидации земель, и оценить их последствия. Для обеспечения анализа авторы рассмотрели соответствующее законодательство, статистические данные, программные документы и отчёты по реализации структурных фондов. В этой статье отмечается, что, несмотря на упорядочение правовых норм и предоставление значительных средств в программах, направленных на развитие сельских и сельскохозяйственных районов для осуществления работ по консолидации, эти мероприятия удовлетворяют только маленькую часть существующих потребностей.

Результаты исследования основываются на исследовательских задачах проекта Jean Monnet Networks No. 564651-EPP-1-2015-1-SK- EPPJMO-NETWORK “Сеть долгосрочного управления сельскохозяйственными угодьями”.

Ключевые слова: управление земельными ресурсами, консолидация земель, Польша.

Introduction

Land consolidation is a process of eliminating fragmentation of farms onto many fields of varying size and shape, frequently located in some distance from one another. (Kaczorowski 2004). Thus, the process limits patchiness in agriculture. The objective of consolidation works is to create compact agricultural holdings without changing structure of ownership, although sometimes introducing changes to structure of soil quality.

In literature on both economy of agriculture and spatial planning, land consolidation is considered to be one of the most important tools in rational land management, allowing for efficient use of arable land by adjusting land layout and existing infrastructure to the needs of agricultural holdings (Ludkiewicz 1932; Dumański 1969; Jacoby 1959; Jürgenson 2016). Thus, it also allows for decreasing costs incurred by farms and facilitates introducing modern technologies (Bielska, Leń 2014; Iscan 2010; Hiironen, Riekkinen 2016; Janus, Markuszewska 2017). Furthermore, through changes in structure of ownership and use, land consolidation leads to separation of functional and spatial areas, thus reducing potential spatial, environmental and social conflicts as well as stimulating development of functions realized by these areas (Pasakarnis, Maliene 2010). Therefore, it also fosters increase in efficiency and optimization of management in agriculture as well as multifunctional and sustainable development of rural areas (Siuta, Żukowski 2011).

As Poland accessed European Union and restructuration processes led to dynamic transfers of land between agricultural holdings, land layout (patchiness) significantly deteriorated. According to data from National Agricultural Census, the percentage of holdings having 10 or more plots of land in 2002 was 4%, whereas in 2010 it was 10.1%, covering 39.2% of all agricultural area (Użytkowanie gruntów. Powszechny Spis Rolny 2002 (2003); Użytkowanie gruntów. Powszechny Spis Rolny 2010 (2011)).

This indicates that land consolidation is not only an important tool of rational land management, but also its significance in Poland is increasing.

Considering all of the aforementioned, the aim of this paper is to identify legal and economic instruments used in Poland in process of land consolidation as well as to assess their effects. This objective is realized mostly through study of respective legislation and analysis of statistical data, program documents and reports on structural funds implementation.

Legal and economic instruments of land consolidation process

Legal instruments. Process of land consolidation is regulated in Poland by Land Consolidation and Exchange Act from March 26, 1982 (Ustawa z dnia 26 marca 1982 r. o scalaniu i wymianie gruntów, Dz. U. z 2014 r. poz. 700 z późn. zm.). Essentially the consolidation procedure and post-consolidation development (1) are undertaken by the starost as a government administration task. Consolidation procedure can be initiated in two ways, i.e. *upon request* or *ex officio*. Consolidation procedure upon request includes most farm holders on projected consolidation area or upon request of farm holders, whose total acreage exceeds half of projected consolidation area. Consolidation encompasses lands located in one or more villages or their parts, which create consolidation area. Including developed lands in consolidation is only possible upon request of the owner.

Procedure *ex officio* (after obtaining opinion of village administration council as well as any social and professional farmer organizations operating in the village) may be initiated if: 1) person, whose land layout requires improvement submits an application and the consolidation will not worsen farming conditions of other participants or 2) consolidation is requested by investor, whose activity caused or will cause effects enforcing consolidation works (e.g. construction of highways, power grids, melioration).

Noteworthy, in either case the consolidation procedure is conducted by the starost, while consolidation works (project and geodetic) are performed by geodetic and cartographic unit indicated by voivodeship marshal. An important aspect of the procedure is that consolidation is done based on equality of land value and not equality of acreage, therefore success of consolidation is determined by proper determination of land value. Consolidation procedure may be divided onto several stages (Table 1).

These deliberations indicate that consolidation procedures are conducted with participation of local communities. Considering responsibility for implementing these procedures in selected European countries, A. Vitkainen distinguished two models: cadastral and committee (Vitikainen 2004). In the former, initiating body appoints inspector-surveyor to conduct the procedure, whereas in the latter, this responsibility rests on committee comprising of representatives of local authority, consolidation participants, experts etc. Polish procedures may be qualified as the second model.

Table 1

Consolidation procedure

Stage	Tasks
Initiation of consolidation procedure – art. 7	Procedure is initiated by starost's resolution, read during meeting of consolidation participants. This resolution may be appealed.
Selection of Consolidation Participants Board – art. 9	Consolidation Participants Board, a community advisory board is elected by consolidation participants on meeting called by the starost.
Determination of land assessment rules – art. 11	Assessment rules of lands included in consolidation are passed by participants during meeting called by the starost.
Appointment of the Committee – art. 10	Committee, including Consolidation Participants Board serves consultative and advisory role in the following stages of consolidation. The committee is appointed through starost's resolution.
Land assessment – art. 10	Lands covered by the consolidation are assessed by the surveyor accredited by the starost. The assessment is made based on accepted land assessment rules.
Approval of assessment – art. 13	Land assessment is approved by consolidation participants through a resolution adopted at consolidation participants meeting called by the starost.
Proper consolidation works (geodetic)	In case of approval of land assessment, the proper geodetic works are undertaken by accredited surveyors, including collecting preferences of consolidation participants.
Presentation of consolidation project to participants – art. 23	The result of consolidation works is the consolidation project, covering planned modifications of borders of consolidated land. After the project is presented to the participants, they may deposit their objections to the project. Changes introduced to the project as a result of these objections require another presentation of the project on the grounds – art. 26.
Approval of consolidation project – art. 27	Consolidation project is approved by the starost. The decision is announced by reading it on meeting of consolidation participants and posting it for 14 days. This decision may be appealed.
Final decision confirming consolidation project – art. 29	This is the base for disclosure of new legal status in land register.

Source: own work based on Dudzińska, Kocur-Bera 2013; Land Consolidation and Exchange Act.

Economic instruments. Apart from legal instruments, which are well regulated in Polish law, economic instruments also have a significant role in land consolidation procedure. These are all instruments that stimulate initiation of consolidation procedure, such as measurable benefits received by farmers and local communities, including increase in agricultural production efficiency through decrease in production costs due to rational layout of agricultural land, access to roads suitable for modern machines,

proper spatial shaping of lands in spatial development plans for construction (except for infrastructural), lifting unnecessary easement without compensation etc. These instruments may be described as demand factors. However, the actual realization of consolidation works is determined by securing proper funds for this objective. Without these funds, decision on initiation of the procedure must not be made. According to Land Consolidation and Exchange Act, all consolidation works and post-consolidation development are conducted by the starost as government administration task, as a rule financed by the state budget. Community funds may also be involved in financing of consolidation works, as well as funds from state purpose funds and local government units, if consistent with their respective regulations and purpose. The owners of lands involved in consolidation or exchange procedures may also participate in covering costs of the procedure within rules individually determined by the starost.

Funds allotted for consolidation works in state budget for 2017 were ca. PLN 75 million (0.1% of all funds diverted to voivodes budgets), 69 million of which are designed for co-financing project involving funds from European Union. This means, that the main stream of financing for land consolidation is currently in Rural Development Program 2014–2020 (PROW 2014–2020) (Program Rozwoju Obszarow Wiejskich na lata 2014–2020. (2017)). Altogether, ca. EUR 139 million (ca. PLN 600 million) is allocated towards this objective, only 1% of whole PROW 2014–2020 budget. In previous programming period (Program Rozwoju Obszarow Wiejskich na lata 2007–2013 (2016)) this was EUR 115.4 million. Financial support of 100% of qualified costs may be obtained only by projects fulfilling number of requirements and which will not exceed (Rozporządzenie Ministra Rolnictwa i Rozwoju Wsi (2015a) – Dz. U. z 2015 r., poz. 2180.):

- a) EUR 800 per 1 ha of land included in consolidation procedure in Dolnośląskie, Lubelskie, Małopolskie, Podkarpackie, Śląskie and Świętokrzyskie voivodeships and EUR 650 per 1 ha in other voivodeships in costs incurred by consolidation works;
- b) EUR 2000 per 1 ha of land included in consolidation procedure in Dolnośląskie, Lubelskie, Małopolskie, Podkarpackie, Śląskie and Świętokrzyskie voivodeships and EUR 1900 per 1 ha in other voivodeships in costs incurred by post-consolidation development.

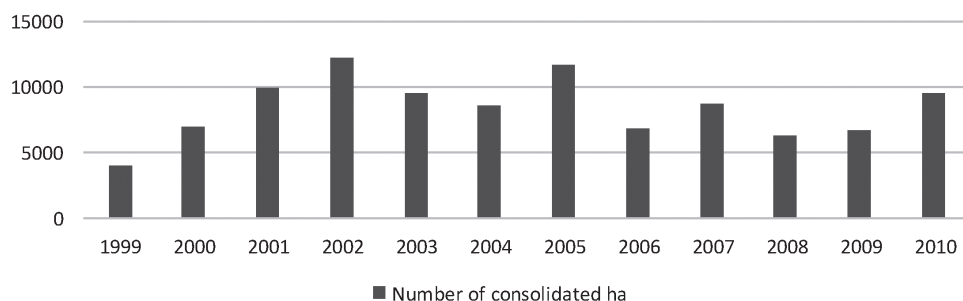
At the same time, level of support in individual voivodeships was diversified by determining its limits, while three voivodeships (Kujawsko-pomorskie, Warmińsko-mazurskie and Zachodniopomorskie) did not receive any funds for that purpose (Rozporządzenie Ministra Rolnictwa (2015) – Dz.U. z 2015 r., poz. 1755., Rozporządzenie Ministra Rolnictwa (2015a) – Dz. U. z 2015 r., poz. 2180.).

Effects of land consolidation process

Despite precise regulations and financial support from public funds (both Polish and European), extent of land consolidation in recent years was significantly lower than before. Whereas in 1980s, over 300 thousand ha of land was consolidated yearly, in 1990s this value did not exceed 13 thousand ha and in years 2000–2010 – 8 thousand ha (Figure 1).

Figure 1

Extent of land consolidation and exchange in years 1999–2010 (ha)



Source: own work based on Kozłowski 2011.

Initiation of co-financing by European funds as part of Program for Development of Agriculture and Rural Areas (Program Rozwoju Obszarów Wiejskich na lata 2007–2013 (2016)) lead to slight increase in extent of conducted consolidation procedures. By the end of 2014, 34 operations were finished with total cost of PLN 93 159 369.79, including 2 operations totalling PLN 11 384 406.46 pertaining operations initiated in previous programming period. Realized operations involved 5 818 agricultural holdings with total acreage of 22 085.7 ha. Total number of plots on record owned by holdings participating in consolidation procedure decreased to 65% of initial number. Altogether, 110 decisions on providing support were made within “Land consolidation” activity (31% of assumed target value) for total sum of PLN 518 977 890.10. Operations approved for realization will allow for consolidation of 91.2 thousand ha of land, including over 82.6 thousand ha of farming land and almost 8.6 thousand ha of forests (Sprawozdanie z realizacji Programu Rozwoju Obszarów Wiejskich na lata 2007–2014 (2015)). This means that during that period, an average of ca. 13 thousand ha of land was consolidated yearly.

In current programming period, call for applications was recently initiated, hence the effects of financial support for consolidation works will be known in future.

Conclusions

The analysis presented above indicates that Land Consolidation and Exchange Act does not obligate any public authority to assess needs and develop plans for consolidation and exchange of land. Consolidation procedures are usually conducted “upon request” from interested party or “ex officio” (usually in case of public investments). At the same time, financial support is generally limited to programs co-financed by European funds and thus cannot fulfil the needs resulting from still growing patchiness.

Note:

(1) Post-consolidation development is to be interpreted as: a) construction or reconstruction of access roads to agricultural and forest plots as well as access roads to buildings owned by any consolidation participant; b) course adjustment and improvement of technical parameters of melioration installations; c) removal of unnecessary balks and roads as well as recultivation measures allowing for mechanical cultivation of land.

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określonych działań lub poddziałań Programu Rozwoju Obszarów Wiejskich na lata 2014–2020 (2015), Dz.U. z 2015 r., poz. 1755. (In Polish)

Rozporządzenie Ministra Rolnictwa i Rozwoju Wsi z dnia 10 grudnia 2015 r. w sprawie szczegółowych warunków i trybu przyznawania oraz wypłaty pomocy finansowej na operacje typu „Scalanie gruntów” w ramach poddziałania „Wsparcie na inwestycje związane z rozwojem, modernizacją i dostosowywaniem rolnictwa i leśnictwa” objętego Programem Rozwoju Obszarów Wiejskich na lata 2014–2020 (2015a), Dz. U. z 2015 r., poz. 2180. (In Polish)

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THE PATCHWORK FIELDS AS A RESULT OF CHANGES IN AGRARIAN STRUCTURE IN POLAND AFTER ACCESSION TO THE EUROPEAN UNION

Processes of transformation of economic system in Poland and accession to the European Union resulted in the changes in agrarian structure. Such changes were tended towards increase of level of economic activity of farms, however, other processes as decrease of number of farms and polarization of structure occurred in brighter extent. The aim of the study is to present changes in agrarian structure in Poland after accession to the European Union. Authors use statistical data, scientific and professional literature, reports of research institutes for the analysis. The analysis also is performed at regional level taking into account new definition of farm offered by the Central Statistical Office in Poland what provides new insight in the issue. Research results indicate that changes in agrarian structure differ across regions. In general, significant transformations in the structure of land use in Polish farms may be observed, particularly changes in scale of land use. The smallest farms were eliminated from economic environment, while medium-sized holdings became stronger. From the competitiveness standpoint, this change is beneficial. However, negative result may also be observed, i.e. increase in patchiness of fields what worsen spatial structure of lands.

Results of the paper are based on the research tasks of the Jean Monnet Networks project No. 564651-EPP-1-2015-1-SK-EPPJMO-NETWORK "Sustainable Land Management Network".

Keywords: agrarian structure, changes, patchiness, Poland.

Sadrumstaloti lauki kā rezultāts lauksaimniecības struktūras izmaiņām Polijā pēc pievienošanās Eiropas Savienībai

Ekonomiskās sistēmas transformācijas procesi Polijā un valsts pievienošanās Eiropas Savienībai veicināja izmaiņas Polijas lauksaimniecības struktūrā. Šādas izmaiņas bija vērstas uz lauksaimniecību ekonomiskās aktivitātes palielinājumu, kaut gan, citi procesi kā lauksaimniecību skaita izmaiņas un struktūras polarizācija notika daudz spilgtāk. Pētījuma mērķis ir raksturot izmaiņas lauksaimniecības struktūrā Polijā pēc pievienošanās Eiropas Savienībai. Analīzei autori izmanto statistiskus datus, zinātnisku un profesionālu literatūru, zinātnisko institūtu atskaites. Analīze tiek veikta arī reģionālajā līmenī, ņemot vērā Polijas Centrālā statistikas ofisa piedāvāto lauksaimniecību jauno definīciju, kura nodrošina jaunu skatījumu uz pētāmo jautājumu. Pētījuma rezultāti parāda, ka izmaiņas lauksaimniecības struktūrā atšķiras starp reģioniem. Kopumā, Polijas lauksaimniecībā var tikt novērotas nozīmīgas izmaiņas zemju plātību izmantošanā, īpaši izmaiņas zemes platību izmantošanas mērogā. Mazākas saimniecības pazuda no ekonomiskās vides, kamēr vidēja lieluma saimniecības kļuva stiprākas. No konkurētspējas viedokļa šādas izmaiņas ir izdevīgas. Tomēr, var novērot arī izmaiņu negatīvu rezultātu, t.i. lauku sadrumstalotības palielinājumu, kas pasliktina zemes platību teritoriālo struktūru.

Pētījuma rezultāti balstās Jean Monnet Networks projekta No. 564651-EPP-1-2015-1-SK-EPPJMO-NETWORK "Zemes platību ilgtspējīgas pārvaldības tīkls" pētījuma uzdevumos.

Atslēgas vārdi: lauksaimniecības struktūra, izmaiņas, sadrumstalotība, Polija.

Раздробленные поля как результат изменений структуры сельского хозяйства в Польше после присоединения к Европейскому Союзу

Процессы трансформации экономической системы в Польше и присоединение страны к Европейскому Союзу способствовали изменениям в её структуре сельского хозяйства. Такого рода изменения в сельском хозяйстве были направлены на увеличение экономической активности, хотя, другие процессы, такие как изменение численности сельских хозяйств и поляризация структуры, произошли намного ярче. Цель исследования — охарактеризовать изменения в структуре сельского хозяйства в Польше после присоединения к Европейскому Союзу. Для анализа авторы используют статистические данные, научную и профессиональную литературу, отчёты научных институтов. Анализ также проводится на региональном уровне, учитывая новую дефиницию сельских хозяйств, предложенную Центральным статистическим офисом Польши, что обеспечивает новый взгляд на исследуемый вопрос. Результаты исследования показывают, что изменения в структуре сельского хозяйства в регионах отличаются. В общем, в польских хозяйствах можно наблюдать значительные изменения в использовании сельскохозяйственных угодий, особенно изменения в масштабах использования. Маленькие хозяйства исчезли из экономического пространства, в то время как хозяйства средних размеров стали сильнее. С точки зрения конкурентоспособности такого рода изменения являются выгодными. Однако, можно наблюдать и отрицательный результат изменений, т. е. увеличение раздробленности полей, что ухудшает их территориальную структуру.

Результаты исследования основываются на исследовательских задачах проекта Jean Monnet Networks No. 564651-EPP-1-2015-1-SK-EPPJMO-NETWORK “Сеть долгоспособного управления сельскохозяйственными угодьями”.

Ключевые слова: структура сельского хозяйства, изменения, раздробленность, Польша.

Introduction

Polish agriculture underwent a very dynamic process of political and economic transformation. Initially, in the early 1990s, the transition from a regulated (socialist) to the purely market economy was of utmost significance. Another important moment affecting the changes in agriculture was the Polish accession to the European Union (EU), which radically changed the conditions of farms functioning. Farmers started to use the system of subsidies, which has mobilized a large group of them to become more economically active. In general, the use of subsidies provides significant tool for economic sustainability of agriculture in the New EU Member States (for example, Nagyová et al. 2016). The changes in circumstances in which farms operate resulted in significant shift in structure of land use, thus confirming popular statement that structural transformations in agriculture consist of two processes, i.e. absolute decrease in number of farms and the polarization of structure. However, negative results may also be observed, expressly, increase in patchiness of fields.

The aim of the paper is presentation of the process of changes in agrarian structure in Poland during the period of the integration with European Union, with particular focus on the issue of field patchiness.

Scientific experience in Poland concerning this issue was analyzed by other scientists. Some of them highlighted that process of integration with EU caused significant changes in structure of agricultural holdings (Mickiewicz 2013; Sadowski 2014;

Mioduszewski 2015). Some researchers emphasize regional differences occurring in these changes (Głębocki 2014; Sadowski 2014). However, the issue of patchiness is taken up only by a few authors. For instance, M Dudzińska considers the patchiness as a factor affecting rural space (Dudzińska 2012). However, Z. Król and P. Leń are analyzing the issue as a premise for consolidation works (Król, Leń 2016). The authors of National Agricultural Census (Użytkowanie gruntów. Powszechny Spis Rolny 2011) also highlight intensification of these adverse trends. The issue of patchiness perceived from the point of view of changes in agrarian structure is still a subject to only a few researchers. This article fills this gap.

The paper is based mainly on statistical data, professional literature, reports of research institutes, statistical yearbooks as well as other sources available on the Internet. Noteworthy, since 2010 the Central Statistical Office (GUS) applied the new definition of a farm, according to which farms do not include holders of agricultural land who do not undertake any agricultural activities and holders of less than 1 ha of agricultural land engaged in agricultural activities on a small scale (Central Statistical Office 2017). This results in significant changes in values of some indices for the same years. The analysis was conducted on regional level because the process of polarization of the farms' structure is still characteristic. It should be emphasized that full information on the agrarian structure in Poland can only be provided on the basis of data collected as part of the National Agricultural Censuses (PSR). They are of comparable nature and have recently been carried out in 2002 and 2010. Data for later years (after 2010) in relation to the agrarian structure in Poland are estimates, based on generalized results of a representative survey of farms of natural persons and on the basis of a full examination of farms of legal persons and organizational units without legal personality. Therefore, the analysis of the land chessboard could be carried out on the basis of data from the PSR.

The paper presents a theoretical approach to directions and dynamics of changes in agrarian structure in Poland. Subsequently, the results of analysis of changes in agrarian structure are demonstrated, both in terms of the dynamics and regional diversification. On this basis, the issue of patchiness of fields is analysed. The paper is closed with conclusions stemming from the considerations.

Theoretical background for the paper

In an attempt to define the condition of agricultural structure, a conclusion can be made that Poland possesses large amounts of agricultural land. The total territory of Poland spans 31269 thousand ha, 18208 thousand ha (58.2%) of which is agricultural land, forests cover 9200 thousand ha (29.4%), whereas developed areas, water bodies and other areas together stand for 3861 thousand ha (12.4%) (Józwiak, Ziętara 2013). The characteristic feature of Polish agriculture is great number of very small agricultural holdings with very little yields (Runowski 2013).

Polish agriculture is characterized by a family system of production organization and traditional production methods. Particularly in Poland, one of the priorities for rural areas development is to increase the competitiveness through optimization of

the use of production factors. Increase of the economic potential depends on enlarging of the cultivated area. Currently, the condition of Polish farms depends on the fragmented agriculture. The specific characteristic of changes in the area structure of family agricultural holdings is that the progress in land concentration is accompanied by a fall in the number of holdings and a strong polarization of the area structure. It is possible that the trends in the number and area structure of the farms observed from 2000 will continue in the following years (Chmieliński and Karwat-Woźniak 2009).

According to main premises of Polish agricultural policy, a family farm considered a central point (Maśniak 2011). However, the area structure of farms demonstrates a great diversification. Before the political and structural changes, the proportion of state-owned holdings were significant in the Western and Northwestern part of the country, while the small family holdings were dominant in the Southern and Eastern part of Poland (Sadowski, Takács-György 2005; Mickiewicz 2013). The largest number of individual farms appears in the Southern provinces (with average acreage of ca. 2 hectares) particularly the biggest average area characterized farms in the northern provinces (over 14 hectares) (Sadowski 2014).

The area structure of farms in Poland is highly diversified. The structure of farms is dominated by small farms with total acreage of 1–5 hectares. Moreover we must state that ca. one million farms have less than one ha. In the structure of the farm we can observe two opposite processes: decrease in the number of the small farms and increase in the number of the big farms. An especially intensive process of losing farms was situated in the group of farms with 1–2 ha of land. For only six years (2003–2009), their number decreased by ca. 13%. In the group of farms with 1–15 hectares of land, the number of the farms decreased by ca. 6.1%. More stabilized group was farms with 15–20 ha of land (Ziętara 2013). As should be noted, the dynamics of the transformation is different in various regions. For the most part this is a result of historical development disparities, which go back for many decades. The biggest changes in the structure of land use in Poland occurred in the first years after accession to the EU (Mickiewicz A. and Mickiewicz B. 2013).

Significant fragmentation of land decreases competitiveness of farms. Therefore, land should be consolidated, however, this process in Poland is characterized by somewhat low dynamics (Markuszevska 2013).

Transfer of land between individual persons usually goes in one direction – from agriculture to non-agriculture areas. Land can now be considered a good of special importance with its social and economical function. Data clearly indicate that in Poland significant part of the privately-owned land is not used for agricultural activities but serves as a capital investment or security asset. Currently, legal definition of a farmer is based not on the criterion of employment and source of income, but on form of ownership. Fragmented agrarian structure leads to a large number of agricultural holdings, poorly equipped with production factors but numerous manpower with relatively small income. Due to the fragmentation, the number of agricultural holdings in Poland accounts for 17.5% of all agricultural holdings in EU-27 (Sikorska 2010).

The share of non-farming families in the population of rural households has been increasing for several years. The dynamics of this index was highest in the Southeastern

and Southwestern regions. After Polish accession to the EU, agricultural holdings were challenged to operate in highly competitive market. On the other hand, increase in agrarian fragmentation (characteristic for Polish agriculture) encouraged a growing number of families to change their status from farming to non-farming (Chmieleński and Otłowska 2010).

Structural changes in agriculture

In general, after Polish accession to the EU, in years 2004–2016 (Table 1), a systematic decrease in total acreage of farmland occurred in Poland, from 16.3 million ha in 2004 to 14.4 million ha in 2016. The pace of decrease of acreage was similar in case of permanent grasslands, from 3.4 million ha in 2004 to less than 3.1 million in 2016 as well as in case of arable land, from 12.6 million ha in 2004 to 10.7 million in 2016. In analysed period of 13 years, a considerable increase was occurring in total acreage of perennial crops, particularly fruit plants. However, this process was only significant in first 5 years after accession to the EU, whereas in later years it slowed down. The most symptomatic sign of changes occurring in methods of using farmlands in Poland after accessing the European Union is huge and very dynamic decrease in acreage of fallow lands. In 2004, almost 1.8 million ha were fallow, while by 2009 acreage of fallow lands decreased to only a third of the initial number (528 thousand ha), falling steadily and reaching only 165 thousand ha in 2016, less than 10% of value from before the accession. Intensive process of land development led to decrease of percentage of fallow land in farmlands total from 10.79% to 1.15%. This may indicate vital interest shown by farmers in including more and more lands because of possibility of receiving payments. On the other hand, it may be result of allocating fallow lands to non-agricultural purposes.

Table 1
Use of agricultural land in Poland

Years	Farmland and grassland	Meadows and grassland	Arable land	Perennial crops	Gardens	Fallow
1	2	3	4	5	6	7
2004	16 327 411	3 365 157	12 684 614	282 439	39 102	1 761 708
2005	15 905 965	3 387 502	12 084 719	350 760	75 440	1 062 010
2006	15 957 290	3 215 648	12 357 372	338 505	37 579	1 025 407
2007	16 177 081	3 271 236	11 748 025	375 017	74 932	440 939
2008	16 154 250	3 184 383	11 972 709	374 101	70 164	491 525
2009	16 119 584	3 179 687	11 997 844	372 987	67 783	528 248
Change year 2004=100	98.7	94.5	94.6	132.1	173.3	30.0

Sequel to Table 1 see on the next page

Sequel to Table 1

1	2	3	4	5	6	7
2010	14 859 652	3 229 508	10 797 513	389 682	31 074	431 628
2011	15 133 932	3 290 975	11 044 398	390 388	54 471	468 403
2012	14 969 200	3 206 463	10 871 437	397 990	53 529	439 867
2013	14 609 161	3 206 312	10 759 573	412 150	31 835	446 537
2014	14 558 389	3 119 756	10 895 121	376 048	33 316	475 208
2015	14 545 270	3 092 834	10 887 021	390 979	27 377	134 068
2016	14 375 898	3 088 109	10 734 453	387 590	31 055	165 169
Change year 2010=100	96.74	95.62	99.42	99.46	99.94	38.27

Source: Own elaboration based on Central Statistical Office data.

Table 2

Total number of farms in Poland

Territorial unit	2000	2010	Change 2000= 100	2010	2011*	2012	2013	Change 2010= 100
Poland	2859196	2277613	79.7	1509148	1656701	1477852	1429006	94.7
Central Region	550244	445625	81.0	359386	*	364743	340468	94.7
Southern Region	594419	446803	75.2	218516	*	216979	201855	92.4
Eastern Region	905176	764625	84.5	509539	*	485077	480282	94.3
North-western Region	333069	253700	76.2	178364	*	174322	173106	97.1
South-western Region	201608	152171	75.5	90271	*	87931	86297	95.6
Northern Region	274680	214688	78.2	153072	*	148800	146999	96.0

Note: *- Data for 2011 was generalised to national level due to small sample size.

Source: Own elaboration based on Central Statistical Office data.

In general, in years 2000–2010 total number of agricultural holdings in Poland decreased by ca. 30%. In next three years, 2010–2013, pace of decrease in number of such holdings slowed down to level of ca. 5% per three years, which extended to a 10-year period (as before) means ca. 15% decrease. Synthetic proprieties of dynamics of number of agricultural households in analysed period (particularly in pre-accession and shortly after the accession) were not visible for individual regions of Poland. In three regions, i.e. Southern Region, Northwestern Region and Southwestern Region,

the pace of decrease in number of agricultural holdings observed was higher than nationwide, whereas in Central Region and, particularly, in Eastern Region, the pace was lower in comparison to dynamics observed nationwide and in three aforementioned regions. Presented analyses indicate that most beneficial changes in agrarian structure occurred in western and southern part of Poland. However, as should be marked, conditions of these processes were different. In western Poland, the process of land concentration ensued due to privatization of state agricultural farms occurring after 1989 and, later, due to rational land consolidation and purchasing land from weaker and waning farmers. On the other hand, relative reduction of number of farms in southern Poland is a natural process rather than merely an economic one, being a result of strong fragmentation of agrarian structure in this part of country in comparison to other regions. Relatively slow decrease of number of farms in eastern region might be explained with high diversity of condition of agriculture in this part of the country. Both intensive agriculture with large, economically strong milk farms and much more fragmented and less intensive are present in the area. In the whole, eastern region of Poland, the agricultural holdings are mostly historically familiar and that tradition-ownership circumstance hinders the processes of rational consolidation and purchasing of land from weaker and waning farmers. Unfortunately, this process is not beneficial for further development of agriculture in eastern Poland.

Table 3

**Average size of an individual farm with an area exceeding
1 ha of agricultural land**

	2003	2004	2005	2006	2007	2008	2009	2010	2010	2011	2012	2013
Poland	7.4	7.5	7.6	7.7	7.8	7.8	8.0	8.6	8.9	8.4	9.3	9.5
Central Region	6.9	7.1	7.3	7.2	7.4	7.3	7.4	7.8	8.0	*	8.1	8.5
Southern Region	3.5	3.5	3.5	3.6	3.7	3.7	3.8	4.1	4.4	*	4.3	4.6
Eastern Region	5.9	6.1	6.1	6.1	6.2	6.2	6.5	6.7	6.9	*	7.3	7.3
North-western Region	11.4	11.8	12.4	12.2	12.4	12.5	12.6	13.7	14.0	*	15.1	14.8
South-western Region	9.8	10.1	9.9	9.8	10.3	10.0	10.5	12.2	12.5	*	13.1	13.7
Northern Region	13.8	13.4	13.8	14.1	14.4	14.6	14.6	15.8	16.1	*	16.7	17.1

Note: * - Data for 2011 was generalised to national level due to small sample size.

Source: Own elaboration based on Central Statistical Office data.

Dynamics of average acreage of agricultural holding in Poland and individual region in years 2003–2013 is presented in Table 3. Nationwide average acreage per farm rose steadily in this period from 7.4 ha to 9.5 ha. The average acreage of farm was strongly varying between regions, whereas pace of increase in size was also different. The positive correlation between size of holdings in given region and dynamics of increase in average acreage was confirmed and illustrated. Therefore, the lowest change in average size of farm (ca. 1 ha) was observed in southern and eastern regions, where smallest holdings exist, whereas the fastest increase in average acreage (over 3 ha) occurred in north-western, south-western and northern regions, where largest holdings are located.

The issue of patchiness

Process of system transformation as well as conveying (dividing) farms through inheritance led to significant changes in land use in Poland. Negative phenomena in structure of land use, recorded in years 2002–2010, consist mostly of deterioration of spatial organization of farms and occurrence of patchiness. Privatization of public agricultural holdings was accompanied by land transfers to other users, usually in form of leasing or purchasing transactions. Moreover, turn of 20th century in agriculture was a time of intensive, unrestricted process of conveying farms to descendants. In many cases this involved dividing existing holdings into several smaller ones, non-productive in nature, as well as dividing agricultural plots into smaller ones with recreational purpose. Decrease in number of agricultural holdings and increase in their acreage usually leads to deterioration of their spatial layout. Hence, number of farms is increasing that have plots of land in several and even in dozens of locations, frequently in significant distance from the main premises.

Table 4

**Agricultural holdings and acreage of farmland by number of plots
in 2002 and 2010**

	Holdings owning farmlands					Acreage of farmlands				
	2002		2010		Dynamics 2002= 100	2002		2010		Dynamics 2002= 100
	number	%	number	%		number	%	number	%	
<i>total</i>	2916260	100.0	2264657	100.0	77.7	16899297	100.0	15502975	100.0	91.7
1 plot	1232676	42.3	684123	30.2	55.5	2603617	15.4	895313.6	5.8	34.4
2–3	944333	32.4	678922	30.0	71.9	4546057	26.9	2637255	17.0	58.0
4–5	378672	13.0	365138	16.1	96.4	3251595	19.2	2655061	17.1	81.7
6–9	243226	8.3	308453	13.6	126.8	3008377	17.8	3241083	20.9	107.7
10+	117353	4.0	228021	10.1	194.3	3489650	20.7	6074262	39.2	174.7

Source: Głębocki 2014, page 59.

The phenomenon of escalating patchiness in Poland in years 2002–2010 is well illustrated in Table 4. Quantitative and size structure of agricultural holdings broken down by number of plots in the holding in 2012 indicates much higher percentage of farms with increasing number of plots (4–5, 6–9 and, particularly 10+) in comparison to structure 8 years earlier, in year 2002. At the same time, percentage of holdings having only one plot, i.e. with optimal layout decreased in analysed period by 12 percentage points. The highest dynamics of patchiness escalation in analysed period was observed in areas where large amounts of land were owned by State Treasury, agricultural production cooperatives and other actors of real estate market.

The scope of patchiness phenomenon and its negative economic and organizational effects make initiating large-scale consolidation works one of the most important tasks for Polish agriculture.

Conclusion

Transformations that occurred in agrarian structure in Poland in years 2002–2016 are huge. These changes were multidimensional, leading mostly to decrease in amount of land owned by State Treasury for increase in private ownership. State Treasury assets decreased mostly through leasing and subsequent sale of land. The main reason for relatively dynamic changes in private farms was freedom of dividing agricultural holdings into smaller parts with commercial purposes with some of them losing their agricultural holding status (below 1 ha of farmlands). Despite significant decrease in total amount of farmlands owned by farmers, increase in average acreage of holding occurred.

As should also be noted, a considerable diversification of agriculture exists between regions. Larger and thus more competitive farms are located in northern and western parts of Poland. Agricultural holdings located in southern and, partially, eastern Poland tend to have lower potential due to their fragmentation.

Positive changes in ownership and size structure of agricultural holdings are accompanied by deterioration of layout of their lands. Dividing farms into smaller parts because of familial or commercial reasons, particularly around cities and in areas with attractive natural features, worsen spatial structure of farms, intensify patchiness and significantly decrease total acreage of farmlands. This phenomenon is a result of increasing demand on real estate raised by city residents attempting to improve their living condition by moving out to the countryside. Apart from individual buyers, increase in demand for agricultural real estate dedicated to housing or other economic purposes is also a result of large investment and development companies.

The smallest farms were eliminated from economic environment, while medium-sized holdings became stronger. From the competitiveness standpoint, this change is beneficial. However, negative results may also be observed, i.e. increase in patchiness of fields.

The improvement of the competitiveness of Polish agriculture will depend on the development of those farms, that already have achieved a relatively significant economic potential and will continue that way. The number of Polish farms with ability to compete can be established at ca. 220 thousand (Chmieliński, Karwat-Woźniak 2009).

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Andrejs Lazdiņš, Dina Popluga

LATVIJAS DEGRADĒTO TERITORIJU IESAISTĪŠANAS TAUTSAIMNIECĪBĀ IESPĒJU RISINĀJUMI

Teritoriju maksimāla un efektīva iesaistīšana saimnieciskajā darbībā ir viens no ilgtspējīgas attīstības pamatuzdevumiem. Latvijā sastopamo degradēto teritoriju platības un iezīmes ļauj tajās attīstīt Latvijā reti izmantoto ogu (lācenes, brūklenes) audzēšanu pārtikas rūpniecības vajadzībām un ātraudzīgo kārkļu audzēšanu bioenerģijas vajadzībām. Raksta mērķis – piedāvāt risinājumus efektīvai degradēto zemes platību izmantošanai. Darba uzdevums ir piedāvāt risinājumu Latvijā reti izmantoto ogu (lāceņu, brūkleņu) un enerģētisko kārkļu audzēšanas perspektīvu degradētajās teritorijās. Pētījumā izmantota statistisko datu analīzes metode, zinātniskās un profesionālās literatūras analīze, iedzīvotāju aptauja. Autori iepazīstina sabiedrību ar minēto kultūru īpatnībām, kā arī to audzēšanas iespējām un šķēršļiem, piedāvājot ieskaitu arī citu valstu pieredzi. Apzinātas problēmas ir ražotāju un patērētāju vājās zināšanas lāceņu, brūkleņu audzēšanā un izmantošanā, kā arī enerģētisko kārkļu audzēšanā un pārstrādē. Analīze parāda, ka lāceņu (arī kauleņu), brūkleņu, enerģētisko kārkļu audzēšana ir perspektīva un ieviešama audzēšanai degradētajās un citās zemes platībās. Galvenie secinājumi: pētījums parāda ka Eiropā ir introducētas lāceņu, brūkleņu šķirnes, kuras izmantojamas plantāciju ierīkošanā, bet vāji pētīts tirgus un ir vājas ražotāju un patērētāju zināšanas par šīm ogu kultūrām; enerģētisko kārkļu audzēšanā ir iegūta zināma pieredze, tirgus pieprasījums liecina ka enerģētisko kārkļu audzēšana attīstīsies.

Atslēgas vārdi: degradētās teritorijas, saimnieciskā darbība, lācenes, brūklenes, kārkli, bioenerģija.

Possible solutions for brownfields involvement in economic activities in Latvia

Maximal and effective territories' involvement in economic activities is one of the main tasks for sustainable development. The areas and peculiarities of brownfields in Latvia make it possible to develop the cultivation of berries (cloudberry, cowberry), which is rarely used in food industry in Latvia and the cultivation of rapidly growing willows to produce bioenergy. The objective of the article is to offer solutions for the effective use of brownfields; it offers the prospect to grow rarely used berries such as cloudberries and cowberries, as well as willows for bioenergy. Statistical analysis method, scientific analysis, professional literature as well as a survey of the population are used in the study. The authors introduce society to the peculiarities of the mentioned cultures and the opportunities and obstacles to their cultivation and summarize other countries experience. Among the identified problems, the authors indicate lack of knowledge for producers and consumers of how to grow and use cowberries and cloudberries, as well the how to cultivate and process energy willows. Analysis shows that growing cloudberries (and stone-berries), cowberries, energy willows is promising and can be introduced on both brownfields and other land areas. But the problem is that the market is poorly researched and producers and consumers are poorly acquainted with these berry crops; in the field of growing energy willows, there is experience, in turn, the demand in the market testifies the further development of energy willows cultivation.

Key words: brownfield, economic activities, cloudberry, cowberry, willow, bioenergy.

Возможные решения для вовлечения деградированных территорий в хозяйственную деятельность Латвии

Максимальное и эффективное вовлечение территорий в хозяйственную деятельность является одной из основных задач долгоспособного развития. Площади и особенности деградированных территорий в Латвии позволяют развить выращивание редко используемых в Латвии ягод (морошка, брусника) для нужд пищевой промышленности и выращивание быстро растущих ив для производства биоэнергии. Цель статьи — предложить решения для эффективного использования деградированных земельных угодий. Задача статьи — предложить перспективу выращивания в Латвии редко используемых ягод (морошка, брусника) и энергетических ив на деградированных территориях. В исследовании применялся метод статистического анализа, анализ научной и профессиональной литературы, опрос населения. Авторы знакомят общество с особенностями упомянутых культур, а также с возможностями и препятствиями их выращивания, предлагая обзор опыта других стран. Среди выявленных проблем авторы указывают слабые знания производителей и потребителей о выращивании и использовании морошки, брусники, а также о выращивании и переработки энергетических ив. Анализ показывает, что выращивание морошки (и костяники), брусники, энергетических ив является перспективным и может быть введено как на деградированных, так и на других земельных угодьях. Основные выводы: исследование показало, что в Европе введены сорта морошки, брусники для разведения плантаций, но слабо исследован рынок, производители и потребители слабо знакомы с этими ягодными культурами; в области выращивания энергетических ив опыт имеется, в свою очередь спрос на рынке свидетельствует о дальнейшем развитии выращивания энергетических ив.

Ключевые слова: деградированные территории, хозяйственная деятельность, морошка, брусника, ива, биоэнергия.

Ievads

Teritoriju sakārtošana un iesaistīšana saimnieciskās darbības aprītē ir būtisks ieguldījums ilgtspējīgas attīstības īstenošanā. Latvijas ilgtspējīgas attīstības stratēģijā tiek norādīts, ka valdībai ir jāievieš valstiska līmeņa dabas kapitāla saglabāšanas un atjaunošanas plāns, kas ietvertu arī dabas saglabāšanas un atjaunošanas telpisku plānojumu un biotehnoloģiju izmantošanas iespējas un riskus (Latvijas Republikas Saeima 2010).

Viena no problemātiskajām teritorijām ir degradētās teritorijas. Degradētās teritorijas “Zemes pārvaldības likumā” ir definētas kā teritorijas ar izpostītu vai bojātu zemes virskārtu, derīgo izrakteņu ieguves un saimnieciskās vai militārās darbības teritorijas arī pamestas apbūves teritorijas (Likumi.lv 2014). Saskaņā ar Vides aizsardzības un reģionālās attīstības ministrijas (VARAM) rīcībā esošu informāciju, pašvaldību un privātpašumā kopumā ir 5826 ha degradēto teritoriju (VARAM 2017). Ar Eiropas Savienības fondu finansējumu 2014.–2020. gadā plānots atjaunot 556 ha, jeb 9.5% degradēto teritoriju, kuras var tikt izmantotas uzņēmējdarbībā (VARAM 2017).

Raksta autori, izvērtējot dažādas iespējas, atjaunotajās degradētajās teritorijas piedāvā audzēt lācenes, brūklenes un kārklus, jo visbiežāk šīs teritorijas ir ar paaugstinātu mitrumu, pārpurvotas. Raksta risinātā problēma ir vērsta uz tām teritorijām, kur iespējams atjaunot augsnes auglīgo daļu vai arī teritorijām, kur augsnes virskārta

ir daļēji zaudējusi savu ekonomisko nozīmi (degradētā augsne), bet ir iespējams to atjaunot (samazināt mitruma režīmu, novērst erozijas procesus).

Raksta mērķis ir rast risinājumus degradēto teritoriju izmantošanā Latvijā, piedāvājot kā risinājumu lāceņu, brūkleņu un kārkļu audzēšanu. Minēti augi ir vietējās vai introducētās sugas, tātad pielāgotas esošajiem apstākļiem. Mērķa īstenošanas uzdevumi ir: īsi raksturot teorētisko un praktisko bāzi par degradētām teritorijām; piedāvāt risinājumus degradēto teritoriju izmantošanā Latvijā.

Pētījumā izmantota aprakstošā, statistiskā pētījuma metode. Aptaujāti (intervēti) 76 respondenti pēc nejaušības principa 2017. gada augustā. Autori koncentrē uzmanību uz divām ogu kultūrām – lācenes, brūklenes, kā arī kārkliem.

Latvijas zinātniskajā literatūrā nav aprakstīta un analizēta iespēja degradētajās teritorijās audzēt lācenes, brūklenes un kārkļus, bet ir pieminēti dažādi risinājumi, kā jaunu atpūtas, ražošanas objektu būvniecība, rekreācijas un zaļo zonu veidošana (Jakson et al. 2010). Ārzemju literatūrā tai skaitā arī zinātniskajā literatūrā par brūkleņu un kārkļu (enerģētisko arī ātraudzīgo kārkļu) audzēšanu ir pētījumi, bet pētījumi par ogu kultūru audzēšanu degradētajās teritorijās nav. Ir veikti pētījumi par enerģētisko kultūru (kārkli, saulespuķes, kukurūza) audzēšanu degradētajās teritorijās. Zinātniskajos avotos uzsvars tiek likts uz teritoriju attīrīšanu, izmantojot augus enerģētikai (Enell, Andersson-Skold, Vestin, Wagelmans 2016; Cundy, Bardos, Puschenreiter 2016).

Raksts sastāv no trim nodaļām. Pirmajā nodaļā tiek sniegts īss pētījuma teorētiskais pamatojums, otrajā nodaļā tiek piedāvāta reti izmantoto ogu (lāceņu, brūkleņu) un enerģētisko kārkļu audzēšanas perspektīva degradētajās teritorijās Latvijā un trešā nodaļa noslēdz rakstu ar secinājumiem.

Problēmas teorētiskais pamatojums

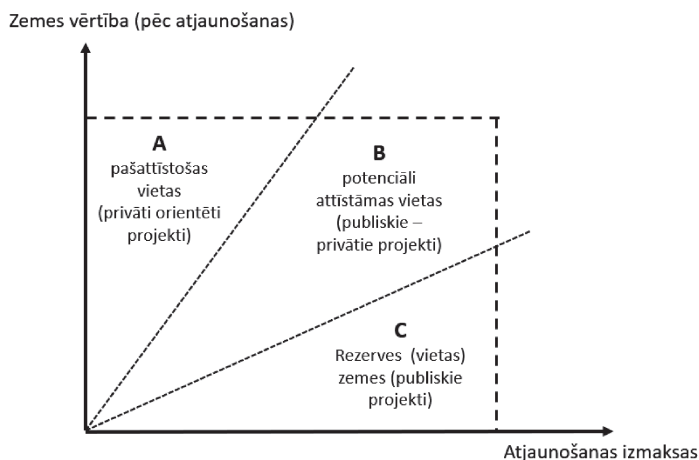
Degradēto teritoriju problēma ir plaša, jo šīs teritorijas veidojas cilvēku aktīvas darbības rezultātā, industriālās darbības (arī lauksaimniecība), militārās darbības, transporta infrastruktūras, institucionālās darbības (skolas, slimnīcas, sanatorijas), komercdarbības (veikali, tirgi), kultūras un brīvā laika pavadīšanas (sporta laukumi, parki) vietās (Ferber 2006). Degradēto teritoriju atjaunošanā būtisks ir ekonomiskais aspekts (Schadler et al. 2012). Ņemot vērā šo aspektu Nottinghamas universitātes zinātnieki izstrādājuši “A-B-C modeli”, kurš ļauj sagrupēt degradētās teritorijas trīs grupās pēc degradācijas pakāpes un atjaunošanas iespējām (Ferber, Grimski, Miller, Nathanail 2006).

“A-B-C modelis” ļauj labāk izprast degradēto zemju atjaunošanas ekonomisko nozīmi, kas īpaši svarīga ir Latvijas teritorijā, kur daudzas teritorijas tika degradētas pēdējā kara laikā un pēc kara līdz 1991. gadam (1. attēls).

A tipa degradētajām teritorijām nav nepieciešams valsts finansiāls atbalsts. Atkarībā no to atrašanās vietas šāda tipa teritorijas būtu viegli iesaistāmas ražošanā, t.sk. lāceņu, brūkleņu un enerģētisko kārkļu audzēšanā.

1. attēls

Degradēto teritoriju atjaunošanas “A-B-C modelis”



Avots: autoru veidots pēc Ferber, Grimski, Miller, Nathanail 2006.

B tipa degradētajām teritorijām ir nepieciešams valsts un citu finansiāls atbalsts, lai šīs teritorijas attīstītu vai uzlabotu līdz A tipa degradēto teritoriju līmenim.

C tipa degradētu teritoriju uzlabošana ir atkarīga no finanšu līdzekļiem, kuru sniedz valsts un pašvaldības. Šo teritoriju iesaistīšana lāču, brūkļu un enerģētisko kārkļu audzēšana finansiāli varētu būt ļoti dārga (nav pētījumu un pieredzes). Jāatzīmē arī fakts, ka Latvijā nav veikti ekonomiskie pētījumi par lāču, brūkļu un kārkļu audzēšanu degradētajās teritorijās.

Reti izmantoto ogu (lāču, brūkļu) un enerģētisko kārkļu audzēšanas perspektīvas degradētajās teritorijās Latvijā

Palielinot pašvaldību lomu uzņēmējdarbības veicināšanai, uz izdevīgiem noteikumiem iznomājot zemi, izīrējot neizmantotās ražošanas vai citas telpas un citādi atbalstot jaunus un esošos uzņēmējus ir iespējams uzlabot uzņēmējdarbības vidi. Pamatojoties uz izstrādāto “A-B-C modeli” (Ferber, Grimski, Miller, Nathanail 2006) plašāk apspriežamas ir teritorijas, kuras ietilpu A un B līmenī, jo svarīgi nodrošināt augu augšanas apstākļus, pie nosacījumiem, ka teritorijas atbilst visiem drošības kritērijiem, kas attiecas uz pārtikas ražošanu, izņemot enerģētisko kārkļu audzēšanu (šeit būtu sagaidāms valsts atbalsts).

Tirgus izvērtējumā analizēti kvantitatīvie dati par iespēju audzēt lācenes, brūklenes, pārdot izejvielas vai ražot gatavo produkciju; audzēt ātraudzīgos kārkļus un realizēt šķeldu.

Lāču un brūkļu audzēšanas šķēršļi un iesaistīšanās saimnieciskajā darbībā iespējas Latvijā. Lāču un brūkļu audzēšana degradētajās teritorijās, pēc autoru domām, varētu nodrošināt degradēto teritoriju ilgtspējīgu attīstību, kā arī diversifi-

kāciju Latvijā piedāvātam produktu klāstam pārtikas rūpniecībā, bet nav pieredzes un būtu jāveic bioloģiskie pētījumi un ekonomiskie aprēķini.

Lācenes. Lācenes (*Rubus chamaemorus* L.) ir Latvijas purvos izplatīts augs, kam piemērota izgaismota purvu teritorija vai rekultivētas purvu teritorijas. Rūpnieciski Latvijā lācenes neaudzē (nav publicēto avotu), bet ir iespēja iegādāties lāceņu stādus privātajām vajadzībām. Lāceņu audzēšanas izmaksas pēc autoru domām augstas. Problēmu radis teritorijas iekārtošana un pietiekama apjoma stādāmā materiāla ieguve, jo nav pamatmateriāla, spraudēņu ieguvei. Piemēram, lāceņu stāda cena internetveikalā (2017. gada pavasarī) 3.00 EUR (SIA Hедера 2017). Tomēr, jāatzīmē, ka lāceņu stādu pieejamība Latvijā ir pirmais šķērslis šo ogu plašākai audzēšanai, jo tirgū Latvijā lāceņu stādus nepiedāvā, bet piedāvā kauleņu stādus, kam ir zināma līdzība. SIA "Jāņa Aldermaņa dārzniecība" (Rīgā) var iegādāties no Igaunijas ievestu ziemeļu kauleņu (*Rubus arcticus*) šķirņu, piemēram, 'Astra', 'Aura', 'Pima', 'Mespi' konteinerstādus par 5.00 EUR līdz 10.00 EUR par stādu (Jāņa Aldermaņa dārzniecība 2017). Lācēnēm alternatīvo kauleņu audzēšana (dārza lācene) Latvijas klimatiskajos apstākļos būtu izdevīga, jo augi ir izturīgi pret slimībām un kaitēkļiem. Kauleņu stādiem raksturīgs 10–15 cm augsts krūms, ļoti aromātiski ziedi un ogas (ienākas jūlija beigās, augustā), kuras lietojamas gan svaigas, gan termiski apstrādātas.

Citu valstu pieredze parāda (ieskaitot autoru pieredzi, apmeklējot Amerikas Savienotās Valstis un Norvēģiju), ka lāceņu izmantošana pārtikas rūpniecībā ir samērā veiksmīga, piemēram Amerikas Savienoto Valstu un Eiropas lielāko pilsētu pārtikas veikalos var nopirkt lāceņu ievārijumu, lāceņu kompotu, lāceņu liķieri, bet Norvēģijā lāceņu saldējumu. Apsekojot veikalus Latvijā (Rīga, Jelgava, Ogre, Jēkabpils, Daugavpils, Liepāja) ar dažāda lieluma pārtikas produktu sortimentu, tika konstatēts, ka svaigas vai saldētas lācenes netiek piedāvātas, arī pārtikas pārstrādes produkti kā ievārijums, džems vai kompoti netiek piedāvāti. Zema piedāvājuma dēļ lāceņu cena Centrālā tirgū Rīgā ir salīdzinoši augsta (piemēram, 2016. gada jūlijā 10.00–15.00 EUR/kg).

Otrais šķērslis lāceņu audzēšanai ir vāja potenciālo patērētāju informētība. Aptaujājot pēc nejausības principa izvēlētos 76 Latvijas iedzīvotājus Rīgā, Jelgavā, Ogrē, Jēkabpilī, Daugavpilī, Liepājā 2017. gada augustā, autori konstatēja, ka iedzīvotāji par lācēnēm ir dzirdējuši, bet daudzi nezina, kādas tās izskatās. Vecākā paaudze, īpaši lauku iedzīvotāji labāk zina, kas ir lācenes un pat ir lietojuši pārtikā, savukārt, jaunā paaudze nezina, kas ir lācenes un nav lietojuši tās pārtikā. Tomēr šī problēma ir aktuāla ne tikai Latvijā. Daudzu valstu tirdzniecības un mārketinga speciālisti uzsver, ka lāceņu eksportu traucē atšķirīgās zināšanas par ogām un atšķirīgais ogu nosaukums, ko patērētāji lieto dažādās valstīs (Ferber 2006).

Ņemot vērā autoru pieredzi Norvēģijā un aptaujas rezultātus, liekot uzsvaru uz ogu vizuāli pievilcīgo skatu un citām izcilajām organolektiskajām īpašībām, izmantojot mārketinga instrumentus (produkts, cena, sadale, virzīšana), ir iespējams sasniegt labus rezultātus.

Brūklenes. Brūklenes (*Vaccinium Vitis-idaea*) raža līdz 2 kg/m², agrām šķirnēm līdz 0.8 kg/m². Brūkleņu rūpnieciskai audzēšanai ir sena vēsture. Piemēram, tiek uzskatīts ka 1732. gadā uzsākās brūkleņu tirdzniecība Zviedrijā (1), bet 1902. gadā 20 miljoni

kg ogu eksportēja uz Vāciju (Ferber, Grimski, Miller, Nathanail 2006). Ierikotas brūkleņu plantācijas rūpnieciskai ražošanai ir Norvēģijā, Zviedrijā, Somijā, Vācijā, Austrijā un Šveicē, kā potenciālās teritorijas tiek minētas Latvija, Lietuva, Igaunija, Polija (Heidenreich 2010). Latvijā nav reģistrētu rūpniecisku brūkleņu stādījumu, bet analizējot virkni publikāciju, ir minēti piemājas lauciņi ar brūkleņu stādījumiem. Zinātniskiem nolūkiem Nacionālajā botāniskajā dārzā (NBD) Salaspilī ir brūkleņu šķirņu kolekcija.

Latvijā SIA “Kokaudzētava Baltezers” ir nopērkami brūkleņu ‘Koralle’, ‘Red Pearl’, ‘Runo Bielawskie’ u.c. (Kokaudzētava Baltzers 2017). Nacionālajā botāniskajā dārzā (Salaspilī) 2016.gada pavasarī varēja iegādāties Latvijā selekcionētas, ar spraudeniem pavairotus brūkleņu ‘Salaspils Ražīgā’ (vidēja lieluma, nogatavojas augusta otrajā pusē), ‘Rubīna Lāse’ (nogatavojas augusta otrajā pusē), ‘Jūlija’ (mazliet iegarenas vidēja lieluma ogas), ‘Koralle’ (ražīga šķirne, apaļīgām ogām), ‘Erntekrone’ (apaļas, ļoti lielas) stādus kūdras podiņos par 0.50 EUR gabalā (Nacionālais botāniskais dārzs 2017). Tomēr, pēc dažādiem avotiem brūkleņu ieguves un realizācijas apjomus ietekmē laika apstākļi, īpaši brūkleņu ziedēšanas laikā gaisa temperatūras pazemināšanās (Burt, Penhallegon 2003), kas rada arī zināmus šķēršļus to audzēšanai.

Statistiski nav iespējams noteikt Latvijas teritorijā ievāktu brūkleņu kopražu, bet svaigas ogas tirgū tiek piedāvātas (autoru novērojumi), veikalos tiek piedāvāti produkti, kuru sastāvā ir brūkleņu ogas.

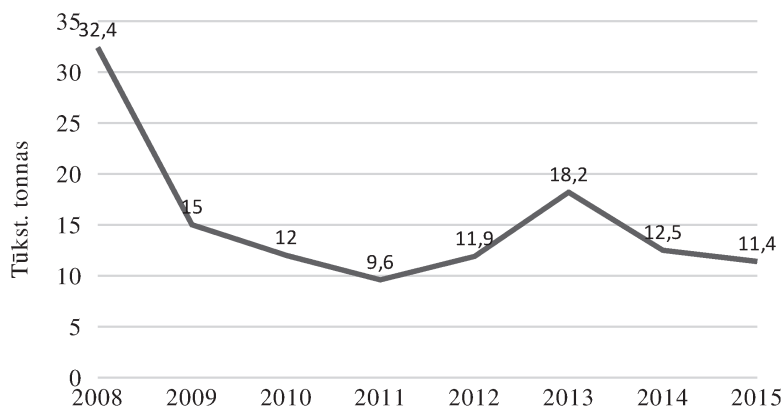
Brūkleņu ogu plantāciju ierīkošanas izmaksas nav pētītas, sākotnēji var izmantot analogijas principu dzērveņu stādījumu ierīkošanā, jo pavairošanas un stādīšanas principi ir līdzīgi. Brūkleņu stādījumu ierīkošana varētu būt lētāka, jo Latvijā ir izveidotas un introducētas brūkleņu šķirnes un uzkrāta zināma pieredze, NBD Salaspilī Dr.biol. Alfreda Ripas vadībā.

Ogu audzēšanas pieredzes īss raksturojums. Izvērtējot Latvijā iegūto augļu un ogu kopražu no 2008. gada līdz 2015. gadam, ir vērojama kopražas samazināšanās (skatīt 3. attēlu). Vienīgā pozitīvā tendence ir, ka ar 2009. gadu saražotā augļu un ogu kopraža ir izlīdzinājusies. Ražošana ir koncentrējusies un stabilizējusies, bet kopējais apjoms ir ļoti mazs. Salīdzinot ražīgākos gadus (1993. gads) ar pēdējo 2015. gadu augļu un ogu kopraža ir samazinājusies desmit reizēs.

Izvērtējot Latvijas pārtikas ražotāju stratēģijas, var secināt, ka apgrozījuma palielināšana, rentabilitātes celšana ir panākama, attīstot pārtikas produktu eksportu. Pārtikas produktu eksports kopējā eksporta struktūrā ir ap 20%. Brūkleņu, lāceņu ogu un to pārstrādes produktu eksports ir iespējams iesaistot vidējos un mazos pārtikas produktu ražotājus kooperācijā pārstrādes un tirdzniecības kompleksā risināšanā, jaunu produktu izstrādē. Piemēram, “Rāmkalni” ir uzsākuši sukāžu ražošanu un realizēšanu Ķīnas tirgū (Rāmkalni Nordeco 2017).

Izvērtējot informāciju par ražotājiem, var secināt, ka Latvijas iekšējais tirgus ir pietiekami piesātināts. Lai attīstītu ražošanu, paaugstinātu ienākumus un mazinātu izmaksas (celtu rentabilitāti) ir jāattīsta produkcijas eksports.

2. attēls

Augļu un ogu kopraža Latvijā 2008.–2015. gadā, tūkst. tonnas

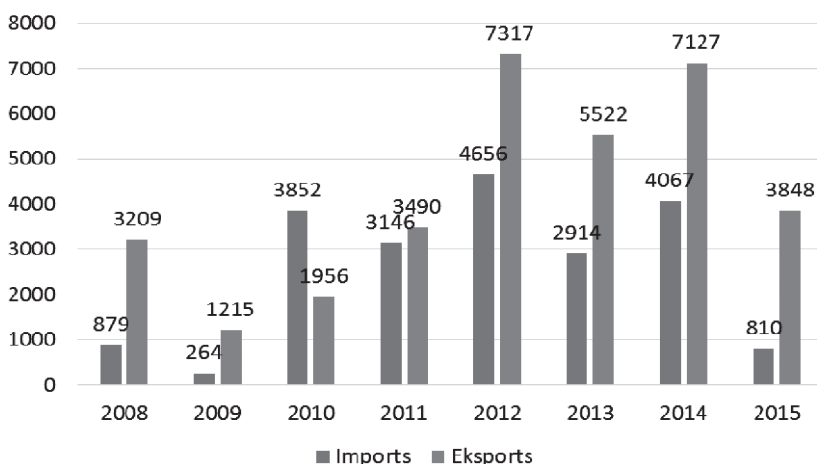
Piezīme: Attēlā ir atspoguļota kopējā aina, apkopoti dati par autoru apskatītajām ogu sugām netiek piedāvāti.

Avots: autoru veidots pēc Centrālās Statistikas Pārvaldes Datubāzes 2017.

Norvēģijā ir vērā ņemama pieredze ogu kultūru audzēšanā, pārstrādē un realizēšanā tirgū, tai skaitā arī veiksmīgs brūkleņu eksports.

Vērtējot Norvēģijas brūkleņu eksportu un importu, var konstatēt, ka rādītāji ir neizlīdzināti, pēdējos gados brūkleņu eksports ir krietni lielāks nekā imports (skatīt 3. attēlu).

3. attēls

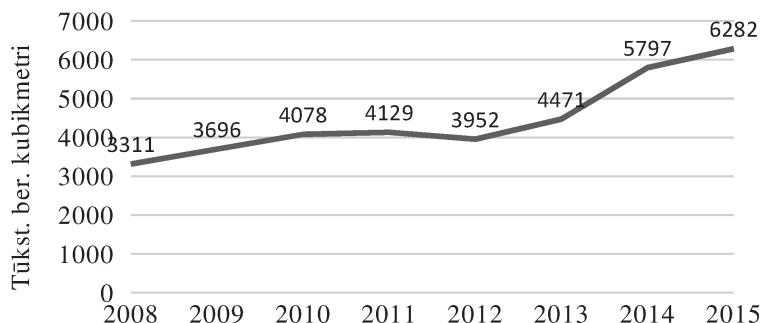
Norvēģijas brūkleņu eksporta un importa rādītāji ar Nīderlandi, tūkst. EUR

Avots: autoru veidots pēc Centrālās Statistikas Pārvaldes Datubāzes 2017.

Ātraudzīgo kārķļu audzēšanas iespējas. Ātraudzīgo kārķļu audzēšana ir viens no virzieniem kā veicināt ilgtspējīgu attīstību enerģētikas jomā. Jautājumi par energoresursu efektīvu izmantošanu un alternatīvu meklējumiem ilgtspējīgas attīstības kontekstā ir vairāku zinātnisko pētījumu centrā gan attiecībā uz mājsaimniecībām, gan uzņēmējdarbību (Tvaronavičienē 2016; Raudeliūnienē, Tvaronavičienē, Dzemyda, Sepehri 2014). Attīstoties alternatīvās enerģijas ražošanai, īpaši bioenerģijas ražošanai, aktuāla kļūst lētas šķeldas materiāla ražošana. Kā viens no risinājumiem ir ātraudzīgo kārķļu audzēšana degradētajās un citās lauksaimniecībai nederīgās teritorijās.

4. attēls

**Kurināmās šķeldas ražošana Latvijā 2008.–2015. gadā,
tūkst. ber. kubikmetri**



Avots: autora veidots pēc Centrālās Statistikas Pārvaldes Datubāzes 2017.

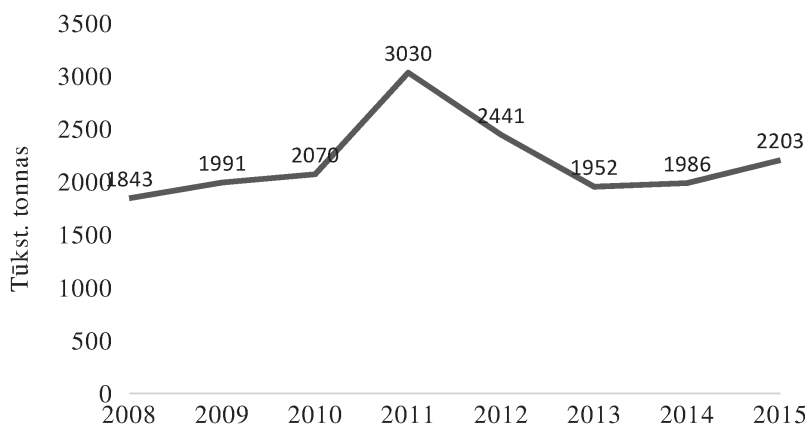
Kā rāda statistiskie dati, no 2008. gada līdz 2015. gadam kopējie šķeldas ražošanas apjomi Latvijā nepārtraukti pieaug (skatīt 4. attēlu).

Stādāmā materiāla sagatavošanā izmanto *Salix* ģints dažādu kārķļu un kārķļu klonu spraudeņus (20–25 cm gari viengadīgu dzinumu spraudeņi). Selekcijas ceļā uzlabotie kloni ir daudz produktīvāki un izturīgāki pret slimībām un kaitēkļiem, salīdzinot ar dabīgos apstākļos augošiem kārķļiem.

Ātraudzīgo kārķļu plantācijas Latvijā pašlaik aizņem vairāk nekā 1000 ha, lielākās stādījumu platības ierīkotas Vidzemē un Kurzemē. Patlaban kārķļu šķeldai vietējā tirgū ir minimāla konkurence vai tās nav nemaz. Daļa katlumāju šķeldu iepērk bera-majos kubikmetros, kur vidējā cena ir 8.20 EUR. Ir aprēķināts, ka šķeldas transportēšana atmaksājas, ja kārķļu plantācija atrodas tuvu kurināmā patēriņa vietai, t.i., apmēram 50 km rādiusā no tās. Pirmā kārķļu raža tiek iegūta pēc 4–5 gadiem. Pēc tam to novāc ik pēc trim gadiem. Ražība apmēram 45–50 tonnu zaļās masas koksnes no 1 ha (LVMI Silava 2005).

Salīdzinot statistiskos datus no pētījuma “Biomases izmantošanas izmaksu – ieguvumu analīze” (Ekoncepti SIA 2013) par šķeldas un skaidu ražošanu (skatīt 5. attēlu) no 2008. gada līdz 2015. gadam, tās ražošana un izmantošana pieaugusi vidēji 1.2 reizes, sasniedzot maksimumu 2011. gadā (3030 tūkst. tonnas).

5. attēls

Šķeldas (arī skaidu) ražošana Latvijā 2008. – 2015.gadā, tūkst. tonnas

Avots: autoru veidots pēc pētījuma “Biomases izmantošanas izmaksu – ieguvumu analīzes” datiem (Ekoncepti SIA 2013).

Veiktajā pētījumā “Biomases izmantošanas izmaksu – ieguvumu analīze” ir norādīts, ka pie esošajām meža platībām ir iespējams iegūt enerģētiskās koksnes materiālu (šķeldu) vairāk, nekā Latvijā var patērēt (Ekoncepti SIA 2013).

Palielinot enerģētiskās koksnes plātības uz izstrādāto purvu un rekultivēto teritoriju rēķina biomasas pieaugums var nodrošināt vietējo pieprasījumu pēc šķeldas kurināmā un eksportēt to.

Pētījumā “Koksnes biomasas izmantošanas enerģijas ieguvē monitorings” (Krasavcevs, Liše, Stepīna 2014) autori uzsver Baltijas reģiona (Latvijas, Lietuvas, Igaunijas, Somijas, Zviedrijas) bioloģiskā kurināma nozīmi un tendenci pieaugt tās apjomam.

1. tabula

**Koksnes biomasas patēriņš enerģijas ražošanā
Baltijas jūras reģiona valstīs 2008.–2013. gadā, tūkst. m³**

Gads	Latvija	Lietuva	Igaunija	Somija	Zviedrija
2008	6621	3750	3613	21032	36400
2009	7563	4778	3774	20157	39100
2010	7329	4766	4415	22719	43850
2011	6677	4644	4048	24473	41000
2012	7314	5093	4493	24526	43850
2013	7327	5206	4295	25444	n. d.

Avots: autoru veidots pēc pētījuma “Biomases izmantošanas izmaksu – ieguvumu analīzes” datiem (Ekoncepti SIA 2013).

Piemēram, Somijā valdība izstrādājusi un ir paredzējusi, ka valsts sāks subsidēt koksnes šķeldu ražošanu – sākumā ik gadus piešķirot 20 miljonus EUR, bet

2020. gadā – 36 miljonus EUR. Subsīdijas paredzētas arī to ražotņu rekonstrukcijai, kas pāries no kūdras un oglēm uz koksnes resursiem. Kopējais paredzētais subsīdiju apjoms ir aptuveni 340 miljoni EUR gadā (Krasavcevs, Liše, Stepiņa 2014).

Lielākais koksnes biomasas patēriņš ir Zviedrijā un Somijā, bet starp trijām Baltijas valstīm vairāk patērē Latvijā.

2. tabula

Šķeldu cenu dinamika pa valstīm (EUR/ber. m³ un EUR/MWh)

Valsts	mērvienība	2008	2009	2010	2011	2012	2013	2014
Latvija	EUR/ber.m ³	9.57	6.97	7.20	8.43	8.30	8.45	8.76
	EUR/MWh	11.96	8.71	9.00	10.54	10.37	10.56	10.95
Lietuva	EUR/ber.m ³	14.14	11.90	9.82	12.62	10.93	10.34	10.14
	EUR/MWh	17.68	14.88	12.27	15.78	13.66	12.92	12.68
Igaunija	EUR/ber.m ³	9.97	12.40	12.53	12.97	14.07	11.73	12.40
	EUR/MWh	12.46	15.50	15.66	16.21	17.59	14.66	15.50
Zviedrija	EUR/ber.m ³	15.13	16.4	15.86	18.95	19.58	0.00	0.00
	EUR/MWh	18.91	20.50	19.82	23.69	24.47	0.00	0.00
Somija	EUR/ber.m ³	12.22	13.98	14.42	14.79	14.96	16.76	17.08
	EUR/MWh	15.27	17.48	18.03	18.49	18.70	20.95	21.35

Avots: autoru veidots pēc pētījuma “Biomasas izmantošanas izmaksu – ieguvumu analīzes” datiem (Ekoncepti SIA 2013).

Arvien pieaugošu tendenci rāda kokskaidu granulu eksporta apmērs un ienākumu līmenis. 2016. gadā eksportēti 0.93 milj. t granulu, pērn 0.79 milj. t, bet par tām saņemti attiecīgi 117.4 milj. EUR 2016.gadā un 103.9 milj. EUR 2015. gadā. Iepriekšējo gadu investīcijas palielināja ražošanu par 18%, bet eksportēto granulu cenas kritās, jo ienākumu apmērs pieauga tikai par nepilniem 13%. Cenu krituma pamatā siltā ziemas Eiropā un fosilo energoresursu cenu kritums. Dažādas prognozes rāda, ka granulu eksporta apjomi var pieaugt vēl vairāk, jo tiek plānots rekonstruēt, būvēt un nodot ekspluatācijā jaunas šī produkta ražošanas jaudas.

Secinājumi

1. Degradēto teritoriju ekonomiskie pētījumi liecina, ka šo teritoriju iesaistīšana saimnieciskajā aprītē ir nozīmīga, bet arī ir nepieciešami lieli finanšu līdzekļi. Kā šķērslis degradēto teritoriju plašākā iesaistīšanā saimnieciskajā darbībā ir fakts, ka ne visas teritorijas var izmantot lauksaimniecībā, kā arī bioenerģētikas masas ražošanā, jo atšķiras degradācijas pakāpe un degradēto teritoriju ģeogrāfiskais izvietojums.
2. Izvērtējot lāceņu audzēšanu Latvijā un ārzemēs, piedāvātās stādāmā materiāla iespējas, Latvijas esošo lāceņu un pārstrādes produkcijas piedāvājumu, iespējams secināt, ka lāceņu ogu tirgus būtībā nepastāv (izņemot nelielo ogu daudzuma piedāvājumu tirgū – savvaļā augušas lācenes).

3. Pastāv visi priekšnosacījumi, lai attīstītu lāceņu ogu audzēšanu un pārstrādi (saldētas ogas, ievārījumi, džemi, piedevas citiem produktiem) Latvijā zemnieku saimniecībās, mežniecībās. Pastāv liels potenciālais lāceņu un brūkleņu ogu tirgus Eiropā, īpaši Vācijā, Austrijā, kā arī austrumu valstīs, tai skaitā Ķīnā.
4. Brūkleņu plantāciju izveidošana, rūpnieciskā audzēšana ir viens no visperspektīvākajiem pasākumiem, lai apgūtu kūdrājus, jo ir izveidotas Latvijas un piedāvātas ārzemju šķirnes, ir pieredze un potenciāls stādu audzēšanā un piedāvāšanā plantāciju ierīkošanā. Brūklenes ir labi pazīstamas ogas Latvijā un ārzemēs, to pielietojums pārtikā ir ļoti plašs. Ieguldījumi brūkleņu aizēšanā sāk atmaksāties trešajā gadā. Laba eksporta prece uz Eiropas, Amerikas un Āzijas valstīm.
5. Izvērtējot esošo šķeldas ražošanu un tirdzniecību, iespējams secināt ka nozare ir perspektīva, kas ļauj domāt ka kārkļu plantāciju ierīkošana enerģētikai ir perspektīvs pasākums pie nosacījumiem, ka rūpīgi jāizvēlas degradētās un kūdrāju platības.
6. Ir jāveic pētījumi un jāizstrādā piedāvājumi jaunu produktu veidu ražošanai no iegūtām izejvielām (kārkļu šķelda, koksnes granulas, klūgas, skaidu plāksnes), lai panāktu optimālu pievienoto vērtību gala produktam. Labs eksporta tirgus ir Skandināvijas valstis, Dānija, Turcija.
7. Pētījumā izvirzītais mērķis piedāvāt degradēto teritoriju risinājumu, audzēt lācenes, brūklenes, enerģētiskos kārkļus ir sasniegts, iespējamie alternatīvie risinājumi, finansiālā nodrošinājuma modeļi ir cita pētījuma tēmas.

Piezīme:

(1) Zviedrijā 0.8 burciņa brūkleņu ievārijuma maksā 3.99 EUR; 0.5 litri sīrupa 11.95 EUR.

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SOCIĀLĀ PSIHOLOĢIJA

Valērijs Dombrovskis

A MODEL FOR INDIVIDUAL'S MEANING OF LIFE

The aim of this article is to describe the empirical research about the development of the model for individual's meaning of life. The model was developed based on the findings in pilot study about the meaning of life characteristics in Latvian population. The pilot study and the current research is based on the assumption that the meaning of life is an important motive, which activates an individual behavioural style, directed towards the realization of a person's individual potential. The theoretical basis for the study was the A. Langle's theory (Langle 2002) about individual crisis – a question about the meaning of events emerges when a person encounters crisis. In order to solve the crisis, person must find the answer to why is this happening, thus adding a meaning. In this process, a bigger meaning emerges about the quality of human life, which is described by integrated model of behavioural style, developed by R. Akhmerov (Akhmerov 2015), T. Gavrilova (Gavrilova 2015), S. Kuznetsova and E. Osin (Kuznetsova, Osin 2015). The study sample consisted of 100 respondents (50 women and 50 men, average age – 43 years), who gave written answers to 5 open-ended questions and the answers were analysed using deductive qualitative content analysis. The questions were about the development of the individual, roles of the individual, group formation, prohibitions. After data processing, a model for individual's meaning of life was developed, which includes 72 dispositions; 3 functioning areas of the individual and then in general categories – 8 significant motives – meanings of life on which the 8 behavioural models are based. This model is intended rather practical for individually practicing counsellors and therapists, who can assess the meaning of life by the criteria and adjust each individual's behaviour in order to reach one's potential. Further research could focus on developing a quantitative assessment method to analyse the meaning of life's structure.

Keywords: meaning of life, motives, behavioural style, behavioural model.

Indivīda dzīves jēgas modelis

Šī raksta mērķis ir aprakstīt empīrisku pētījumu par indivīda dzīves jēgas modeļa izveidi. Modelis tika izstrādāts balstoties uz pilotprojekta rezultātiem par Latvijas populācijas dzīves jēgas īpatnībām. Pētījums balstās uz apgalvojumu, ka dzīves jēga ir svarīgs motivs, kas aktivizē individuālo uzvedības stilu vērstu uz personīgā potenciāla realizāciju. Pētījuma teorētiskā bāze balstās uz A. Langles teoriju (Langle 2002) par individuālajām krīzēm – jautājumu par dzīves jēgu iespējams risināt, kad cilvēks sastopas ar krīzi. Lai atrisinātu krīzi, cilvēkam nepieciešams atrast atbildi uz jautājumu par krīzes cēloni, tādējādi saprotot jēgu. Šajā procesā lielāku nozīmi iegūst cilvēka dzīves kvalitāte, kas ir aprakstīta R. Akhmerova (Akhmerov 2015), T. Gavrilovas (Gavrilova 2015), S. Kuņņecovas un E. Osina (Kuznetsova, Osin 2015) izstrādātajā uzvedības stilu integrētajā modelī. Pētījuma izlase – 100 respondenti (50 sievietes un 50 vīrieši, vidējais vecums 43 gadi), kuri deva rakstiskas atbildes uz pieciem atvērtiem jautājumiem. Atbildes tika analizētas izmantojot deduktīvi kvalitatīvo kontentanalīzi. Jautājumi tika uzdoti par tādām tēmām kā – indivīda attīstība, indivīda lomas, grupu formēšanās, aizliegumi. Pēc iegūto datu apstrādes tika izstrādāts indivīda dzīves jēgas modelis, kurš ietver 72 tieksmes, trīs indivīda

funkcionēšanas sfēras un tad arī galvenās kategorijas – astoņus nozīmīgus motīvus – dzīves jēgas, uz kurām bāzējas astoņi uzvedības modeļi. Indivīda dzīves jēgas modelis paredzēts praktizējošiem konsultantiem un terapeitiem, kuri spēs novērtēt dzīves jēgu pēc kritērijiem (tieksmēm) un koriģēs katra cilvēka uzvedību tādā veidā, lai viņš spētu realizēt savu potenciālu. Tālākie pētījumi varētu būt fokusēti uz dzīves jēgas struktūras kvantitatīvas novērtēšanas metodes izstrādi.

Atslēgas vārdi: dzīves jēga, motīvi, uzvedības stili, uzvedības modeļi.

Модель смысла жизни индивида

Целью статьи является описание эмпирического исследования и создания модели смысла жизни индивида. Модель была разработана в рамках пилотного исследования, посвящённого особенностям смысла жизни популяции Латвии. Исследование основывается на утверждении, что смысл жизни – это значимый мотив, который активизирует индивидуальный стиль поведения, направленный на реализацию личностного потенциала. Теоретическая база исследования основывается на теории А. Лэнглы (Langle 2002) об индивидуальных кризисах, предусматривающей, что вопрос о смысле жизни возможно решить, когда человек сталкивается с кризисом. Чтобы разрешить кризис, человеку необходимо найти ответ на вопрос о причине возникновения кризиса, таким образом, понимая смысл. В этом процессе важную роль играет качество жизни, которое описано в интегрированной модели стилей поведения, разработанной Р. Ахмеровым (Akhmerov 2015), Т. Гавриловой (Gavrilova 2015), С. Кузнецовой и Е. Осиным (Kuznetsova, Osin 2015). Выборку исследования составили 100 респондентов (50 женщин и 50 мужчин, средний возраст 43 года), которые письменно дали ответы на 5 открытых вопросов. Метод обработки ответов – дедуктивный качественный контент-анализ. Вопросы содержали такие темы как: развитие индивида, роли индивида, формирование групп, запреты. После обработки полученных данных была разработана модель смысла жизни индивида, которая включает 72 стремления, 3 сферы функционирования индивида, а затем и главные категории – 8 значимых мотивов – смыслы жизни, на которые основываются 8 моделей поведения. Модель смысла жизни индивида предназначена для практикующих консультантов и терапевтов, которые смогут оценивать смысл жизни по критериям (стремлениям) и корректировать поведение каждого человека, чтобы человек мог реализовать свой потенциал. Дальнейшие исследования могут быть сосредоточены на разработке метода количественной оценки структуры смысла жизни.

Ключевые слова: смысл жизни, мотивы, стиль поведения, модель поведения.

Introduction

The meaning of human life nowadays is a very topical theme and it is becoming more and more relevant with every day in the current social situation. In the context of natural disasters, endless wars and circumstances of major catastrophes, people ask themselves about their future, the meaning of their existence. Terror management theory proposes that humans, different from other animals, are consciously aware of their mortality, creating a potential for existential anxiety (Grevenstein, Bluemke 2016).

In critical conditions of uncertainty, every person is trying to find his own path – his purpose for living that is separate from the general purpose of mankind (Grevenstein, Bluemke 2016). And in spite of the social situation, they are trying to do so in order to improve one's lifestyle and choose a certain way to behave and behave accordingly to the chosen goal.

Each person has a different approach to overcome anxiety, they might use such psychological means as self-esteem enhancement, strengthening the feeling of security and deepening the understanding about the meaning of life.

People tend to find meaning through leisure activities, it has been documented that meanings or a meaning system represent a broader, more holistic concept to one's core values and inspiration for life than personal behaviours and experiences per se (Iwasaki 2017). This strengthens the foundation that there is a multidimensional aspect of meaning.

V. Frankl (1959) wrote that in the circumstances of existential anxiety, the following questions arise: "Why am I living for?" which can be reframed as "Is life worth living at all?" and "What am I living for?" – the question about destination of one's life and the responsibilities. Interesting is the fact that people, who haven't yet found the meaning, tend to think not about the meaning of human existence, but about the meaning of one single unit – about themselves (Breitbart 2001; Starck 2008). For a long time, the meaning of life was viewed only from a philosophical and religious point of view, but with the development of scientific method, nowadays also the psychological research contributes to adding understanding about the foundation and content of the meaning of life. The first psychological scientific system that regarded the issue about meaning of life was psychoanalysis. Z. Freud (1998) believed that the border of meaning is an act, which is significant to the subject. It is created by emotional tension, which has occurred during the lifespan of an individual (Freid 1998).

Discussions on these issues originally developed from the psychological aspects of human existence, i.e. problems associated with the awareness of human life problems. The difficulty in analysing these themes arises from the fact that different authors, theoretical approaches and concepts do not come to a unified conclusion about the model for the meaning of life. From one side, this situation simplifies the work for therapists, by allowing them to choose the approach they want to analyse the client's issues from. On the other side, without a unified model for the meaning of life, it is difficult to prognose the results of therapeutic work with existential anxiety, which touched on the questions about the meaning of life. The solution for this is to develop a unified model for individual's meaning of life.

R. Akhmerov (Akhmerov 2015) writes in his work that the condition that increases the likelihood of finding the true meaning of life, the true self, and one's place in the world is the harmony between behavioural style and biological characteristics. Therefore, one of the practical solutions is offered – to look at the meaning of life from the human functioning point of view, what type of behavioural model people use and how does it help to realize the meaning of life. The fulfilment of life is possible if the behavioural model is directed towards the realization of the potential in reaching significant goals. Individual perceptions of advancement towards the realization of potential in reaching significant goals are manifested in life style – in behaviour style (Kumysheva 2015). Confirming the idea of R. Akhmerov (Akhmerov 2015) M. F. Steger (Steger et al. 2012) in his work about the interaction between the sense of identity and meaning of life in adolescence, concluded that the choice of a productive behavioural model is the most important predictor of reaching the meaning of life. It means that by working on goals, and executing the right behaviour, a sense of life's fulfilment arises.

In Latvia, the topic about meaning of life has been studied relatively little (Fiļimova 2016; Svence 2013; Vahļina 2012; Millere 2012; Šķestere 2012), therefore, this is a relatively new direction in the field of psychology in Latvia.

By continuing the exploration of the meaning of life, it is necessary to create a model for life meaning of life, which would be the basis to further develop a psychometric assessment method.

The main aim of the research was to develop a model for meaning of life. The most difficult tasks were: 1) choosing the method for information gathering, which would least affect the respondent's answers; 2) identify the range of dispositions and develop a structure for model, based on the specifications.

In the article two stages of research are represented: 1) reserach theoretical framewrok; 2) the description of behavioral styles which constitutes the structure for the model; 3) crisis description, which underlies the written questionnaire; 4) individuals meaning of life descriptions.

Behavioural styles

Based on the theory of A. A. Kronik (Kronik, Akhmerov 2008) and R. Akhmerov (Akhmerov 2015) about integrated model of behavioural style, it could be assumed, that by studying the behavioural styles, whose purpose is to achieve one's potential, it is possible to reach a clear understanding about the motives of each individual's functioning and vice versa – if we know the motives, it is possible to choose a behavioural style that will allow to fully express one's potential. Therefore, by looking at what one is doing, it is possible to understand what are his/her motives, and by knowing the motive, it is possible to adjust the behaviour. During his research about the meaning of life, R. Akhmerov discovered, that the fulfilling one's potential in order to reach significant life goals happens in the following areas of human life – society, nature, family, work, internal world, leisure time, health (Akhmerov 2015). His work was continued by T. Gavrilova (Gavrilova 2015), S. Kuznetsova and E. Osin (Kuznetsova, Osin 2015), who analyzed the empirical studies and helped to make more accurate descriptions about the previously mentioned areas of human life. Since the content of the descriptions were full with behavioural cues, they were named behavioural styles. Those behavioural styles are (Akhmerov 2015; Gavrilova 2015; Kuznetsova, Osin 2015):

1. Social person (public/social life). Orientation towards interpersonal relationships, norms, rules, regulations and how things should be, high expectations from others, and low orientation towards understanding of the meaning behind it all. Moreover, these ideals can also be interpreted as object from whom one receives information: they reflect not so much the attachment to the people, as the need for information about this world;
2. Cosmic person (natural life). A high level of orientation towards their own needs, their desires are more important than social norms and expectations, as well as refusal to live according to the relented order;

3. Businessman (business life). A creative approach to life, rejection of ready-made recipes, search for one's own path, the main motive is free choice, logic of meaning, and the logic of responding to stimuli – trusting impulses, believes that the first reaction is the most truthful. This is the most personal strategy, which is directed towards self-trust, own goals and inner sense of justice;
4. Home person (family life). Oriented towards one's own habits and tendencies associated with distrust of one's own impulses and the refusal of the unpredictable, which is not determined by free choice. This strategy is similar to escape from freedom, described by E.Fromm (Fromm 2008).
5. Spiritual search person (inner life). Tendency to ignore personal needs, habits, distrust in their own impulses, the need to avoid freedom of personal choice. Perhaps this is a phenomenon of self-alienation;
6. Playful person (life as a hobby in free time). Informative or cognitive-exploratory type orientation (new, exploring the unknown: I will be able to get to know new worlds, experience new sensations, understand the meaning of the universe's structure);
7. Person who is recovering (life as a living organism). Ideally, related to actions aimed at receiving compensation: reincarnation, acquisition of supernatural powers, freedom and independence, freedom from suffering and pain.

The total content of the individual sense of happiness manifests itself as an individual behavioural style.

Emergence of the meaning of life

In order to adjust the behaviour, the first step is to identify important motives – the meaning of life that encourages individuals to realize a certain behavioural style from the previously mentioned seven.

The question arises: due to what circumstances one seeks to find the true meaning of one's existence. Based on A.Langle's theory about individual crisis – a question about the meaning of events emerges when a person encounters crisis. In order to solve the crisis, person must find the answer to why is this happening, thus adding a meaning. And just like the in crisis, questions about meaning may occur spontaneously at any time, unexpectedly, or they may occur quite slowly over the course of months and years (Langle 2002). Most commonly, these questions evolve parallel to the great changes in life. These can be turning points in development, stages of life or losses.

Four stages of crisis can be distinguished in human life when the subject of meaning emerges (Langle 2002):

1. During the puberty, the protected and limited life space of the child is traded in for the capabilities of the young adolescent, which he has to face several tasks. In these circumstances, the dominant search for meaning is through search and discovery for the personal space of life and activity.
2. In the middle life, when a person reflects on what he has done, analysing and recording the results of his life, he makes conclusions about what he has not yet accomplished or achieved. At this stage of life, one understands that, if he continues

his previous lifestyle, he will not gain real achievements, and then he will end up in middle-age crisis.

3. When a person retires from work, which is one of the most important and major areas of life for many people, the complex phase of change and reorganization begins, in which the fundamental values of life dominates. A reorganization can lead to the emergence of serious problems in terms of meaning (feeling that nobody needs you, feelings of uselessness, deterioration of self-esteem or loss).
4. In periods of encountering (witness of death) or approaching death (an incurable illness or ageing) a person is reflecting on his life and asks himself: "What for I have lived so far? Can I calmly say goodbye to this world?" Often, such issues are being pushed out of consciousness, and then they manifest themselves in the form of anxiety and psychosomatic illness (sleep disturbance, chronic pain).

Of course, the issue about the meaning of life emerges regardless of age or life stage, if one experiences a huge loss. Contrasts exacerbates perception, so the meaning of life is experienced especially painfully. Severe disease, death of a close person, losing work, experience of natural disasters, etc. – all of this causes an existential anxiety that causes the question "What am I living for?" to become relevant.

To sum up the information above, it is clear that the meaning of life is a significant motive, which activates a certain behavioural style that is directed towards the realization of one's full potential. The content of the meaning of life can be explored through the crisis prism.

Method

Participants. The sample included 100 respondents, age 18 to 51 years old. The respondents were divided in two groups – 50% the inmates and 50% liaison group (has no objective tendency towards antisocial behaviour – which were not criminally and administratively liable). The demographical description of the sample is given below in Table 1.

Table 1

Demographic description of the inmates and practically healthy sample

Demographic variables	Respondents			
	Inmates		Liaison group	
	Male	Female	Male	Female
1	2	3	4	5
No. of respondents	24	26	25	25
Mean age	34	30	30	33
Education level				
Basic education	45%	38%	13%	11%
Secondary education	35%	46%	50%	33%
Vocational secondary education	13%	7%	12%	–

Sequel to Table 1 see on the next page

Sequel to Table 1

1	2	3	4	5
Higher education (university, college)	7%	9%	25%	56%
Information about faith (mean level)	5.6	6.4	6	6
Information about knowledge on a particular topic (mean level)	6.2	5.8	6.4	6.6
Occupation				
Cargo transportation	8%	–	25%	–
Mass communication system	8%	–	–	–
Construction	25%	–	20%	–
Credits and financing	16%	8%	–	12%
Wholesale and retail	8%	–	–	–
Social care	8%	8%	–	25%
Health care	–	8%	–	26%
Catering services	–	23%	7%	–
Law enforcement	–	–	28%	–
Art, culture	–	–	10%	–
Communication and delivery	–	–	–	25%
Science, education	–	–	–	12%
Has none	27%	53%	10%	–

Source: elaborated by the author.

The reason for choosing inmates was because they are staying in isolated conditions, has many deprivations and thus these settings forecasts crisis. An inmate is a person, deprived of his freedom by a court judgment (without free will) and serving a sentence in an institution that restricts the liberty. He or she is isolated from the environment of the ordinary social environment, especially from significant other people. These conditions can lead to a physical and emotional humiliation. In such circumstances, the question of the meaning of life becomes particularly relevant. As the sentence time passes, a person experiences various changes not only due to individual deprivation, but also because he is forced to interact in a limited circle of the same persons. During the imprisonment, the prisoners can encounter following crises: the end of one of the stages of life and work, the question about living and working private space, the fear of death emerges (constant encounter with death – suicide in prisons, violence, suicidal thoughts) and every inmate develops a period of loss in their life (f.e. losing freedom, close friends etc.).

The selection of respondents for the practically healthy group was carried out according to the availability principle or the convenience. Most of the respondents were the employees of the Ministry of Justice, doctoral students, clients of psychologist's and Facebook users, who had not been sentenced to imprisonment in their lives. The strategy was to collect answers from a target sample – people who are in the need to deepen the issue about the meaning of life.

Respondents had different levels of knowledge about the meaning of life – there were people who had studied this subject, read specialized literature, there were respon-

dents who for some reason had not been interested in this issue. According to the external appearance of the respondents – they ranged from disorganized to clean; the faith varied from atheist to the deeply religious man. The participants were motivated and interested in participating in the survey.

Measures. The demographic survey questionnaire included information about the age, gender, level of education, information about faith (respondents answered on a scale from 1 to 10 about their level of belief, where 1 means they are atheist and 10 deeply religious), their opinion of how much they subjectively believe they know about the reasons for human living (respondents rated their own belief about their expertise in knowing why a person is living on a scale from 1 to 10 about what is the level of their knowledge, where 1 means expert and 10 means “no knowledge”) and information about their occupation (place of work).

To gather the information about the meaning of life, a written questionnaire was developed. The questions of the survey were drawn up based on A. Langle’s theory (Langle 2002) about the stages of individual crisis. The questions were written so that the essence about the meaning of life in each question could be seen through the prism of human life crises.

Question No. 1 “In your opinion, why a person is experiencing each of the following stages of life: childhood; youth; maturity; old age?” – this question is asked in order to assess the meaning of life in times of crisis (which naturally appear along ageing).

Question No. 2 “Every person has a variety of roles in their lives. Please write down what life roles do you know?” this question touches upon the areas of human activity and finding roles relevant to them.

Question No. 3 “People usually come together in small groups (5–9 people), i.e. family, sports teams, small work groups, groups of friends and acquaintances and in large groups, i.e. pupils, students, factory workers, working staff. Why do you think every person aspires to be a part of a group?” – this question relates to the search and discovery of one’s own personal space, as well as openness toward the others as well as the ability to reflect on this matter.

Question No. 4 “In your opinion, if people would have the freedom to do everything – what would people be doing and what would they aspire to if they hadn’t have any inhibitions?” – this question is based on the theme of change and loss, because if there are no boundaries, then something is lost and there is no control over one’s own life, because it has no structure. And since there is no structure, everything constantly changes and therefore one encounters a constant loss.

Question No. 5 “In your opinion, what is the meaning of human life (why a person lives)” – a question which touches one’s very essence and it is about one’s own purpose of life and thus – death. To answer the 5th question, respondent gathered and combine the information provided to the previous four questions. Thus, allowing to deepen and get more information about the subject on meaning of life.

In order to analyse and interpret the received data from respondents, the inductive qualitative content analysis as method for data processing was used. During the analysis,

the data was first encoded in subcategories, further into general categories, and finally in the main category (Elo, Kyngäs 2008).

Procedure. A written questionnaire with open questions was used to gather the data for the meaning of life. Following the guidelines of proper qualitative data gathering procedure (Pipere 2011) the researcher was present at the time of filling of the questionnaire so that the respondents' information was conveyed as accurately as possible in the surveys and, if necessary, the researcher could respond to any questions that appeared from the participant. Each respondent was met individually (Pipere 2011).

The data gathering took place both in and outside the prison: in the psychologist's office.

To gather data from inmate sample, an announcement "The meaning of life" was made at the place of imprisonment, so that inmates would have the opportunity to participate in research, as part of the doctoral thesis. This announcement provided interested and motivated respondents.

After the meeting regarding the questionnaire administration, when the results were processed, each participant was offered one psychological counselling session on the research topic about the results of questionnaire. During the consultation, the developed model about the meaning of life was discussed. This procedure was necessary for people to be interested in providing wider answers within the given topic. All together the meeting time took approximately 60 minutes: the questionnaire was completed in about 40 minutes and in the rest of 20 minutes, the clarifying questions were asked.

For the liaison group, data were gathered from workers in the Ministry of Justice, doctoral students and psychologist's clients, the contact was established during a telephone conversation or individual meeting. In the first meeting the researcher and the respondents discussed the rules, participants were provided with general information about the study, the topic of study, time and venue, as well as the procedure were discussed. The same announcement (as with inmates) was made on social network Facebook. During the first meeting, the same topics were discussed. Respondents from the social network had the opportunity to receive online counselling.

Results

As a result, from responses received on question No. 1, the following data was obtained: in the first stage of life, "Childhood", person has two roles: 1) personal development, where he/she get's to know himself/herself and the world around him/her; 2) parental self-actualization through the child – due to this role, parents develop. In the second stage – "Youth" – the individual actively resists the "system", rules, requirements, pushes boundaries, experiments and searches for his/her place. The third stage – "Maturity" depends on the results in the second stage of life: 1) individuality (creativity) develops, or 2) the person becomes dependent on society (fulfils the requirements and avoids punishment).

As a result, after three stages, in the fourth stage – “Old Age”, following values appear: (1) search for peace; (2) search for pleasure; (3) denial of ageing; (4) heritage – the transfer of experience.

One of the respondents during the survey stressed the idea that these stages are not dependent on the person's age, they are cyclical – a person constantly goes through these stages in his/her life.

Some quotes from study participants' replies illustrate their answers to question No. 1:

Respondent, female, 35 years old, unfinished higher education, currently an employee of metal processing company (customer service specialist), believes in God, is interested in and exploring the meaning of life, thinks that:

The childhood period is meant to gather information about world's order, human relationships, to gain experience in relationships with the material world. Youth is meant for the person to resist the installed patterns, which results from many years of parental, system and general society suppression, rebelling and inhibition. During this period, either a revolution begins, because of the tiredness and the strength to resist, or there is a breakdown, because there is no more energy left. Maturity – depending on what has happened in youth and what conclusions a person has made. He/she either exists (submits) with nothing to hope for, or he/she purposefully changes his/her life so that it fits as to what he/she wants to see. Old Age – repentance of what has not been done or the enjoyment of fruits obtained during life. It might happen that this is a time for cardinal changes that may set back ageing for 10 years.

Respondent, a female, 45 years old, basic education, currently in prison, an atheist and takes little interest in the meaning of life, believes that “*Childhood is to please parents. Youth is a headache for parents. Maturity – opportunity to have fun in life. Old age is a headache for everyone around.*”

Respondent, male, 35 years old, has incomplete higher education, a construction company employee, religious, little interested in the meaning of life, believes that: “*The childhood period is intended to raise parents' self-esteem. Youth – to get to know the world. Maturity is preparing for old age (building up savings – food, residence, retirement funds, children). Old-age is given to use savings for achieving personal goals.*”

Respondent, male, 40 years old, secondary vocational education, currently in prison, religious, is studying and interested in the meaning of life, believes that: “*Childhood, Youth, Maturity and Old Age are the roles of human life and they are independent from human age. Each day in every situation, a person experiences and plays these roles. Each of these roles has specific characteristics and behavioural standards. Thus, these periods – the roles of life are cyclical and unbreakable.*”

As a result of respondents' responses to question No. 2, four main categories were identified: First category – “Personal roles”, was divided into seven subcategories; second category – “Gender roles”, was divided into two subcategories; third category – social roles (long-term and short-term) was divided into 47 subcategories: (1) determined – parents, nationality, age, gender, etc. 2) obtained during socialization – professions; level of closeness with others – neighbour, colleague; status in society – student, teacher, inmate, etc. Forth category – communicative and interpersonal roles

(standard normative – good friend, loving wife, the best father, etc., and non-normative – fool, enemy, hypocrite, etc.; long-term – materially independent, happy, submissive, conqueror, etc., etc. and short-term initiatives – bigger, desperate, obligation performer, etc., was divided into 41 subcategories.

Following quotes from study participants illustrate their replies to question No. 2:

Respondent, female, 21 years old, secondary education, currently working in a restaurant (a waitress), believes in God a little and is not very interested in the meaning of life, believes that *"There are only three roles: the animal man, the intelligent person, the highest creature."*

Respondent, female, 27 years old, secondary education, currently in prison, an atheist and is little interested in the meaning of life, believes that *"A person has only one permanent role in life – the role of the child, which one periodically uses throughout his life. The role of a child can be both evil and good, smart, and foolish, or takes on another role (that is different from roles of the child)."*

Respondent, male, 51 years old, with incomplete higher education, an entrepreneur, believes in God, is interested in and explores the meaning of life, believes that *"there are three roles – creator, destroyer, performer."*

Respondent, male, 33 years old, secondary education, currently working in a shop (warehouse employee) and is prison inmate, does not believe in God and is not interested in the meaning of life, believes that there are the following roles: *"The eternal sufferer, the aristocrat, the workaholic, "the parasite", who lives at the expense of others."*

In the result of responses to question No. 3, five main categories were identified: 1) basic instincts: self-preservation – security; power instinct – leading, obtaining power – instinct of reproduction. Social instinct – dependence of interactions with the social environment, identifying one's own roles, vertical consolidation – submission; parental instinct – investment in life (to raise children); 2) sense of significance and affiliation; 3) fear: loneliness, obstacles (difficulties), unfulfillment of requirements; 4) needs: receiving emotions, development, sharing of experience and information; 5) values: communication, comfort, satisfaction, progress.

Following illustrative quotes depict the study participants' replies to question No. 3:

Respondent, female, 43 years old, secondary education, currently a teacher's assistant at preschool educational institution, believes a little in God and is little interested in the meaning of life, believes that *"people unite in small groups to become stronger and more significant, but in large groups – to become less significant."*

Respondent, female, 26 years old, incomplete secondary education, currently in prison, religious and is interested in the meaning of life, believes that *"People are divided into leaders and followers. The first ones are joining for fruitful communication, movement, exchange of experience, joint help and support, for proper analysis and discussion with a goal to self-improvement. Followers – the herd instinct."*

Respondent, male, 24 years old, secondary education, currently working at a port company (motorist), religious, little interested in the meaning of life, believes that *"people unite in groups for purposes of reproduction, love and effort to feel needed (fear of staying alone) due to necessity. According to the idea, in this view, a man differs only a little from a horse. They both are social mammals, just as a horse*

needs socialization (communication with members of their own species as well as with people), also the person would doubtfully had reached the level of progress we are living in, if one did not have this herd instinct and emotional necessity."

Respondent, male, 41 years old, incomplete higher education, currently in prison, religious, not interested in the meaning of life, believes that *"people unite in groups in order to share experience, self-actualization and feel significant, and to develop comfort area."*

Analysing the answers on question No. 4, four main categories of meaning were identified: 1) dispositions: for discretion; harmonious environment organization; accelerated growth; resilience (desire to enhance distance to death); 2) fear: from regression of culture, pain and death, to be on one's own (free); 3) restrictions – how far is something allowed (norms): freedom, egoism, satisfaction, permission to kill or to be violent, the acquisition of power and force; 4) needs: finding the target, safety, feeling of balance, obedience or leadership, overcoming obstacles.

Following illustrative quotes from study participants' replies shows the essence of answers to question No. 4:

Respondent, female, 35 years old, incomplete higher education, currently working in advertising agency (project manager), very religious, not interested in the meaning of life, believes that *"prohibitions related to threat to life and human privacy, the security of the planet can be fully explained and the person intuitively perceives them. Other prohibition blocks are the cause for their own offending. If people were free from prohibitions, they would develop. It is possible that there would be a more harmonious environment, but this path is not easy, because it is based on egotism, illusion of love and requires truth of the conscience. Prohibitions exist to enhance distance from death."*

Respondent, female, 22 years old, secondary education, currently in prison, religious, interested and studying the meaning of life, believes that *"there are social, physical and national restrictions. Absolute ban of rules would lead to chaos. People would not be able to control their urges. Although this would lead to the introduction of new restrictions. Meaning of life – to create his own prohibitions and not to be dependent on other people or restrictions."*

Respondent, representative, 27 years old, secondary vocational education, profession – estimator, religious, interested in and studying the meaning of life, believes that *"there are only 10 prohibitions that are written in the Bible. The rest are only sets of instructions and laws that can be bypassed."*

Respondent, male, 26 years old, elementary education, currently in prison, does not believe in God and does not care about the meaning of life, believes that *"there is only one prohibition – truthfulness to yourself. If people would be free, then there's no telling what would they do on a daily basis, but daily life is the gateway to big events! Big events are where everything is grand, interesting and perfectly wonderful. Our smallest part of the brain 7% wants to deal with a true evrica (discovery), but most of the people acts and thinks about the ordinary everyday life that prevents the fulfilment of the small part of the brain! We must get out of these suppressing common restriction gates and borders, to get the chance to improve."*

Responses to question No. 5 were divided into three main categories: 1) needs and values: creation of something new, satisfaction, power, self-improvement and development, happiness, awareness of personal nature, expression of power, manifestations of altruism, transfer of experience to future generations, comfort, avoidance of mistakes, love, action; 2) obligations: to fulfil the obligations towards children and parents, to serve or obey, to reproduce, to create or to deter.

Following illustrative quotes from study participants show their replies to question No. 5:

Respondent, female, 42 years old, holder of university degree, store employee (cashier), religious, little interested in the meaning of life, believes that *"in Buddhism, the meaning of life is self-improvement, because life in the human body is a great gift. In the next life, you could become an animal, but the animal cannot fulfil itself. Self-improvement cannot happen without self-actualization (the benefit to the society from your knowledge). Each person has their own self-improving fruits – for some it's children, for some books, art ..."*

Respondent, female, 26 years old, incomplete elementary education, currently in prison, religious, is interested in the meaning of life, believes that: *"the purpose of human life is to leave behind a significant contribution, memories. It is possible that even something that is negative, some particularly serious crime, will remain in the memory of society."*

Respondent, male, 31 years old, elementary education, building company employee (construction worker), believes in God, little interested in the meaning of life, believes that *"the meaning of human life is to serve or lead. Gaining satisfaction in the process of serving or leading."*

The respondent, male, 33 years old, has completed secondary vocational education, currently in prison, an atheist who is not interested in the meaning of life, believes that *"the purpose of life is fitting in a group in order to gaining strength, power and money, as well as to understand the fruits of the lives lived."*

In order to analyse and interpret the received data, inductive qualitative content analysis was used as data analysis method. Firstly, data were coded in subcategories – 72 dispositions; three functioning areas of the individual, and then in general categories – eight significant motives – meanings of life on which the eight behavioural models are based:

1. 72 dispositions (wants, needs, values, aspirations);
2. eight significant motives – meanings of life on which the eight behavioural models are based;
3. three functioning areas of the individual: 1) action, 2) deep emotional experience and 3) relationship;
4. three behavioural blocks;
5. The structure of model: 3 behavioural blocks, in each block there is one dominant functioning area of the individual, eight motives and 24 dispositions.

The results added a behavioral focus – motive to each of the seven behavioural styles theorized by Akhmerov (Akhmerov 2015), Gavrilova (Gavrilova 2015) and Kuznetsova, Osin (Kuznetsova, Osin 2015) and added an eight style which was given a name "power person". The new structure is similar what the authors had described

earlier. The new aspect is that by observing the added behaviour style, it is possible to make conclusions about the motives and thus – about meaning of life. These eight behavioural styles are:

1. Spiritual search person (inner life) – behavioural focus on achievements;
2. Power person – behavioural focus on gaining power. – A high level of orientation towards the need to be independent, which manifests as domination and control efforts. Difficulty to comply with to the existing structure of society.
3. Home person (family life) – behavioural focus on luck;
4. Business man (business life) – behavioural focus on development;
5. Cosmic person (natural life) – behavioural focus on gaining freedom;
6. Social person (public/social life) – behavioural focus on gaining uniqueness;
7. Playful person (life as a hobby in the spare time) – behavioural focus on organizing life in interesting way;
8. Person who is recovering (life as a living organism) – behavioural focus on rescue.

As a result of the study, a model for the meaning of life was developed – based on the eight significant motives: achievements, power, development, freedom, uniqueness, organizing life in interesting way and rescue, which activates the behavioural style that is directed towards the realization of the potential. The determination of the eight behavioural style and finding a new motive, in comparison with the integrated model, points to the Latvian sample special features or that the model itself is changeable.

The model can be applied as a basis for researching human types, based on the meanings of life in order to be able to correct or predict the behaviour. To further the validity of the developed model, it the model needs to be approved.

It is quite difficult to study the meaning of life, because this phenomenon has a complicated structure from a psychological point of view and for a long time it was at the philosophical level. Starting from the 1980's, along with the development of positive psychology, a transition from pathology to a more balanced outlook on life was made. Therefore, there might be a bias in perception that only by studying crisis we can obtain a list of more reliable and broader behavioural focus.

In therapy, there is a risk that the individual meaning of life analysis will not reveal the underlying problem (the behavioural style), thus the behaviour change will not be possible.

Also, this model might be less effective in those parts of the world, where freedom of choice is openly disturbed and restricted, and where strict social roles are defined. There is a need to continue developing a research to test the created model for the meaning of life.

Conclusion

Within the framework of the study, a model for the meaning of life was developed with motives and behavioural assets. This was done to further develop an assessment method that would make therapy or research process more efficient. The general aim of this article was to describe empirical research about the development of a model

for individual's meaning of life. Thus, in order to achieve this aim, the task of the study was to develop a model for the meaning of a person's life, based on the perceptions from the people of Latvia. This aim was achieved and as a result eight significant motives for the meaning of life was found as behavioural styles, based on the theory of Akhmerov (Akhmerov 2015), Gavrilova (Gavrilova 2015) and Kuznetsova, Osin (Kuznetsova, Osin 2015).

In the existing model, the meaning of life is based on eight significant motives, which activates one of eight behavioural styles that is directed towards the realization of the potential. Behaviour and behaviour-related changes are easier to research by predicting specific factors that could affect behaviour. Therefore, for data to be as representative as possible, it was important to take into account the information that could affect the meaning of the individual's life: age; gender; education level; religiousness; workplace (occupation) (Langle 2002). One of the most important demographic factors that could affect the results of the study, is culture, i.e. if a respondent comes from a country with solid roles and fewer opportunities, the chance for behavioural development might be restricted, in such countries as south and east Asia.

The developed model is intended to be used further to develop a method for analysing the structure of the meaning of individual's life. Individually practicing psychologists and therapists will also be able to use the method by adjusting the behaviour to reach each individual's potential.

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ZINĀTNISKĀ DZĪVE

PROJEKTI UN SEMINĀRI

Viktorija Šipilova

DAUGAVPILS UNIVERSITĀTĒ NORISINĀJĀS ZINĀTNISKI PRAKTISKO SEMINĀRU SĒRIJA VALSTS PĒTĪJUMU PROGRAMMAS EKOSOC-LV PROJEKTA 5.2.3. "LATVIJAS LAUKU UN REĢIONĀLĀS ATTĪSTĪBAS PROCESI UN IESPĒJAS ZINĀŠANU EKONOMIKAS KONTEKSTĀ" IETVAROS

Lauku un reģionālās attīstības procesos notiek paradigmas maiņa, līdz ar to mainās arī izpratne par attīstību veicinošiem faktoriem. Jaunā reģionālās attīstības paradigma aktualizēja terminu "vieds" (*smart*), tādējādi attīstības procesu priekšplānā izvirzot augsti tehnoloģiskās un zināšanu ietilpīgās nozares, augsti kvalificēto darbaspēku un inovatīvo risinājumu ieviešanu. Vienlaicīgi zinātnieki un praktiķi pievērsās maz apdzīvoto un izteikti atšķirīgo lauku teritoriju iespēju meklējumiem veicināt viedu reģionālo attīstību (piem., Naldi et al. 2015). Meklējumi rezultējās izpratnē, ka lokālo problēmu risināšana mūsdienās ir jāsaista ar katras teritorijas unikalitāti un salīdzinošajām priekšrocībām. Jaunās reģionālās attīstības paradigmas ietvaros tas nozīmē viedās specializācijas (*smart specialization*) stratēģijas ieviešanu (piem., Koumparou 2013). Iespējamais risinājums viedās specializācijas ieviešanai mazās lauku teritorijās var tikt atrasts, izmantojot tā saukto "vietā balstītu reģionālo attīstību" (*place-based regional development*), kura paredz katras teritorijas potenciāla realizāciju (McCann, Rodriguez-Pose 2011).

Viedās reģionālās attīstības paradigma un tās ietvaros lietotā viedās specializācijas stratēģija Latvijā līdz šim bija jauns un maz pētīts koncepts. Šī koncepta padziļinātai izpētei, kā arī Latvijas laukiem un reģioniem atbilstošā viedās attīstības modeļa izveidei pievērsās vairāku Latvijas universitāšu un augstskolu zinātnieki Valsts pētījumu programmas 5.2. "Tautsaimniecības transformācija, gudra izaugsme, pārvaldība un tiesiskais ietvars valsts un sabiedrības ilgtspējīgai attīstībai – jaunas pieejas ilgtspējīgas zināšanu sabiedrības veidošanai" (EKOSOC-LV) ietvaros Latvijas Zinātņu akadēmijas akadēmiķes, profesores, Dr.hab.oec. Baibas Rivžas vadībā. Valsts pētījumu programmā



EKOSOC-LV darbs paralēli norisinās desmit dažādos apakšprojektos, no kuriem *viedo lauku reģionu telpiskai attīstībai* pievērsās apakšprojekts 5.2.3. “*Latvijas lauku un reģionālās attīstības procesi un iespējas zināšanu ekonomikas kontekstā*” (vadītāja – akadēmiķe, profesore, *Dr.hab.oec.* Baiba Rivža). Līdz ar Valsts pētījumu programmas EKOSOC-LV realizāciju aktivizējās arī viedas attīstības un to iespēju, īpaši lauku teritorijās, izpēte Latvijā (piem., Bulderberga 2017; Kreslins, Stefenberga 2016; Melbarde, Ore 2016; Rivža, Kruzmetra, Zaluksne 2016; Šipilova, Ostrovska, Jermolajeva, Aleksejeva, Oļehnovičs 2017; Šipilova, Aleksejeva, Ostrovska 2015; Zvirbule, Rivža, Bulderberga 2016; Jermolajeva, Rivža, Aleksejeva, Šipilova, Ostrovska 2017 u.c.).

Viedās specializācijas koncepta attīstība un realizācija lokālajā līmenī prasa aktīvu skaidrošanas procesu un diskusiju ar visām ieinteresētajām pusēm (Poliakaite et al. 2015), tādēļ Daugavpils Universitātē kā EKOSOC-LV dalībniece apakšprojektā 5.2.3. sešu zinātnieku sastāvā (*Dr.paed.* Inta Ostrovska, *Dr.oec.* Viktorija Šipilova, *Dr.oec.* Ludmila Aleksejeva, *Dr.oec.* Elita Jermolajeva (Latvijas Lauksaimniecības universitāte), *Mg.hist.* Dmitrijs Oļehnovičs, *Ph.D.* Dzintra Iliško) laikā no 2015. gada līdz 2017. gadam organizēja zinātniski praktisko semināru sēriju EKOSOC-LV apakšprojekta 5.2.3. ietvaros. Semināru mērķis bija gan informēt, gan prezentēt pētījumu rezultātus, gan arī veicināt zinātnieku, pašvaldību pārstāvju, uzņēmēju un sabiedrības iesaisti diskusijā. Semināru fokusā atradās Latgales reģions.

2015. gada 9. februāris – 1. zinātniski praktiskais seminārs “Viedās attīstības iespējas Latvijas laukos un reģionos”, Daugavpils Universitātē, Parādes iela 1. Pirmā zinātniski praktiskā semināra mērķis, sākot aktīvu darbu Valsts pētījumu programmā EKOSOC-LV, bija informēt zinātniekus, pašvaldību pārstāvjus, uzņēmējus un sabiedrību kopumā par apakšprojekta 5.2.3. mērķiem un plānotajām aktivitātēm, kā arī iepazīstināt ar kopīgu teorētisko pieeju un iespējamo metodoloģisko risinājumu, kas ļautu izvērtēt mūsdienu viedā reģiona attīstības tendences, iespējas un izaicinājumus Latvijā.

Teorētiskās pamatnostādnes un metodoloģiskie risinājumi par viedo reģionālo attīstību uzsver unikāla risinājuma neesamību un holistiskās pieejas nepieciešamību, kura ietver vidi, sabiedrību, ekonomiku, pārvaldību (piem., skat. Ostrovska, Šipilova, Aleksejeva, Jermolajeva, Oļehnovičs (2016) par teorētisko pamatnostādņu apkopojumu).

Valsts pētījumu programmas EKOSOC-LV apakšprojekts 5.2.3. par vienu no mērķiem noteica vairāku zinātņu virzienu apvienošanu (ekonomika, socioloģija, pārvaldība), kas ļautu nodrošināt integrālu skatījumu viedās attīstības stratēģijas izveides procesā (Latvijas Zinātņu Akadēmija 2014). Otrais mērķis koncentrē uzmanību uz ilgtspēju kā lauku un reģionu viedās attīstības pamatu (Latvijas Zinātņu Akadēmija 2014). Ilgtspējīga attīstība paredz līdzsvara sasniegšanu starp vidi, sabiedrību un ekonomiku, kuru saskaņā ar zinātniskiem uzskatiem iespējams panākt, izmantojot viedās specializācijas stratēģiju. Visbeidzot, trešais apakšprojekta 5.2.3. mērķis paredz pētījuma gaitā iegūto zinātnisko atziņu pārnesi praksē (Latvijas Zinātņu Akadēmija 2014), kas zināmā mērā tiek nodrošināts arī caur semināru darbu.

Pirmajā seminārā klātesošos uzrunāja Valsts pētījumu programmas EKOSOC-LV vadītāja – akadēmiķe, profesore, *Dr.hab.oec.* Baiba Rivža. Pirmajā seminārā tika uzsvērta Jaunās reģionālās attīstības paradigmas nozīme Latvijas lauku un reģionu

viedās attīstības nodrošināšanai un Valsts pētījumu programmas EKOSOC-LV ieplānoto darbu šajā virzienā. Valsts pētījumu programmas EKOSOC-LV 5.2.3. apakšprojekta rezultātā tiks piedāvāts lauku un reģionu viedās attīstības modelis, kuru būs iespējams lietot praksē viedās specializācijas stratēģiju izstrādē.

Turpmāko pētījumu par viedās specializācijas attīstību teorētiskais ietvars paredzēja “vietā balstītas reģionālās attīstības” (*place-based regional development*) pieejas izmantošanu. Šīs pieejas pamatnostādnes un pieredze tās lietošanā parāda, ka teritorijas attīstība būtu jābalsta uz konkrēta reģiona/vietas unikalitāti un salīdzinošajām priekšrocībām.

Pētot “vietā balstītas reģionālās attīstības” pieeju Latgales reģiona aspektā, EKOSOC-LV 5.2.3. apakšprojekta dalībnieki no Daugavpils Universitātes (Špilova, Aleksejeva, Ostrovska 2015, 2016) secināja, ka Latgales reģionā aktīvi tiek lietota “vietā balstītas reģionālās attīstības pieeja”. Tomēr būtu nepieciešams ilgtermiņa redzējums un tā iespējamā kombinācija ar “cilvēkos balstītas reģionālās attīstības” (*people-based regional development*) pieeju.

Ilgtermiņīgas attīstības indikatoru sistēma, kura paredz izvērtēt vides, ekonomikas, sociālos un pārvaldības aspektus, ir īpaši nozīmīga lauku teritoriju virzībā uz viedu attīstību, jo kā Ostrovska, Špilova, Aleksejeva, Jermolajeva, Oļehnovičs (2016) uzsver, apkopojot zinātnisko literatūru par ilgtspējīgas attīstības mērījumiem, zinātnieki akcentē ilgtspējas aspektu izpēti un ieviešanu tieši lokālajā līmenī, t.i., reģiona, pašvaldības, pilsētas līmenī. EKOSOC-LV 5.2.3. apakšprojekta ietvaros viedā specializācija un attīstības ilgtspēja tiek vērtēti, balstoties uz četrām dimensijām: Resursi, Iedzīvotāji, Ekonomika, Pārvaldība.

Viedās attīstības novērtēšanas metodes tiek saistītas ar *ESPON Cube* modeli (piem., Copus, Noguera 2010), kurā novērtē reģiona ģeogrāfisko izvietojumu, telpas raksturojumu un attīstības tempu. Šāda pieeja ļauj atsvaidzināt stereotipus par lauku teritorijām. Kā viens no izaicinājumiem šādas novērtēšanas pieejas izmantošanai lauku teritorijās ir statistisko datu ierobežojumi, ko 5.2.3. apakšprojekta dalībnieki risināja, organizējot nepietiekamo statistisko datu vākšanu un apkopošanu.

Semināra darbā piedalījās Daugavpils pilsētas un novada domes pārstāvji, Latgales Plānošanas reģiona pārstāvji, Daugavpils Universitātes vadība, Daugavpils Universitātes Sociālo zinātņu fakultātes, Humanitāras fakultātes, Izglītības un vadības fakultātes, kā arī Humanitāro un sociālo zinātņu institūta pārstāvji.

2015. gada 9. februāra 1. zinātniski praktiskā semināra “Viedās attīstības iespējas Latvijas laukos un reģionos” rezultātā aizsākās reģionālajā attīstībā iesaistīto pušu diskusijas Valsts pētījumu programmas EKOSOC-LV apakšprojekta 5.2.3. ietvaros Latgales reģionā un sniegta plaša informācija par nepieciešamību un iespējām pētīt reģionālu un lauku attīstību Jaunās reģionālās attīstības paradigmas kontekstā.

2016. gada 22. aprīlis – 2. zinātniski praktiskais seminārs “Viedās attīstības iespējas Latvijas laukos un reģionos”, Daugavpils Universitāte, Parādes iela 1. Otrais zinātniski praktiskais seminārs “Viedās attīstības iespējas Latvijas laukos un reģionos” turpināja iesākt darbu reģionālajā attīstībā iesaistīto pušu informēšanā un diskusijas nodrošināšanā, kā arī prezentēja 5.2.3. apakšprojekta norises gaitu un kvantitatīvos starprezultātus par Latgales reģiona viedo attīstību. Viens no semināra pamatuzde-

vumiem bija aktīvi iesaistīt ekspertus no zinātnes, uzņēmējdarbības, pašvaldības un valsts kvalitatīvajā viedās attīstības novērtējumā.

2. zinātniski praktiskā semināra mērķis bija iepazīstināt dažādu jomu ekspertus un sabiedrību kopumā ar 5.2.3. apakšprojekta kvantitatīvajiem rezultātiem uz Latgales reģiona piemēra, uzsverot, ka 5.2.3. apakšprojekta zinātnieki pirmo reizi Latvijā ir aprēķinājuši Viedās attīstības indeksu, turklāt, Viedās attīstības indeksa aprēķināšana tika veikta visiem Latvijas reģioniem un novadiem. Semināra darbs bija arī labs veids, kā pastāstīt par statistiskās datu bāzes paplašināšanu lauku teritorijām.



Valsts pētījumu programmas EKOSOC-LV apakšprojekta 5.2.3. dalībnieki no Daugavpils Universitātes un Latvijas Lauksaimniecības universitātes – 2. zinātniski praktiska semināra “Viedās attīstības iespējas Latvijas laukos un reģionos” darba moments. Foto: EKOSOC-LV arhīvs

Viedās attīstības indekss kā kvantitatīvais viedās attīstības indikators, kas parāda teritorijas viedās attīstības līmeni, pēc būtības ir integrāls rādītājs, kas ietver četras dimensijas – Resursi, Iedzīvotāji, Ekonomika un Pārvaldība, tādējādi ievērojot viedās specializācijas koncepta īpatnības (piem., Ostrovska, Aleksejeva, Šipilova, Jermolajeva, Iliško, Oļehnovičs 2016).

Viedās attīstības indeksa vērtības Latgales reģionam atklāja dominējošās dimensijas Latgales reģiona viedajā attīstībā – Iedzīvotāji un Resursi. Kopumā veikto aprēķinu rezultātā iegūto datu analīze par Latgales reģionu atklāja salīdzinoši vienkāršu viedo attīstību starp Latgales reģiona novadiem, tomēr bija arī jāatzīmē, ka tā ir pieticīgāka nekā citos Latvijas reģionos un novadi ar augstāku viedās attīstības līmeni attīstās lēnāk nekā novadi ar zemāku viedās attīstības līmeni (Šipilova, Ostrovska, Jermolajeva, Aleksejeva, Oļehnovičs 2017). Latgales reģionā ir vērojama sociāla kapitāla mazināšanās un dabas resursu izmantošana, pārsvarā radot zemu pievienoto vērtību (piem., Latgales plānošanas reģions 2010a, 2010b), kas nav īpaši labvēlīgi, ņemot vērā, ka

dimensijas Iedzīvotāji un Resursi dominē reģiona viedajā attīstībā. Vienlaicīgi tas parāda jomas aktīvai darbībai un situācijas uzlabošanai.

Semināra ietvaros tika organizēta ekspertu aptauja, kuri pārstāv valsts sektoru, uzņēmējdarbību un zinātņi, izmantojot AHP (*Analytic Hierarchy Process*) metodi, kas nodrošinātu kvalitatīvu viedās attīstības vērtējumu un palīdzētu izprast kvantitatīvās analīzes rezultātus. Ekspertiem tika jautāts par viedās attīstības četrām dimensijām un to nozīmi Latgales reģiona attīstībā, kā arī par iedzīvotāju, pašvaldības, valsts un ES ietekmi, tādējādi nosakot dominējošos ietekmes faktorus, t.i. iedzīvotāju iniciatīvu un aktivitāti vai institucionālo vidi. Kvalitatīvā novērtējuma rezultātu prezentācija tika apsoluta nākamo semināru darba kārtībā.

2. zinātniski praktiskā semināra darbā piedalījās gan pašvaldību un Saeimas pārstāvji, gan uzņēmējdarbības pārstāvji, gan zinātnes pārstāvji.

2016. gada 27. jūlijs – izbraukuma seminārs par trim Valsts Pētījumu programmas EKOSOC-LV 5.2.3, 5.2.8., 5.2.9. projektiem Daugavpils Universitātes mācību bāzē “Ilgas”. Nākamais Valsts pētījumu programmai EKOSOC-LV veltītais seminārs Daugavpils Universitātē norisinājās plašākā formātā, apvienojot trīs apakšprojektus, kuri ietilpst Valsts pētījumu programmas EKOSOC-LV *Telpiskās attīstības* blokā. Šo semināru organizēja arī Daugavpils Universitātes pārstāvji no EKOSOC-LV apakšprojekta 5.2.9. profesores, *Dr.biol.* Ineses Kokinas vadībā.

2016. gada 27. jūlijā Daugavpils Universitātes mācību bāzē “Ilgas” sapulcējās apakšprojekta 5.2.3. “Latvijas lauku un reģionālās attīstības procesi un iespējas zināšanu ekonomikas kontekstā”, 5.2.8. “Kultūrvides attīstības, vides daudzveidības saglabāšanas un urbanizācijas procesi Latvijas līdzsvarotas attīstības kontekstā” un 5.2.9. “Sociālās apziņas izmaiņu ietekme uz ekosistēmas pakalpojumu ilgtspējīgu nodrošinājumu” pārstāvji, lai kopīgi apspriestu viedo reģionu telpiskās attīstības tendences un iespējas Latvijā. Telpiskās attīstības bloks koncentrē uzmanību uz viedā reģiona pazīmju noteikšanu, ilgtspēju ietekmējošo pazīmju noteikšanu un viedās uz ilgtspēju vērstas attīstības iespējamību Latvijā īpaši aizsargājamās dabas teritorijās. Semināra uzdevums bija apspriest trīs apakšprojektos paveikto un noteikt turpmāko darba kārtību kopīga mērķa – viedā reģiona ilgtspējīgas attīstības veicināšanas iespēju noteikšana – sasniegšanai.



Valsts pētījumu programmas EKOSOC-LV un tās apakšprojekta 5.2.3. vadītāja akadēmiķe, profesore, Dr.hab.oec. Baiba Rivža Daugavpils Universitātē sniedz interviju reģionālai televīzijai.
Foto: EKOSOC-LV arhīvs



Valsts pētījumu programmas EKOSOC-LV apakšprojektu 5.2.3., 5.2.8., 5.2.9. pārstāvji Daugavpils Universitātes mācību bāzē "Ilgas" izbraukuma semināra laikā.
Foto: EKOSOC-LV arhīvs

5.2.3. apakšprojekta pārstāvji izbraukuma semināra laikā koncentrējās uz viedā reģiona iezīmēm ar uzsvaru uz atlasītajām padziļinātās izpētes teritorijām. Šajā tikšanās reizē tika arī prezentēti viedās attīstības kvalitatīvā novērtējuma rezultāti. Kopumā, jāatzīmē, ka 5.2.3. apakšprojekta pētījuma rezultāti ļauj optimistiski vērtēt Latgales reģiona lauku teritoriju spējas būt viediem attīstībā, un īpaši tas izpaužas uzņēmējdarbības tendencēs. Piemēram, uzņēmējdarbības pieaugums Latgales reģionā augsto un vidēji augsto tehnoloģiju nozarēs, kā arī zinātņu ietilpīgajās nozarēs apskatāmajā laika posmā no 2009. gada līdz 2015. gadam bija straujāks nekā uzņēmējdarbībā kopumā. Turklāt, tas ir vērojams ne tikai Latgales reģionā, bet arī citos reģionos. Piemēram, Rivza, Kruzmestra, Zaluksne (2016) uz Zemgales reģiona piemēra arī apzināja pozitīvas viedās attīstības tendences un parādīja, ka Jaunās reģionālās attīstības paradigmas iezīmēm var atbilst arī mazāk apdzīvotas un attīstītas lauku teritorijas, kurās notiek straujāks augsti tehnoloģisko un zināšanu ietilpīgo uzņēmumu skaita pieaugums nekā uzņēmumu skaita pieaugums kopumā. Tas liecina par samērā augstu un veiksmīgu reģionu iedzīvotāju iesaistīšanos uzņēmējdarbībā. Jautājumā par iedzīvotāju aktivitātes ietekmi uz viedo attīstību Latgales reģionā, 2. zinātniski praktiskā semināra "Viedās attīstības iespējas Latvijas laukos un reģionos" laikā aptaujātie eksperti atzīmēja, ka spēja kļūt par uzņēmēju ir starp viedo attīstību noteicošajiem faktoriem.

Izbraukuma seminārs, kurš apvieno starpdisciplinārus Valsts pētījumu programmas EKOSOC-LV apakšprojektus viedā reģiona telpiskās attīstības izpētei vēlreiz apliecināja, ka jautājumi par attīstības ilgtspēju ir jārisina ar holistisku pieeju.

Tas tika darīts arī vēlāk, kad 2016. gada 28. novembrī Daugavpils Universitātē norisinājās *Fokusgrupas diskusija "Kā saimniekot īpaši aizsargājamās dabas teritorijās (ĪADT)?"* (organizēja 5.2.9. apakšprojekta vadītāja – profesore, Dr.biol.

Inese Kokina), kuras ietvaros Valsts pētījumu programmas EKOSOC-LV apakšprojekts 5.2.9. "Sociālās apziņas izmaiņu ietekme uz ekosistēmas pakalpojumu ilgtspējīgu nodrošinājumu" un apakšprojekts 5.2.3. "Latvijas lauku un reģionālās attīstības procesi un iespējas zināšanu ekonomikas kontekstā" kopīgi apsprieda viedā reģiona telpiskās attīstības tendences un izaicinājumus starpdisciplinārajā skatījumā, t.i., apvienojot dabas zinātnes un sociālās zinātnes, aicinot diskusijā piedalīties ieinteresētas puses.

Starpdisciplināra pieeja reģiona attīstības izpētē Daugavpils Universitātē tika aktualizēta arī 2017. gada 28. februārī *Humanitāro un sociālo zinātņu institūta* rīkotajā 2. zinātniskajā seminārā "Latgales pagātne, tagadne, nākotne: starpdisciplināritātes pieredze un perspektīvas" (organizēja profesore, Dr.theol. Anita Stašulāne), kura ietvaros tika prezentēti EKOSOC-LV apakšprojekta 5.2.3. pētījumu starprezultāti par Latgales reģiona viedo attīstību un spriests par reģionu humanitāro un sociālo zinātņu kontekstā.

2017. gada 4. oktobrī notika 3. zinātniski praktiskais seminārs "Latgales reģions ceļā uz viedu attīstību: EKOSOC-LV projekta rezultāti". 5.2.3. apakšprojekta realizācijas gaitā iegūtie kvantitatīvie un kvalitatīvie viedo attīstību raksturojošie rādītāji par Latgales reģionu, kā arī uzņēmējdarbības tendenču analīze lauku teritorijās zināšanu ekonomikas kontekstā ļāva zinātniekiem ar jaunu skatu un atbilstoši Jaunās reģionālās attīstības paradigmas īpatnībām novērtēt Latgales reģiona lauku teritoriju attīstību un attīstības potenciālu.

Viena no galvenajām atziņām ir attiecināma uz faktu, ka ekonomiski vājāk attīstītajā Latgales reģionā notiek viedā attīstība, kā arī attīstās zināšanās balstītas ekonomikas segmenti. Iegūto kvantitatīvo datu kompleksā analīze parādīja, ka galvenie viedās attīstības virzītāji Latgales reģionā ir reģiona Iedzīvotāji un reģionā pieejamie Resursi (Špilova, Ostrovska, Jermolajeva, Aleksejeva, Oļehnovičs 2017), kā arī izteikts salīdzinājumā ar kopējām uzņēmējdarbības pieauguma tendencēm uzņēmējdarbības pieaugums augsti tehnoloģiskajās un zināšanu ietilpīgajās nozarēs, kaut gan šīs tendences saikne ar reģiona viedo attīstību pagaidām ir vāji izteikta (Jermolajeva, Rivža, Aleksejeva, Špilova, Ostrovska 2017; Špilova 2017). Neskatoties uz to, ka kvantitatīvais novērtējums parādīja samērā pieticīgu dimensijas Ekonomika ieguldījumu Latgales reģiona viedajā attīstībā, tomēr tai ir piešķirta augsta nozīme kvalitatīvā novērtējuma ietvaros ekspertu skatījumā.

Saskaņā ar kvalitatīvo viedās attīstības novērtējumu, Latgales reģiona stūrakmeņi viedās attīstības nodrošināšanā ir dimensijas Iedzīvotāji un Ekonomika. Vērtējot dimensijas Iedzīvotāji ietekmi uz Latgales reģiona viedo attīstību, aptaujātie eksperti atzina, ka iedzīvotāju iniciatīvām un aktivitātēm ir liela nozīme reģiona viedās specializācijas nodrošināšanā, bet izteikts pārsvars ir vietējās nozīmes institucionālajai videi. Seminārā ar savu pieredzi dalījās arī uzņēmēji, kuri veiksmīgi darbojas Latgales reģionā. Uzņēmēju skatījumā iedzīvotāju iniciatīva un aktivitāte ir būtisks veiksmīgas uzņēmējdarbības priekšnosacījums.

Jāatzīmē, ka dimensija Iedzīvotāji izteikti dominē Latgales reģionā gan kvantitatīvajā, gan kvalitatīvajā vērtējumā, turklāt to var attiecināt uz Latgales reģiona viedās attīstības īpatnībām, jo citos Latvijas reģionos dominē dimensijas Ekonomika un Pārvaldība.



3. zinātniski praktiskā semināra “Latgales reģions ceļā uz viedu attīstību: EKOSOC-LV projekta rezultāti” darba momenti.

Foto: EKOSOC-LV arhīvs

Kā negatīvu tendenci Latgales reģiona viedajā attīstībā iespējams atzīmēt atšķirības starp reģiona novadiem un samērā augstu novadu skaitu, kuros Viedās attīstības indekss sasniedz negatīvu vērtību. Tomēr Viedās attīstības indeksa maksimālās vērtības arī parāda, ka tik viennozīmīgi nelabvēlīga attīstība Latgales reģionā nav novērojama un viedā attīstība Latgales reģionā var tikt uzskatīta par salīdzinoši vienmērīgu, jo starpība starp maksimālo un minimālo indeksa vērtību nav liela.

Pētījuma rezultāti piedāvā iespējamo metodoloģisko risinājumu viedās attīstības novērtējumam lauku teritorijās Latvijā, savukārt, iegūta zinātniskā pieredze var tikt izmantota praktisko uzdevumu risināšanā Latgales reģiona novadu līmenī. Semināru sērija, kura norisinājās Daugavpils Universitāte Valsts pētījumu programmas EKOSOC-LV apakšprojekta 5.2.3. ietvaros parādīja, ka iesaistīt diskusijās visas ieinteresētās puses, kā arī starpdisciplināri pieiet jautājumu risināšanā par teritorijas viedu attīstību ir pareizais darba virziens. Ieinteresēto pušu iesaistīšana diskusijās semināru norises laikā un pētījuma posmu rezultātu apspriešana parādīja, ka viedās attīstības koncepts Latgales lauku teritorijās ir nepieciešams un tiek izprasts, kā arī tiek un tiks praktizēts atšķirīgajās lauku teritorijās Latgales reģionā.

Šis darbs ir izstrādāts valsts pētījumu programmas
5.2. "Tautsaimniecības transformācija, gudra izaugsme, pārvaldība un tiesiskais
ietvars valsts un sabiedrības ilgtspējīgai attīstībai – jaunas pieejas ilgtspējīgas
zināšanu sabiedrības veidošanai (EKOSOC-LV)" ietvaros.



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AUTORU IEVĒRĪBAI

Žurnālā “Sociālo Zinātņu Vēstnesis” tiek publicēti oriģināli zinātniskie raksti sociālajās zinātnēs (socioloģijā, politikas zinātnē, ekonomikā, sociālajā psiholoģijā, tiesību zinātnē), kā arī zinātnisko pētījumu recenzijas, konferenču apskati, informācija par zinātnisko dzīvi. Redakcija rakstus pieņem angļu, latviešu un krievu valodā. Rakstu problemātika nav ierobežota.

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