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EDITORIAL

It is a pleasure for the Editor-in-Chief to introduce the Volume 9, issue 1 of the online journal, which offers a possibility for the international community of professionals working in the fields of regional and rural development or tourism to exchange their ideas and research results or practical achievements. As seen from the previous issues, Deturope is an online journal with open access to the interested community of researchers and practitioners. The Editorial Board of the journal is made up of Czech, Hungarian and Serbian members. The papers are published in English and German as the two main tools of international communication in the regions, but the journal intent to support national languages as well, allowing the publication of papers in Czech, Hungarian and Serbian – with English summaries. The strict double-blind review process coordinated by the three national editorial boards and the joint scientific boards of the journal guarantees the quality and professional value of published papers. The papers can be read on the homepage of the journal, or downloaded as printable PDF files. Authors wishing to publish their results can also find the guidelines and contact addresses in the homepage. According to the decision of the editorial board made in May 2010, we will publish at least three issues every year with at least six essays in each. For preserving the strict formal requirements from earlier and strengthening the institution of reviewing, we definitely insist on providing a correct English summary beside every paper written in Czech, Hungarian and Serbian. The editorial board wishes to ensure the presentation of the articles in the SCOPUS database, which is one of the greatest and most important abstract and citation databases of peer-reviewed literature. To achieve that, the journal applied for evaluation. Shortly we will also establish contacts with other databases for the same purpose. In order to strengthen national languages, we strongly recommend the Czech, Hungarian and Serbian authors to attach a summary in their native language as well when they publish essays in English or German.

Sándor Somogyi

The Editor-in-Chief

Original scientific paper

FOGLALKOZTATÁSI ÉS JÖVEDELEMTERMELÉSI PROBLÉMÁK VIZSGÁLATA A BALATONI TURISZTIKAI DESZTINÁCIÓBAN

PROBLEMS WITH EMPLOYMENT AND INCOME GENERATION IN THE LAKE BALATON TOURISM DESTINATION

Szilveszter VALENTIN[a]

[a] 8315 Gyenesdiás Vörösmarty utca 46. Hungary, Phone: +36 30931-4494, email: valentinszilveszter@upcmail.hu

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Absztrakt

Magyarországon a foglalkoztatáspolitika 2010-től kezdődően merőben új alapokra helyeződött át az 1998 és 2002 közötti időszakhoz képest. Az országgyűlési választások után új struktúrában kezdett hozzá a az újonnan megalakuló kormányzati kabinet a szakképzés és a foglalkoztatáspolitika átalakításához. Adeklarált cél az volt, hogy 10 éven belül, vagyis 2020-ra Magyarországon a foglalkoztatottak száma elérje a 4,7 millió főt.

Az országos munkaerőpiacon belül azonban vannak olyan térségek, amelyek egyedi munkaerő felvevő piacként jelennek meg és egyedi feltételekkel foglalkoztatják a munkaképes lakosságot. Ilyen térség az ország második legnagyobb idegenforgalmi desztinációja, a Balatoni Kiemelt Üdülőkörzet. A 179 településből álló térség munkaerő igényének többsége a közvetlen Balaton-parttal rendelkező 43 településen jelenik meg szezonális jelleggel az általában májustól szeptemberig működő vendéglátó, illetve idegenforgalmi egységeknél. Viszont az elmúlt években többször hallhatjuk, hogy a vendéglátósok nem találnak munkaerőt, hozzátéve, hogy már a szakképzettség nem is elvárás, hiszen a szakemberek ebben az ágazatban is előszeretettel használják ki az Európai Unió adta szabad munkaerő mozgás lehetőségét és mennek el dolgozni külföldre, főleg az Ausztriába téli szezonokba üzemelő síparadicsomokba, illetve Londonba, ahol egész éves állást találnak, amivel a hazai fizetés többszörösét kereshetik meg. A vendéglátáson kívüli ágazatokban a Balaton térségében is hasonló mutatókat láthatunk, mint az országban más helyütt. Azonban fontos kiemelni, hogy az idegenforgalom munkaerőpiaca igen átformálja a régió munkaerőpiaci viszonyait. Dolgozatomban azt vizsgálom, hogy a régió partközeli településein 2011-ben hogyan alakultak a foglalkoztatási mutatók, és ezek mekkora jövedelem generálására tették képessé a régiót, A jövedelemtermelő képességet az önkormányzatoknál maradó SZJA alapok, és ezek egy foglalkoztatottra jutó értéke alapján vizsgálom, ez utóbbi lehetőséget teremt a régiómás idegenforgalmi térségekkel való összehasonlítására is.

Kulcsszavak: munkaerő, foglalkoztatottság, Balaton, vendéglátás, turizmus

Abstract

Since 2010 employment policies shifted greatly compared to the time between 1998 and 2002. After the elections the new government started to revise the policies concerning education and employment. The goal was to raise the number of employed people in Hungary to 4.7 million by the year 2020. In the national labour market there are areas that are unique and employ labour under special circumstances. Such an area is the Lake Balaton Resort Area, the 2nd largest tourist destination in Hungary. The Lake Balaton Resort Area consists of 179 settlements but most of its workforce comes from 43 settlements which have direct access to Lake Balaton. Most of the jobs are seasonal, lasting from May to September. Nowadays we hear from entrepreneurs that they are unable to find workers even though qualifications are not required anymore, because many skilled workers use the opportunities provided by the European Union, and go abroad to work, the primary target being Austria where they work in ski resorts during the

winter, or London, where they can find full time jobs and earn wages 5 times that in Hungary. This is the case for the whole region of Balaton even outside the tourism sector. It is important to underline that the labour market in tourism influences the employment situation in all sectors of the region. In this paper I wish to examine how employment rates changed in the lakeshore settlements of the region in 2011, and how much income was generated by tourism employment around the lake. I examine the income generating capacity by the share of personal income tax that local government kept for themselves, and by the value of the income tax per employee, this latter indicator allowing the comparison of the Lake Balaton area to other tourism destinations in Hungary.

Keywords: labour force, employment, Lake Balaton, hospitality, tourism

SZAKIRODALMI ÁTTEKINTÉS

Az idegenforgalom mérésének Magyarországon nincsenek hosszú időtávra visszavezethető kordokumentumai. Ennek oka, hogy még a 20. század elején is az ország turisztika és vendéglátó ágazata nagyon szűk körű és kezdetleges volt. Az útikönyvírók már az 1800-as évek vége felé Magyarország ezen belül a Balaton kiváló természeti adottságait hangsúlyozzák, azonban hosszasan leírják a vendéglátás hiányára vonatkozó infrastrukturális észrevételeiket (Paget, 1839). A fürdőélet és a hozzá kapcsolódó vendégforgalom a XVIII. században kezdődött Balaton környékén, azonban kezdetben nem a tó vize, hanem aparton fakadó szénsavas források voltak a fő vonzerők (Rátz, 1999). Az első világháború megakasztotta a vendégforgalom növekedését, 1919 után azonban a tengerpart elvesztése és a népszerűbb fürdőhelyeknek a határokon kívül való kerülése miatt fellendült a Balaton turizmusa (RÁTZ, 1999), az arisztokrácia felfedezi magának a térséget. A békebeli idők Balaton-ideálja nem tartott sokáig, hiszen a II. világháború ideje alatt a fürdőhelyek többsége megsemmisül. A háború után hamar, már 1948-ban újraindult a turizmus,ez azonban sok szempontból különbözött a korábbi balatoni üdüléstől. Nagy jelentőségűvé vált a szociálturizmus, amely az 1980-as évek közepéig a belföldi turizmus jelentős részét adta. A szakszervezeti és vállalati üdülő-beruházásoknak, valamint a magánüdülők építésének köszönhetően az 1949 és 1960 közötti évtizedben közel két és félszeresére nőtt a vendégek száma (Rátz, 1999). A korszak turisztikai mérési adatait jól összefoglalja a VÁTI (1983, idézi: Rátz, 1999) tanulmánya.

Az 1990-es években még csak a szálláshely, vendéglátás ágazatot mérték külön, azonban hamar kiderült, hogy a szektor ennél összetettebb. Nemzetközi példára alapozva, a GDP számítás logikáját alapul véve Magyarország csak 2004-ben vezette be a Turizmus szatellit számlarendszert, amely az ágazat minden területét figyelembe veszi és közli az idegenforgalom teljesítménymutatóit (Tóth, 2009; Vécsei, 2006). A 2004-es adatok megjelenése (KSH,2006) után a következő, 2014-ben megjelent kiadvány a 2008-2009-es év adatait, a 2015-ben publikált két dokumentum a 2010-2011-es, illetve a 2012-es adatokat

dolgozta fel, majd a 2017-ben megjelent kiadvány a 2013-as adatokat elemezte. A Balaton-parti települések társadalmi helyzetképét, amely a 2011-es állapotot méri fel a statisztikai hivatal 2014-ben adta ki. (KSH, 2014b)

A tópart társadalmi és gazdasági helyzetét részletesen elemzi (Csite, 2001), a kistérségi szintű jövedelemszámítások módszerét mutatja be Csite és Németh (2007), de tudomásom szerint olyan dolgozat nem született, amely a munkavállalók jövedelemtermelő képességét vizsgálná a személyi jövedelemadó és a foglalkoztatottak szemszögéből.

BEVEZETÉS

Az utóbbi időben egyre több szó esik a Magyarország második legnagyobb idegenforgalom desztinációjának, a Balaton foglalkoztatási problémáiról.

A dolgozat célja, hogy bemutassa a Balaton parti települések foglalkoztatási és jövedelmezőségi problémáit. A vizsgálat alapja a foglalkoztatottak által befizetett személyi jövedelemadó állam által az önkormányzatoknak átengedett része. A kutatás végén összehasonlító jelleggel megvizsgáltam a többi magyarországi turisztikai desztináció, valamint a balatoni megyék adatait is.

A kutatás célja és módszerei

A vizsgálat módszerei és ezzel együtt eredeti céljai a dolgozat megírása közben változtak.A kutatásban az eredeti elképzelések szerint a balatoni idegenforgalmi munkaerőpiac helyzetképét szerettem volna vizsgálnikívántam felvázolni és értékelni. Azonban a kutatás közben több problémával találkoztam. Először is azzal a furcsa ténnyel kerültem szemben, hogy bár a Balaton az ország második legnagyobb idegenforgalmi desztinációja, mivel a térség nem egyetlen közigazgatási régió, így gazdasági ágazat elemzése regionális szintekre lebontva az állami hivataloknál, hatóságoknál például a Központi Statisztikai Hivatalnál, vagy a Nemzeti Foglalkoztatási Szolgálatnál nem történik meg. A regionális szervezetek például a Balatoni Fejlesztési Tanács által létrehozott Balatoni Integrációs Nonprofit Kft. készít elemzéseket, de több évnyi csuszással készülnek el az adatok beszerzésének nehézségei miatt.

Emiatt a fenti problémából kiindulva elmondható, hogy a turizmus gazdasági ágazaton belül a munkaerőpiac sincs vizsgálva, elemezve, amely az elmúlt pár év regionális turisztikai és kereskedelmi munkaerőhiányát tekintve eléggé ellentmondásosnak tűnhet.

A kutatás során a BKÜ partmenti településeinek kettő problémakörből kiindulva azonban a munka erőpiaci helyzetét, és a foglalkoztatottak jövedelemtermelő képességét kívántam vizsgálni. Az egy foglalkoztatottra jutó jövedelem, tulajdonképpen a munkatermelékenységet

jellemzi, így a versenyképesség fontos indikátora. Mivel a helyi, települési szinteken GDP-t nem lehet mérni, így a jövedelem helyett gazdaságpolitikai oldalának vizsgálata mellett döntöttem, amely figyelembe veszi a települési személyi jövedelemadót (SZJA), pontosabban annak az önkormányzatoknál maradó átengedett részét viszonyítottam valamint a helyben foglalkoztatottak számához településeként. 2011-ben ez a helyben maradó rész az összes SZJA bevétel 40 %-a volt, így belőle lehet következtetni a teljes SZJA-ra, és az annak alapját képező jövedelemre .

Anyag és módszer

A módosult vizsgálati módszerek következményeként a következő célok és mutató számokkal vizsgáltam a balatoni munkaerőpiacot. Az eredeti elképzelésekkel szemben a foglalkoztatási helyzetkép helyi gazdaságpolitikai oldaláról sikerült megközelíteni a témát. Ennek egyik alapja a személyi jövedelemadónak (továbbiakban: SZJA) a települési önkormányzatok részére átengedett része. Ezen felül elemzésem következő alapja a településeken foglalkoztatott személyek száma. A kettő mutató hányadosaként kapott arányszám az elemzésem fő mutatója.

A vizsgálat során azonban az időbeliség korlátaiba is beleütköztem, mindkét adathalmaz esetében. Ennek egyik oka, hogy a KSH a szokott két évnyi csúszással szemben foglalkoztatottsági adatokat településsoros bontásban legutóbb a 2011-es népszámlálás idején mért (munkanélküliségi adatokat a hivatal ennél későbbi időpontokban is de ez a vizsgálat szempontjából irreleváns).

Az önkormányzatoknak átengedett SZJA alapnál azonban az önkormányzatok hanyagsága is közrejátszik az adathiányosságnál. Ezen adathalmaznál is a legutolsó fellelhető adatok 2011-ből származnak – bár megjegyezendő, hogy a KSH Területi Statisztikai modul keresője 2016-ig hozza a választási lehetőséget, annak ellenére, hogy a forrásmegosztás a központi és települési költségvetés tekintetében között az SZJA tekintetében 2013-től megszűnt. Vagyis az önkormányzatok ettől az évtől kezdve nem részesülnek a SZJA befizetésekből, bár a feladatfinanszírozási modellben továbbra is a településen maradt az jövedelemadó kis mértéke, amelyet az önkormányzatok nem mutatnak ki külön. Vagyis elmondható, hogy így a vizsgálati adatsokaság 6 évvel ezelőtti adatokat tartalmazza. Ennek ellenére elmondható, hogy a vizsgálat szempontjából nem releváns, hogy 2011-es adatokkal dolgoztam. Ennek egyik fő oka a munkaerőpiac legnagyobb torzító tényezője, a szociális közfoglalkoztatás (ismertebben: közmunka program) 2011. január 1-től került bevezetésre, vagyis az adatfelvétel időpontjában már létezett jelenlegi formájában. A másik tényező a foglalkoztatottak száma az elmúlt hat évben a mikró régióban nem változott számottevő mértékben, változás csak a foglalkoztatott

csoport összetételében történhetett. Ugyancsak ez mondható, el a fizetési összegekről is, hiszen balatoni lakosként konstatálom, hogy évről évre a fizetések nem vagy csak csekély mértékben változnak (az idegenforgalomban a szezonális dolgozók bére az elmúlt 8-10 évben szinte változatlan).

Az időbeliségen kívül azonban el kell mondani, hogy a területi rendszeren belül is történtek csekély mértékű változások, mivel a közigazgatási rendszer átszervezése mellett, amely bevezette a járási rendszert, a Balaton partján területszervezési változások is történtek. Az első ilyen 2013. január 1-től lépett életbe, amikortól is a Balatonvilágos Veszprém megyétől leválva Somogy megyéhez tartozik. A másik eset 2014 októberétől lépett hatályba, amikor is Balatonkenesétől leválva új, független önkormányzattá lépett elő Balatonakarattya. E kettő eset azonban érdemben nem befolyásolja az elmúlt hat év munkaerő piaci adatait, mivel 2011-ben Balatonvilágoson mindösszesen 503 fő dolgozott, amely a Balaton-parti településeken dolgozó személyek kevesebb, mint 1 %-át teszi ki. Balatonakarattya esetében ez a mérték bőven egy százalék alatti tartományban marad, hiszen az új község összlakossága 2015-ban 833 fő volt, amely a Balaton-parti települések lakónépességének csupán 0,6 3%-át teszi (foglalkoztatottsági adat nem áll rendelkezésre Balatonakarattya tekintetében.)

Az előbbiekben felvázolt tényezők mentén a végső arányszámokat különböző földrajzi és közigazgatási egységek köré rendeztem. Elsőként a Balaton egészét elemeztem, míg második körben az északi és déli partját különböztettem, meg. Ez utóbbi, egyrészt a közlekedési és földrajzi adottságok mentén lehet érdekes, továbbá azért is, mert tudjuk, hogy évtizedek óta a kettő part, mint turisztikai desztinációt közötti választás a társadalmi rétegződés mentén alakult ki. Az északi parton Balatonfüred, Tihany, és Keszthely térségébe az arisztokrácia, a polgárság, a 20. században pedig a felső 10 000 köreiből érkezett a legtöbb vendég, addig a déli partot főleg a munkásréteg tudhatta magáénak, ezen a részen sok „kis ember” rendelkezett és rendelkezik ma is nyaralóingatlannal. Ezek a rétegeződések azért lényegesek, mert a munkaerő piaci bérekre is rányomják a bélyegüket a kereskedelmi és szolgáltatási árakból adódóan.

Másik irány a három megye összevetése volt. El kell mondani, hogy a déli part teljes mértékben Somogy megyéhez, az északi parti településeken Veszprém és Zala megye osztozik. Az utolsó etapban a települések közti különbségekre szeretném felhívni a figyelmet. Az elemzéseket mind a foglalkoztatottak száma, a SZJA alap, és az egy főre jutó SZJA alap hányad tekintetében elvégeztem. ha különböző adatok összevetése közben érdekes összefüggésekre bukkantam.

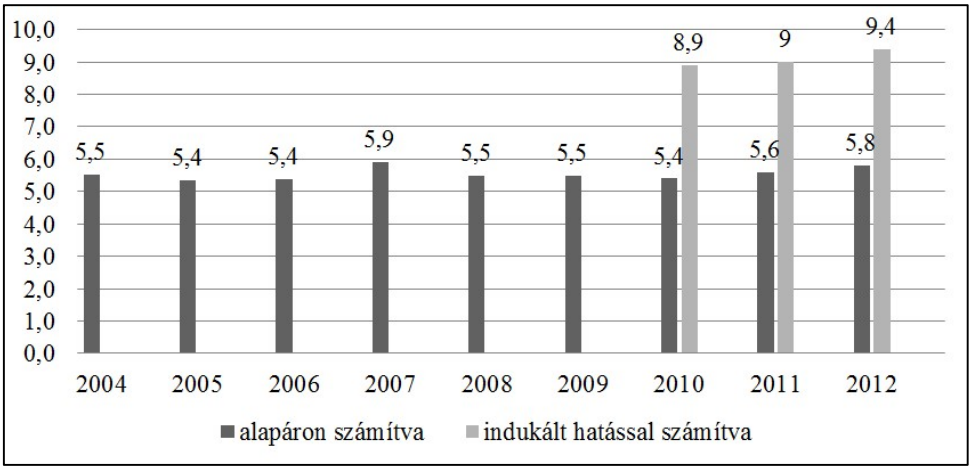
A vizsgálat utolsó mozzanataként pedig összehasonlító elemzést készítettem, a balatoni átlag adatokat vetettem össze Magyarország idegenforgalmi desztinációival, a Velencei-tó, a

Fertő-tó, a Tisza-tó, és a Duna-kanyar egyes településeivel. Ezt követően pedig a Balatont érintő három megye adatát hasonlítottam össze és ezek után értékeltem a balatoni munkaerőpiac 2011-es gazdaságpolitikai helyzetét.

A turizmus szerepe a nemzetgazdaságban

A turizmus szerepe a nemzetgazdaságban az utóbbi években növekvő tendenciát mutat. Az ágazat növekedésének mértéke több okra is visszavezethető. Ide sorolhatjuk, a Széchenyi Pihenő Kártya, az Erzsébet-utalvány bevezetését, amely a gyermekek, a rászoruló családok, és az idős emberek számára is lehetőséget teremt pár napos kikapcsolódásra alacsonyabb jövedelmek mellett is. A nemzetgazdaság teljesítményének legfőbb mérőszámának a GDP-t (bruttó hozzáadott értéket) tekintjük. A GPD-n belül nincs közvetlen nemzeti számla az idegenforgalomnak, hanem úgynevezett Turizmus szatellit-számlarendszert használják, amely az idegenforgalom összes részterületének bevételeit számba veszi (KSH, 2006).

1. ábra A turisztikai ágazat teljesítménye a nemzeti GDP-hez viszonyítva (%)



Forrás: KS, 2006; KSH,2014, KSH, 2015; KSH, 2015b

Azonban érdekes megemlíteni a közvetett adatokat is. Ezeket a multiplikátorhatás segítségével méri a szatellit számla, megmutatva, hogy a turizmusban keletkezett közvetlen jövedelem mekkora mértékű pluszfogyasztást generál. A KSH mérései alapján 2012-ben (KSH, 2015b) például egy vendég által elköltött 1000 forint a magyar gazdaságban 1 692 Ft fogyasztás generált, mivel az ÁKM multiplikátor szorzója 1,692-es érték volt. 2010-ben a turizmus ágazat közvetlen és közvetett hatásokat is figyelembe véve a GDP 8,9 %-át állította elő, ez az érték a következő években növekedett tendenciálisan hiszen 2011-ben 9,0 %, addig 2012-ben 9,4 %-ot ért el, utóbbi év forintosítva 1 223 Mrd Ft-nak feleltethető meg(KSH, 2012; KSH, 2012).

Foglalkoztatottság Magyarországon

A következőkben a foglalkoztatottsági adatok alapján szeretném vizsgálni a turisztikai szektort. Mielőtt megnéznénk azonban az ágazat munka erőpiaci helyzetét, tekintsük át az országos foglalkoztatottsági helyzetet. A 2004-től napjainkig terjedő időszakban számba kell venni néhány olyan tényezőt, amely jelentős változást indukált a foglalkoztatási piacon.

- Elsőként ide sorolandó a nyugdíj korhatár változása. A vizsgálati időszak első évében, 2004-ben az öregségi korhatár a férfiaknál 61 év, a nőknél pedig 59 év volt addig 2016-ban ez az érték mind két nem esetében 65 évre emelkedett.
- Másodikként a népességszám változást fontos számba venni. 2004. január 1-én Magyarország lakossága 10 millió 117 ezer fő volt, 2015-ben a népességszám 9 millió 823 ezer főre csökkent.
- Megemlítendő a kereskedelmi szektor átrendeződése is.
- Utolsó szempont a 2010 utáni szociális közmunka bevezetése. A közmunkások száma ettől az évtőlmegjelenik a foglalkoztatottak számában,Az előbb felvázolt körülmények és változások alapján, Magyarországon a 2004 és 2012 közötti időszakban az alábbiak szerint alakult a munkaerőpiac:

1. táblázat Foglalkoztatottak száma Magyarországon, 2004-2012

év	foglalkoztatottak, ezer fő	munka-nélküliek, ezer fő	munka-nélküliségi ráta, %	foglalkoztatottak a turisztikai szektorban, ezer fő	foglalkoztatottak aránya a turizmus szektorban, %-ban
2004	3 709	252,9	6,1	308	8,30
2005	3 816	304	7,2	303	7,94
2006	3 852	318	7,5	355	9,22
2007	3 849	284	7,4	323	8,39
2008	3 940	329	7,9	344	8,73
2009	3 850	420	10,1	333	8,65
2010	3 801	456	11,2	334	8,79
2011	3 836	468	11,0	352	9,18
2012	3 874	473	10,2	356	9,19

Forrás: KSH, 2016b

A táblázatnál figyelembe kell venni 2008-tól a KSH más módszertan alapján, közli az foglalkoztatottak számát a szatellit számlák tekintetében. A figyelembe vehető adatok a fő- és mellékállásokat is figyelembe veszi és a ledolgozott órák számából számolja a foglalkoztatottak létszámát.

Megjegyzendő továbbá, hogy előfordulhat egyidejűleg a munkanélküliségi ráta és a foglalkoztatottak számának növekedése is, azokban az időszakokban, amikor korábbi évekhez

képest többen jelennek meg a munkaerőpiacon, azaz inaktívból aktívvá (foglalkoztatottá vagy munkanélkülivé) válnak.

Munkaerőpiaci helyzet a Balaton kiemelt üdülőkörzet partközeli településein

Dolgozatomfő témája a balatoni vendéglátás munkaerőpiacának jelenlegi helyzete. Okkal tehetnénk fel a kérdést, hogy a kutatás során mely településeket kellene megvizsgálni, természetesen a közvetlen parti településeken kívül. A válasz eléggé összetett, mivel különböző értelmezések látnak napvilágot manapság azt illetően, hogy mit is értünk a Balatoni idegenforgalmi régió alatt. A legtöbb ember meggyőződése, hogy a tó idegenforgalmi vonzereje a parti településekre terjed ki, illetve néhány olyan kisebb településre, amelyek kínálatukkal komolyan kiegészítik a Balaton adta lehetőségeket.

2. ábra A Balaton part menti települései

Forrás: http://users.atw.hu/marcellvilla/terkep.html

Ilyen települések főleg a gyógyfürdővel rendelkező Hévíz és Zalakaros városai. A szakma álláspontja azonban az, hogy a térség idegenforgalmi vonzereje kiterjed a háttér-településeknek nevezett, a Balatonnal közvetlenül nem érintkező, a tótól 15-20 km-es távolságra elhelyezkedő települések összességére. Ennek az elméletnek értelmében olyan településeket is ide sorolhatunk, mint Tapolca, Veszprém vagy a térség fokozottan természetvédett területe, a Kis-Balaton.

Ezzel szemben Magyarországon a hivatalos turisztikai régiókat a 28/1998. (V. 13.) IKIM rendelet alapján hozták létre. A többször módosított jogszabály alapján a Balatoni Idegenforgalmi régió kiterjed a Balatoni Kiemelt Üdülőkörzet egészére, amely 2016-ban 180

települést foglal magában. A 180 település viszont igencsak változatos gazdasági erővel bír. Ennek elsődleges oka az, hogy a régió kialakításánál szerepet kapott a sokrétű idegenforgalmi profillal rendelkező térség kialakításának terve, viszont ennek negatívuma, hogy vannak olyan települések, amelyek több tíz kilométeres távolságra helyezkednek el a Balatontól, például Zalakomár, amely közúton Balatonberénytől 25 km-re van. Ezeknek a háttér településeknek idegenforgalmi attrakciójuk csekély, és ezek sem köthetők a Balatonhoz. Meglátásom szerint, ha a Balaton munkaerő piacát vizsgáljuk csak a közvetlen parti településeket szabad vizsgálnunk. hiszen a parti helységek mutatják meg teljes egészében a térség idegenforgalmi jellemzőit, például a szezonalítás problémáját – amely a munkaerőpiac egyik nagy negatívuma a térségben. A másik ok az, hogy a térség idegenforgalmi bevételének jelentős részét néhány Balaton-parti település adja (KSH, 2016). Például 2014-ben Balatonfüred, Siófok és Keszthely együttes bevétele – a vendéglátással foglalkozó vállalkozások árbevétele - 27 milliárd Ft amely a BKŰ összteljesítményének (64 Mrd Ft) 42 %-a. Joggal merül fel a kérdés, hogy Hévíz, az ország egyik legnagyobb vendégforgalmat lebonyolító városa milyen mértékben járul hozzá az előbbi értékhez. 2014-ben a gyógytaváról világhírű kisváros jövedelme 8,2 Mrd Ft volt, a keszthelyi összeget 130%-al túlszárnyalta. Ugyanakkor viszont látnunk kell, hogy Hévízen a munkaerőpiac a parti településektől eltérő jellegű, a foglalkoztatás ideje januártól decemberig tart, míg Keszthely esetében csupán májustól szeptemberig foglalkoztatják a turisztikai ágazatban dolgozók többségét.

A Balaton idegenforgalmi foglalkoztatási helyzetképe 2011-ben

Mindezek után szeretném bemutatni, hogy a Balatoni Kiemelt Üdülőkörzetben hogyan is alakul a turisztikai munkaerő kereslet, és hogy regionális szinten hogyan viszonyul az országos turisztikai mutatószámokhoz.

Mivel a legutóbbi Balatonnal, társadalmi-gazdasági helyzetével részletesen foglalkozó elemzést, amit a KSH adott ki 2014-ben jelent meg (KSH, 2014b), amely a foglalkoztatásról 2011-es, népszámlálási adatokat közöl, az ekkori adatokat közlöm az alábbiakban. Hozzáteendő, hogy az elmúlt 5 év alatt sok minden megváltózott a gazdaság tekintetében, azonban frissebb adat sajnos nem áll rendelkezésre.

2. táblázat A népességi és foglalkoztatási adatok a BKÜ nagyobb városaiban

terület	népesség, fő	foglalkoztatot-tak száma, fő	Foglalkoztatot-tak a BKÜ arányában, %	Munkanélküli-ek, fő
BKÜ összesen	255724	101015	100	13956
BKÜ partmenti települések	130554	52697	52,17	6 848
Siófok	25045	10216	10,11	1 549
Keszthely	20 619	8545	8,46	964
Balatonfüred	12 979	5634	5,58	518

Forrás: KSH, 2016b

A települések közt a legnagyobb foglalkoztatással bíró települések Siófok, Keszthely és Balatonfüred. A három nagyvárost követik még a foglalkoztatottak számát tekintve Balatonalmádi és a déli part egyik városláncolata Fonyód, Balatonboglár és Balatonlelle. A legkisebb foglalkoztatási mutatókkal ugyanakkor a Balaton-felvidéki terület vezet, itt helyezkedik el a lista utolsó öt települése: Paloznak, Aszófő, Balatonudvari, Balatonszepezd és Balatonrendes. Utóbbi településen 2011-ben mindössze 39 fő volt foglalkoztatva.

3. táblázat A BKÜ településének foglalkoztatási ráta listájának helyezései 2011-ben

Part menti települések		**BKŰ összes**	
első öt helyezet	**utolsó öt helyezet**	**első öt helyezet**	**utolsó öt helyezet**
Tihany (52,8)	Balatonszepezd (34,1)	Balatonszőlős (57,1)	Hollád (24,2)
Gyenesdiás (51,8)	Balatonberény (36,5)	Hidegkút (55,6)	Táska (20,0)
Zánka (50,5)	Balatonrendes (38,2)	Szentantalfa (55,1)	Nikla (26,7)
Az első illetve utolsó part menti település helyezése BKÜ helyezése		Tihany (9.)	Balatonszepezd (22.)

Forrás: KSH, 2014b - 4.1 táblázat alapján saját szerkesztés

Összehasonlító jelleggel nézzük meg, hogy 2011-ben hogyan alakultak a települések foglalkoztatási rátái. A közölt foglalkoztatotti létszámok mind teljes munkaidős egyenértékben értendők, ugyanis a térségben a foglalkoztatottak jelentős hányada csak szezonálisan, az év néhány hónapjában dolgozik. A térségben szintén jelentős az ingázás, így egy adott település foglalkoztatottjai a településen dolgozó helyi lakosok mellett azok is, akik más településről járnak át dolgozni. Így előfordulhat, hogy egy településen alacsony a foglalkoztatási ráta, de a munkanélküliségi ráta is, az eljáró ingázók miatt. Ez magyarázhatja a városok körüli kistelepülések – pl. Gyenesdiás – átlag alatti munkanélküliségi rátáját.

A parttal rendelkező települések a foglakoztatási rátájában az első és az utolsó település között is csak 17,7 százalékpontos különbség van. Ebből jól kivehető, hogy a települések egységesen jó gazdasági aktivitással rendelkeznek, még ha ebben közrejátszik a szezonalitás is. A foglalkoztatási ráta első helyezettjei Tihany (51,8 %), Gyenesdiás (50,5 %), Zánka (50,4%). Érdekességként megjegyzendő, hogy nem véletlenül e települések érik el a

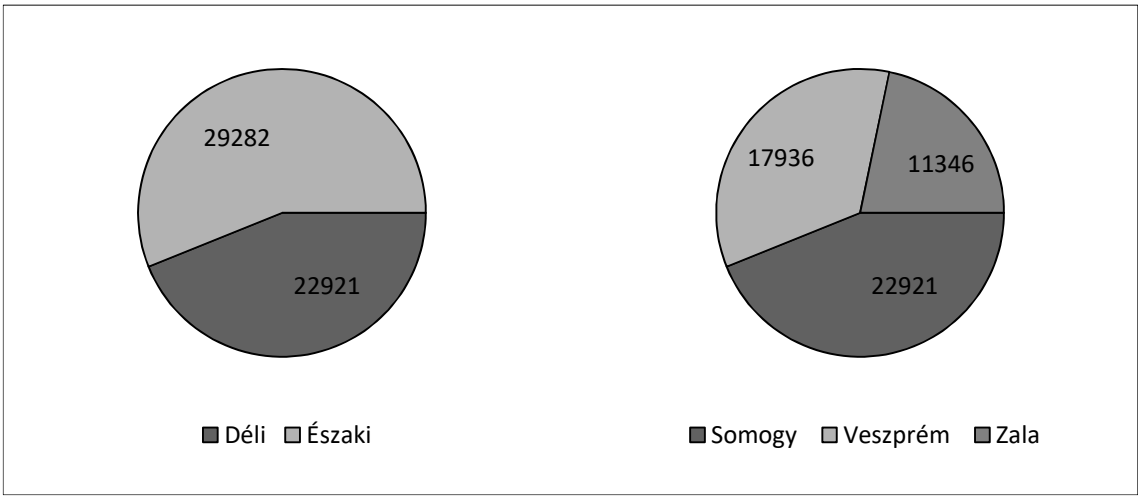
képzeletbeli dobogós helyeket. Tihany esetében persze meghatározó szerepe van a balatoni nyaralásnak, de a szezonon kívül is megélhetést biztosít az apátság látogatottsága, valamint az ehhez kapcsolódó szolgáltatások (étterem, kiskereskedelem). Gyenesdiás a Nyugat-Balaton dinamikusan fejlődő települése, ahonnan sokan vállalnak munkát a nagyközséggel már szinte összenőtt Keszthelyen, mint a térség egyik nagyobb városában valamint a településtől 4-5 km-re elhelyezkedő Hévízen is. Zánka esetében feltehetőleg a volt úttörő város helyén lévő ifjúsági szabadidős centrum által kínált egész éves munkalehetőségek dominálnak. Ha a lista másik felét vesszük górcső alá, akkor láthatjuk, hogy a rangsor: Balatonszepezd (34,1 %), Balatonberény (36,5%) és Balatonrendes (38,2%), és meglepő módon Balatonfenyves (39,5%) amely a déli-part egyik üdültető települése (KSH,2014b).

A VIZSGÁLAT EREDMÉNYEI ÉS KÖVETKEZTETÉSEI

A foglalkoztatottak száma

A Balaton parti településeken a 2011-ben összesen 52 203 fő dolgozott. A legtöbb foglalkoztatottat Siófokon regisztrálták összesen 10 216 főt, vagyis a teljes sokaság 19,57 %-a dolgozott. A második legtöbb embert Keszthelyen foglalkoztatták 8 545 főt amely az egész balatoni munkaerő 16,37 %-nak felel meg. A lista harmadik helyén Balatonfüred található 5 634 alkalmazottal, vagyis a teljes sokaság 10,63 % ezen a településen dolgozik. Vagyis elmondható, hogy a munkaerő 46,5 %-át a legnagyobb település foglalkoztatja. A nagyságrendi értékek miatt érdemes megemlíteni a három legkisebb munkaerő piaccal rendelkező települést is a parton. A 44 település közül 41. helyen áll Balatonszepezd 106 fővel, ez az összes balatoni foglalkoztatottak 0,2 %-a (KSH, 2013).

3. ábra A Balaton-parti településeken foglalkoztatottak megoszlása a partok illetve megyei beosztás szerint főben és százalékban, 2011



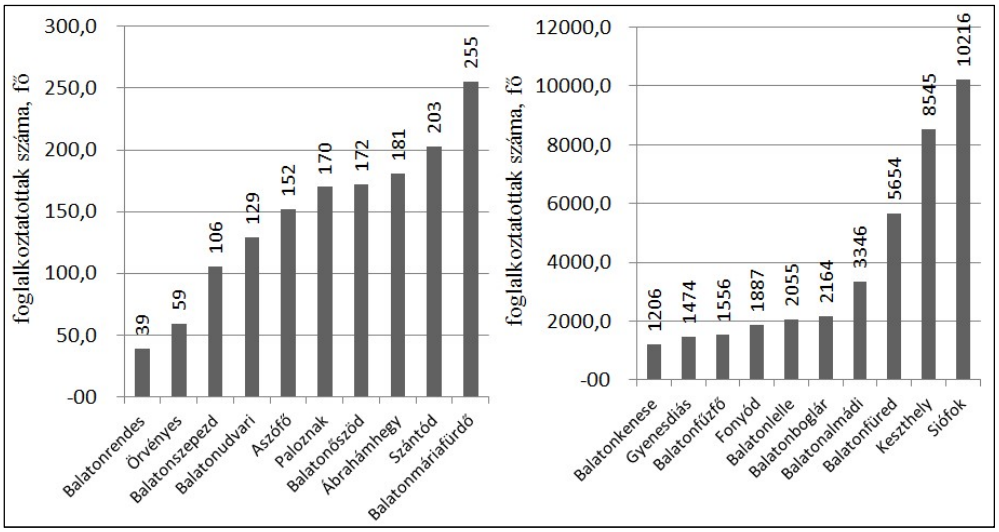
Forrás: KSH, 2013 adatai alapján saját szerkesztés

A következő helyen Örvényes található 59 fővel. Az ő esetében az arányszám 0,11 %. Az utolsó helyen pedig Balatonrendes állt ahol összesen 39 fő dolgozott. Az utolsó helyezett esetében az arányszám 0,07 % volt 2011-ben. A Balaton északi és déli part közötti munkaerő igény a következőképpen alakult.

A népszámlálás idején a Balaton északi partján lévő 26 település összesen 29 282 fő dolgozott, amely a teljes balatoni munkaerő 56,09 %-át jelentette. Az északi oldalon a legnagyobb foglalkoztató település Keszthely 8 545 fővel, ami az északi part egészéhez viszonyítva 29,18 %,. Ezt követi Balatonfüred 5664 fővel, ami az egész északi oldalon dolgozók 19,31 %-át jelenti. A harmadik helyen Balatonalmádi városa áll 3 346 fővel, amely teljes sokaság 11,43 %-át teszi. E három legnagyobb északi parti település a foglalkoztatottak összesen 59,92 %-át foglalkoztatja. Az északi part legkisebb települései foglalkoztatási szempontból megegyeznek a Balaton egészére vonatkozó adatokkal, mivel az északi parton található Balatonszepezd, Örvényes és Balatonrendes is. A három településen dolgozók aránya az északi parton belül 0,7 %.

A déli partot tekintve a Balaton egészének adataihoz viszonyítva, itt azaz Somogy megyében - dolgozik a foglalkoztatottak ók 40,08 %-a. A legnagyobb munkaerővel bíró települések a somogyi részen Siófok 10 216 fővel, amely a déli parton dolgozók 44,57 %-át teszi ki. Ezt követi 2 055 fővel Balatonlelle (8,97 %), a harmadik legnagyobb település Balatonboglár, 2016 fővel, ami a déli parton dolgozók 8,8 %-át jelenti.

4. ábra A tíz legnagyobb illetve a 10 legkisebb munkaerőpiaccal rendelkező Balaton parti település



Forrás: KSH, 2013 adatai alapján saját szerkesztés

A déli part legkisebb foglalkoztató települései közé tartozik Balatonőszöd 172 fővel (0,75 %), Szántód 203 fővel (0,89 %) és 255 fővel Balatonmáriafürdő (1,11 %).

A megyéket összevetve láthatjuk, hogy a legtöbben Somogy megyében dolgoznak, 22 921 fő. Ezt követi Veszprém megye 17 936 fővel, míg az utolsó Zala megye, ahol a 4 Balaton parti településen összesen 11 346 fő foglalkoztatott volt 2011-ben.

Az SZJA-bevételek önkormányzatoknál maradó része

A foglalkoztatási adatok áttekintése után nézzük meg az az önkormányzatoknak átengedett SZJA alapok alakulását a Balaton partján. Ennek alakulása gyakran eltér a foglalkoztatási tendenciáktól, amelyeken alacsony a foglalkoztatási ráta de magas az SZJA alap, mivel az emberek a közeli településekre járnak át dolgozni, így már a másik település munkavállalójaként jelennek meg de lakhelyükön fizetik a személyi jövedelemadót. Ilyen térség tipikusan, a Nyugat-Balaton, hiszen az egész évben prosperáló Hévíz nagyon sok embert foglalkoztatKeszthelytől Balatongyörökig .

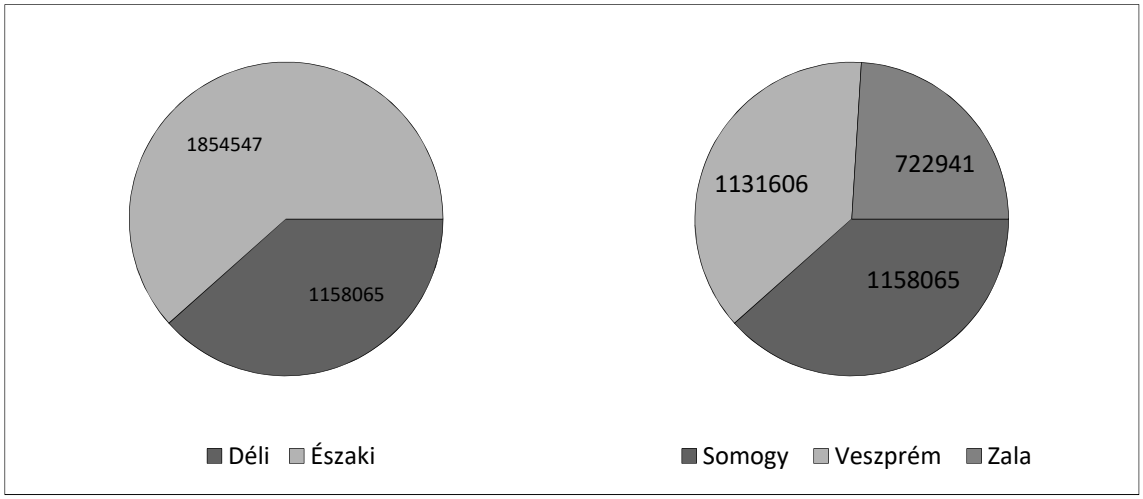
A személyi jövedelemadó önkormányzatoknak visszaosztott része a Balaton parti településeken 2011-ben összesen 3 012 612 000 Ft tett ki. Az összeg 36,21 %-át vagyis 1 090 748 000 Ft-ot három település kapta, Keszthely (511 651 ezer Ft, ami a Balaton parti települései értékének 16,98 %-a), Siófok (304 604 ezer Ft, 10,11 %) és Balatonfüred (274 493 ezer Ft, 9,11 %).

A három legkisebb SZJA-hányaddal rendelkező település Balatonszepezd (2 245 ezer Ft, 0,07 %), Balatonrendes (4 692 ezer Ft, 0,16 %), és Örvényes (5 543 ezer Ft, 0,18 %) (KSH, 2016b).

A kettő part közötti megoszlás a következőképpen alakult. A déli part összesen a Balatonszentgyörgytől Siófokig terjedő részen 1 158 065 ezer Ft-ot kapott a településeknek visszaosztott SZJA-ból, ami a térségi összeg 38,44%-a, ebből a három legnagyobb összeget visszakapó település 592 838 ezer Ft-ot tudott ilyen jogcímen profitálni, ami a déli part összegének majd 51,19 %-a. Az első helyen Siófok áll (304 604 ezer Ft, 26,30 %), ezt követi Balatonboglár (152 517 ezer Ft, 13,17 %), a harmadik pedig Fonyód (135 717 ezer Ft, 11,72 %).

A legalacsonyabb támogatási szintet Balatonőszöd érte el 8 534 ezer Ft-tal, ez a déli part teljes SZJA alapjának csupán 0,74 %-a. A következő Szántód (9 685 000 Ft-, 0,84 %), a harmadik pedig Balatonmáriafürdő (18 714 ezer Ft, 0,9%). A balatoni SZJA-bevételek többségét az északi part adja, ez 1 854 547 ezer Ft, amely a Balaton parti települések teljes SZJA-hányadának 61,56 %-át jelenti.

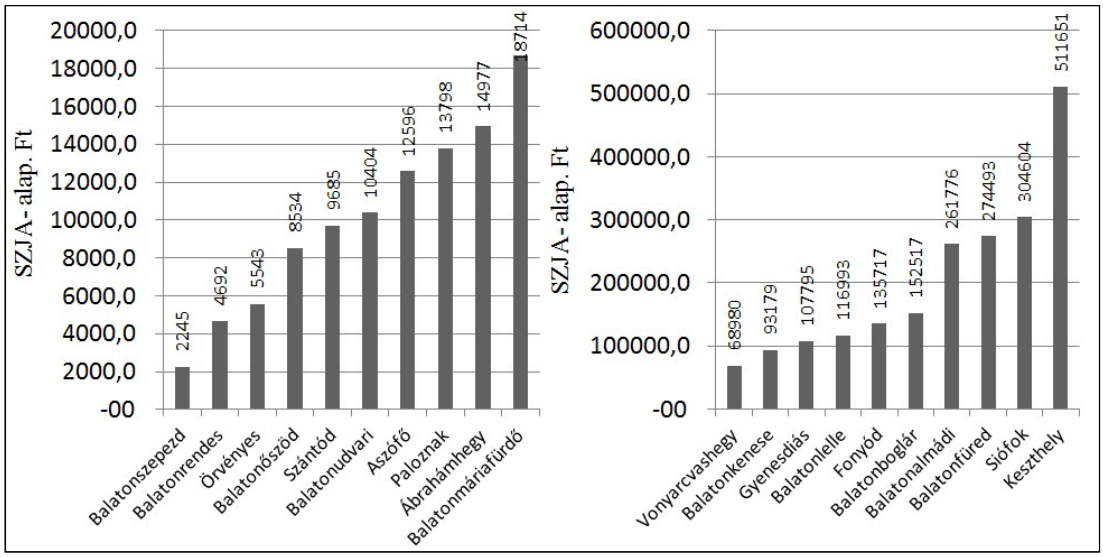
5. ábra A Balaton-parti településeken foglalkoztatottak megoszlása a partok illetve megyei beosztás szerint főben és százalékban, 2011



Forrás: KSH, 2013 alapján saját szerkesztés

A három legnagyobb SZJA-hányadot kapó település Keszthely(511 651 ezer Ft, az északi parti összes érték 27,59 %-a). A második Balatonfüred (274 493 ezerFt, 4,80 %), a harmadik pedig Balatonalmádi (261 776 ezer Ft, 14,12 %). Ez a három legnagyobb település együtt az északi part 56,51 %-át tette ki, míg a három legkisebb SZJAvisszatérítést kapó településemindössze 0,67 %-át képezte (Balatonszepezd Balatonrendes, Örvényes).

6. ábra A tíz legnagyobb illetve legkisebb SZJA alappal rendelkező Balaton parti település



Forrás: KSH, 2016b alapján saját szerkesztés

Az egy foglalkoztatottra jutó SZJA-visszatérítés alakulása

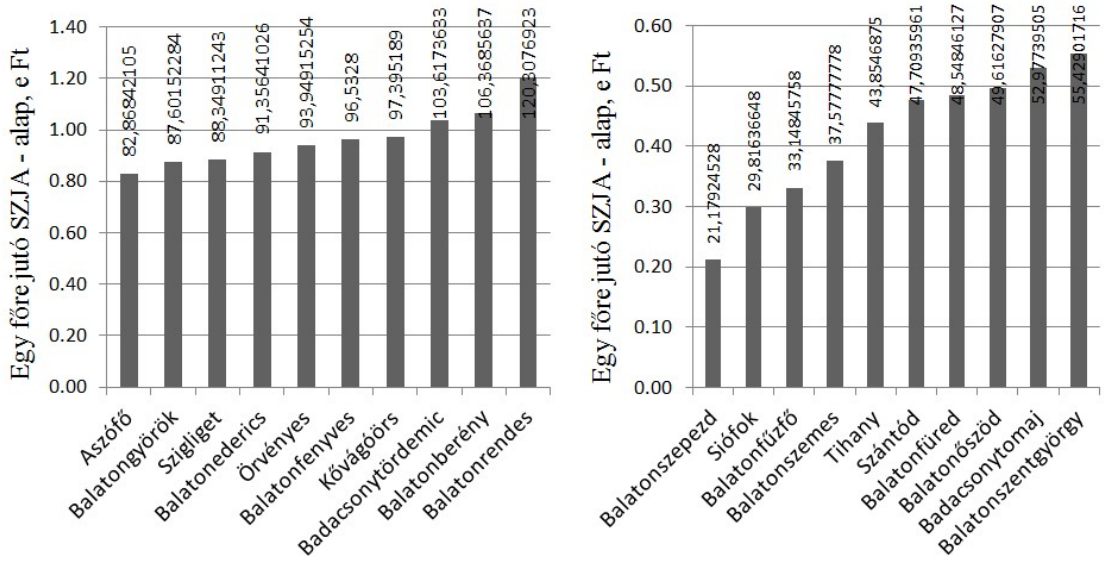
Utolsóként pedig vegyük górcső alá az egy főre jutó személyi jövedelemadó alakulását a Balaton parti településeken. Ezt a mutatót a foglalkoztatottak jövedelemtermelő képességének illusztrálására lehet használni, ami a termelékenységükre utal. Az előző szakaszhoz hasonlóan itt is a települési önkormányzatnál maradó SZJA-hányadot fogom az SZJA összes értéke helyett használni, és ezt osztom el a foglalkoztatottak létszámával.

A 44 parti településen 2011-ben az egy foglalkoztatottra jutó SZJA-visszatérítés átlaga 70 870 forintra jött ki (3012 millió Ft SZJA-hányadot osztva az 52000 fő foglalkoztatott számával).

Ha a két part közötti különbségeket nézzük, akkor a következő adatokkal találkozunk.

A kettő part közöl a déli oldalon jelenik meg a kisebb átlag, amely 64 610 Ft-ra jött ki. A legnagyobb értékeket a következő három település érte el: Balatonszárszó (82 010 Ft), Balatonfenyves (96 530 Ft) és Balatonberény (106 370 Ft). A legalacsonyabb átlagokkal rendelkező három település Szántód (47 710 Ft), Balatonszemes (37 580 Ft) és Siófok (29 820 Ft).

7. ábra A Balaton parti tíz legnagyobb illetve legkisebb egy főre eső SZJA alappal rendelkező települése, 2011



Forrás: KSH, 2016b alapján saját szerkesztés

Ezzel szemben az északi parton magasabb átlag jött ki, 74 270 Ft. A három legnagyobb értéket elérő település Kővágóörs (97 400 Ft), Badacsonytördemic (103 620 Ft) és Balatonrendes(120 310), míg a három legalacsonyabb összeg Tihanyban (43 830 Ft), Balatonfűzfőn (33 150 Ft) és Balatonszepezden (21 180 Ft)keletkezett.

Meglepőek az egyenlőtlenségek az egy főre eső összegek tekintetében, főlet az, hogy a térség sikeresnek számító városai nem a lista elején, hanem a végén találhatók.

Országos összehasonlítás

A Balaton parti települések adatait további négy turisztikai térség adataival hasonlítottam össze valamint vizsgálta a három balatoni megye – Veszprém, Somogy és Zala megye átlagmutatóit is. A vizsgált térségek a következők voltak: Fertő-tó, Velencei-tó, Tisza-tó, Duna-kanyar Budapesttel.

4. táblázat A összehasonlító jelleggel vizsgált desztinációk és megyék mutatói

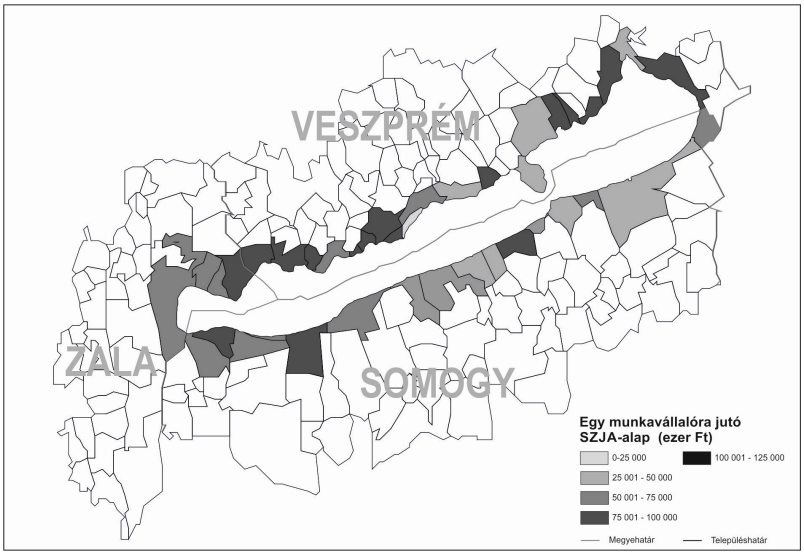
Térség	alkalmazottak	SZJA-alap, e Ft	Egy főre jutó SZJA-alap, Ft
Velencei-tó	7 390	554,081	74977
Fertő-tó	29 994	1 265 985	42 207
Tisza-tó	10 157	1 088 782	107 195
Duna-kanyar	41 455	1 761 770	42 498
Somogy megye	113 712	9 275 405	81 569
Veszprém megye	146 688	8 490 179	57 879
Zala megye	117 936	6 341 725	53 772

Forrás: KSH, 2016b és KSH,2013 alapján saját szerkesztés

Értékelés

A Balaton parti településeken az egy főre jutó önkormányzatoknak visszaosztott személyi jövedelemadó (továbbiakban: mutatószám) egy foglalkoztatottra eső átlaga 70 866 Ft volt. A két part tekintetében az északi parton 13,02 %-kal magasabb volt az mutatószám. Annak ellenére, hogy elsősorban a közlekedési helyzetnek – az M7 autópályának - köszönhetően a déli partról több ember tud ingázni például Székesfehérvárra vagy éppen Budapestre, a déli part lakossága alacsonyabb jövedelemmel rendelkezik, mint az északi parté. A magyarázat ott keresendő, hogy akik az északi parton vállalnak munkát főleg a Tihanytól északkeletre eső településeken magasabb bérekért dolgozhatnak, mint a déli part egyes településein.

8. ábra A Balaton parti településeken képződő egy főre jutó SZJA alap, 2011



Forrás: KSH, 2013 alapján saját szerkesztés

Az is hozzájárulhat ehhez, hogy az északi parton nagyobb lehetőség van éves állásra, mint a szembenfekvő partszakaszon, hiszen Tihanynak egész éves bevételi forrást jelent az apátsághoz érkező turisták tömege, míg például Balatonfenyvesen az attrakciók többsége csak a nyári Balatonhoz köthető. Ennek következtében a vendéglátó és egyéb szolgáltató egységek is az attrakciók látogatási idejének megfelelően tartanak nyitva. Azonban az sem elhanyagolható tény, hogy az északi parton a lakosság arányát tekintve magasabb az egész éven át ott élők száma, mint a déli parton, ahol október és március között vannak olyan utcák, amelyek szinte teljesen lakatlanok. Vagyis a déli településeken kevesebb éves kereskedelmi és egyéb szolgáltatást lehet fenntartani, mint az északi oldalon, amely munkaerőben és jövedelemben is megmutatkozik.

A másik ok az, hogy az északi partra inkább a tehetősebb, gazdagabb, rétegek érkeznek pihenni, mivel több prémiumszolgáltatást tudnak igénybe venni, mint a déli parton. Itt elsősorban Balaton-felvidéki borászatok és a 4 és több csillagos szálódák húzzák felfelé az átlagot. A fizetések ennek következményében jobbak, mint a déli part alacsonyabb kategóriás szálláshelyein és vendéglátóegységeiben.

A megyék különbségeiben a fentiekben leírt okok nyomon követhetőek, hiszen a legmagasabb mutatószám Veszprém megyei részen jött ki. A veszprémi térséghez képest Zala megye mutatószáma 98,29 % értéket ért el, míg Somogy megye mutatója a Veszprém megyeinél 13,76 %-kal míg Zala megyéhez képest 12,26 %-kal alacsonyabb.

A Balaton partján a mutatószám-„legek” tekintetében érdekes helyzet állt elő 2011-ben. A legmagasabb érték Balatonrendesen jött ki, amely a tőle csupán 8 km-re eső Balatonszepezd – a legkisebb mutatóval rendelkező település- értékének majd hatszorosa.

A három legnagyobb város közötti különbségek is érdekesek. A legkisebb értékkel Siófok rendelkezik. A város átlaga a második helyezett Balatonfüred értékének 61,42 %-a míg a legnagyobb értékkel bíró Keszthely mutatószámának csupán 49,79 %-a. A balatonfüredi érték Keszthely mutatószámának 81,08%-a.

Összegzésként elmondható, hogy a Balaton parti települések mutatószámai nagyon eltérőek, nagymértékű szórást mutatnak. Ez adódhat az egyes településméret következményéből, amely befolyással van a munkaerőpiacra is. Ezenkívül a földrajzi valamint a közlekedési helyzet is mérvadó. A vizsgálat alapján azonban megállapítható, hogy a települések és partok közötti eltérő vendégkör is befolyásoló hatással lehet az egy főre jutó SZJA-bevételekre is.

Azonban figyelembe kell venni a térségre jellemző feketefoglalkoztatás jelenségét is. Feltehetőleg az illegális munkavállalás legnagyobb mértékben az építőiparban és a szezonális illetve alkalmi munkáknál van jelen. Míg az építőipar a Balaton partján kevésbé jelentős, az idegenforgalom szezonális munkavállalásanagy volumenű. Feltehető, hogy a foglalkoztatottak jó része (saját tapasztalat és becslések alapján 40-50%-a) feketén van foglalkoztatva, bár pontos adatok nem állnak rendelkezésre.

Erre utal a fentiekben már említett egy főre eső SZJA alap eloszlása a Balaton partján. A legkisebb és legnagyobb értéket mutató part menti települések - Balatonszepezd és Balatonrendes - között csupán 8 km a távolság, azonban az átlagos SZJA-bevételeik között majd hatszoros a különbség. Feltehető, hogy a statisztika hibák mellett az illegális munkavállalás is nagyobb mértékben van jelen Balatonszepezden, mint Balatonrendesen. Ugyanez mondható el a nagyobb településekről, például a három jelentős városról, Siófokról, Balatonfüredről és Keszthelyről is, amelyek szintén alacsonyabb értékkel rendelkeznek az átlagnál. A magasabb mutatószámok a kisebb, a part menti települések közül kevésbé ismertek településeken jelennek, meg ennek oka a lehet a helyi önkormányzat és a vállalkozók közötti jó kapcsolat illetve együttműködés, és az illegális jövedelmek kevésbé elterjedt volta.

Az ország más turisztikai desztinációval összehasonlítva a Balaton parti települések átlagait, érdekes képet kapunk.Az érintett térségek közül a legalacsonyabb az egy főre jutó SZJA-hányad a Fertő-tó térségénél, ahol mindössze 42 207 Ft volt az érték. A második legalacsonyabb értéket a Duna-kanyar tudhatja magáénak 42 498 Ft-tal. Ezután következik a Balaton parti térsége, ahol a Velencei-tó értéke követi 74 977 Ft-os értékkel.

Ezt követi a Dunakanyar Budapesttel együttvéve, ahol már átlépjük a bűvös 100 000 Ft értéket (100 660 Ft) . A Duna-kanyar Budapest nélkül azonban ennél is többet, 115 800 Ft-ot

tudott kitermelni. Meglepő módon a legjobb értéket az ország keleti felén található Tisza-tó parti települései érték el, itt a mutató 126 470 Ft lett.

Láthatjuk tehát, hogy a Balaton munkaerőpiaca korántsem annyira jó, mint gondolnánk. A magyartengernél alacsonyabb átlagok csak a Fertő-tónál, valamint az örök riválisVelencei-tónál jöttek ki. A Fertő-tó valószínűleg azért nem tud többet termelni, mivel sokan főleg a soproni területekről Ausztriába ingáznak és ott dolgoznak, és így a külföldi adórendszer szerint adóznak, amelyből közvetlen módon a magyar állam és a helyi önkormányzatok nem részesülnek. A Duna-kanyar nem okozott meglepetést, annál inkább a Tisza-tó, ahol a legmagasabb értékek jöttek ki. Érdekesség, hogy a Tisza-tóhoz képest a Balaton mutatószáma csak 56,05 %, amely nem mondható jó aránynak, ha a fogadóterület földrajzi elhelyezkedését és a vendégkör összetételét vesszük. figyelembe.

A balatoni megyék átlagát nézve láthatjuk, hogy legmagasabb értékkel meglepő módon Somogy megye rendelkezik (81 569 Ft), ezt követi Veszprém megye 57 879 Ft-tal és Zala megye 53 773 Ft-tal. Ezek az átlagok megfelelnek a Balaton parti mutatószámoknak.

ÖSSZEFOGLALÁS, KÖVETKEZTETÉSEK

A Balaton foglalkoztatási és jövedelmezőségi vizsgálat és más térségekkel való összehasonlítás során érdekes adatokkal szembesültem. Magyarország második legnagyobb turisztikai fogadóterülete átlagos mutató számokkal rendelkezik. A vizsgált térségek közül vannak alacsonyabb adatokkal rendelkező területek, mint például a Duna-kanyar (Budapest nélkül). Azonban nem szabad elfelejteni, hogy a balatoni értéknél nagyobb mutatószámot produkált a vizsgálat során a Velencei-tó amely ha szabad így fogalmazni a Balaton legnagyobb riválisa. A másik versenytárs a Tisza-tó is magasabb értékkel szerepel a kutatásban, mint a magyar tenger. Megállapítható, hogy a vizsgált terület, a Balaton-parti települések összessége az ország középmezőnyébe tartozik e vizsgálat tekintetébe. Azonban lehet, hogy a statisztikai számok nem éppen a teljes valóságot mutatják, hiszen tudjuk, hogy a Balatonnál is jelen van a feketefoglalkoztatás, amely a mutatószámokat rontja. A jövőben további vizsgálati módszerek kidolgozásával próbálom meg kideríteni, hogy mennyire helytállóak a jelen vizsgálat 2011. évre vonatkozó adatai napjainkban
is.

SUMMARY

The paper analyses the employment situation in the Lake Balaton Resort Area, focusing on the special situation of the lakeshore settlements of the area.
The Lake Balaton Resort Area consists of 179 settlements but most of its workforce comes from 43 settlements which have direct access to Lake Balaton. Most of the jobs are seasonal, lasting from May to

September. Nowadays we hear from entrepreneurs that they are unable to find workers even though qualifications are not required anymore, because many skilled workers use the opportunities provided by the European Union, and go abroad to work, the primary target being Austria where they work in ski resorts during the winter, or London, where they can find full time jobs and earn wages 5 times that in Hungary. This is the case for the whole region of Balaton even outside the tourism sector. It is important to underline that the labour market in tourism influences the employment situation in all sectors of the region.

This paper examines how employment rates changed in the lakeshore settlements of the region in 2011, and how much income was generated by tourism employment around the lake. The latest employment data on settlement level were available for the year 2011, but the situation has not changed much in the past 6 years, so the picture given for 2011 is valid for today.

It was found that there are large discrepancies among the lakeshore settlements in employment rates and in unemployment rates. The larger settlements, towns seem to show worse figures than the small villages. The efficiency of the workforce can be estimated by the gross domestic product per one worker. As the value of gross domestic product is not computed on settlement level, the value of output on settlement level can be estimated by the personal income tax base generated in the settlement. This figure was used in the present analysis, more precisely, the share of the personal income tax left at the local municipalities – as in 2011 60% of the personal income tax was transferred to the budget of the national government, and only 40 % remained at the local governments. Therefore data were available for the share of personal income tax that local government kept for themselves, and in the analysis the value of this income tax share per employee was used to compare the income generating capacity of the labour force in various settlements. These indicators also showed great differences around the lake. Surprisingly, it is not the larer settlements, towns, where higher values were found, but small villages, while the larger settlements often produced lower than average figures. The explanation can be first the large volume of commuter workers around the lake, and the high volume of illegal labour, which is typical in the tourism employment in the area. Interesting comparisons pointed out the differences between the northern and southern shore of the lake, as well as the east and west part of the area, and compared to the typical visitor structure of the various sub-regions. The income tax indicator was also compared to similar figures of other tourism destinations in Hungary. The comparison showed that although Lake Balaton is the 2nd most important tourism destination in Hungary, its employment rates and labour efficiency are not better than those of the other tourism destinations of the country.

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Original scientific paper

DEVELOPMENT OF SUSTAINABLE RURAL TOURISM

Sandra KANTAR[a], Kristina SVRŽNJAK[a]

[a] Krizevci College of Agriculture, Milislava Demerca 1, 48260 Križevci, Croatia, skantar@vguk.hr; ksvrznjak@vguk.hr

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Abstract

This paper presents a sociological view of possibilities for the development of sustainable rural tourism in Koprivnica-Krizevci county, which is located in the north-western part of Croatia. The possibilities for developing rural tourism within the concept of sustainable development have been researched through qualitative empirical research interview method.
Research subjects were the owners of tourist farms, decision makers, experts and other stakeholders in the tourism development. Rural tourism represents an alternative to maritime tourism and is relatively undeveloped but important in terms of development of rural areas and family farms. This paper enables an insight into an integrated sustainability of rural tourism which consists of four dimensions: biological-ecological, economic, socio-cultural and political sustainability. In conclusion, integral sustainability in rural tourism is not achieved in all dimensions. Therefore, rural tourism could be a strategy for sustainable development for rural areas and also could be a tool for product differentiation for area that are at stagnation stage.

Keywords: sustainable development, rural tourism, Croatia

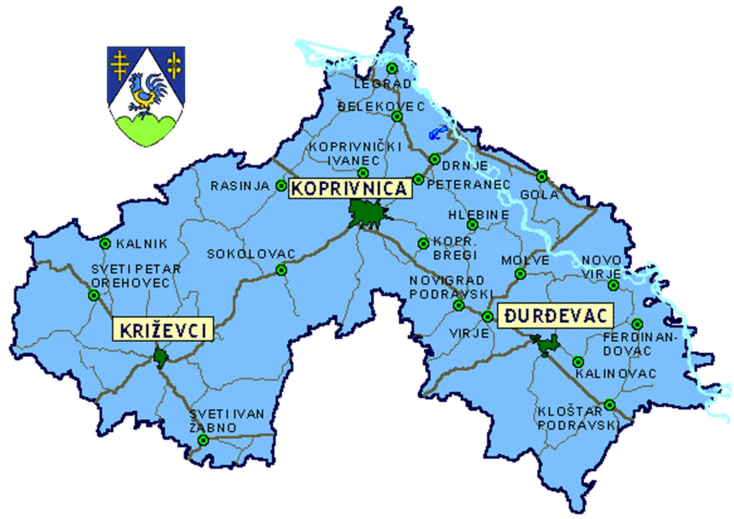
INTRODUCTION

Rural area in Croatia is approximately 91.6% of its total area. The characteristics of the rural area (which includes Koprivnica-Krizevci county) are: the dominance of agriculture and forestry as branches of industry which employ most local residents; its environment is urban, it is architecturally and aesthetically organized into villages and towns with inadequately developed technical and municipal infrastructure; its socio-cultural milieu practices traditional forms of culture and local social integration is conducted through neighbourhood and family relationships (Lukić, 2012). The rural areas suffer from many negative processes, such as depopulation, deagrarization, demographic aging and masculinisation of the population and lower educational and economic potential of residents in comparison with urban areas.Therefore, a part of the population on farms is developing and diversifying new rural economic activities, such as rural tourism. Rural tourism (Kušen, 2005) is a collective term for different activities and forms of tourism appearing outside of cities and those areas with a developed mass tourism. Rural tourism encompasses all forms of tourism in rural areas, including hunting, fishing, rural, eco-tourism etc. and could be a supplementary but also

professional business and source of income. The fundamental basis of this paper is that the sustainable development and rural tourism are interdependent and largely conditioned phenomena, as the development of rural tourism represents a significant alternative to mass tourism, manages sustainable resources and incorporates users of this type of tourism in traditional sustainable practices of country life.

The UN Report of the World Commission on Environment and Development *Our Common Future*, sets the fundamental definition of the sustainable development which defines it as the development which meets the needs of the present generations without compromising the ability of future generations to meet their own needs. The sustainable development is further defined as a process of improving the quality of human life which is carried out within the framework of the so called *carrying capacity* of sustainable ecosystems. There are three key points in the sustainable development concept: protection of ecosphere, stable economic development and fair distribution of social opportunities. For the purposes of this paper, sociological aspects of sustainable development were considered, according to Lay (2007) who says that the sustainable development is a concept which implies a balanced relationship of biological-ecological, economic, socio-cultural and political dimension. For these four dimensions, special indicators were developed that "cover" the concept of integral sustainability in the rural tourism of Koprivnica-Krizevci county (Figure 1), which were made into questions for participants of the research.

Figure 1 Administrative division KKŽ to towns and municipalities



Source: https://kckzz.hr/o-zupaniji/gradovi-i-opcine/

The goal of this paper is to analyse the application of the concept of sustainable development on the existing firms of rural tourism in Koprivnica-Krizevci county, and determine exactly

how sustainable rural tourism is in the county. The purpose of this paper is to contribute to a better understanding of sustainable rural tourism in Koprivnica-Krizevci county and similar continental areas in Croatia.

OBJECTIVES AND METHODS

Participants of the research are well aware of the County's large potential in tourism and they participated in the research with enthusiasm by answering the questions in an interview. Thirty participants were interviewed in total, 18 of which are decision makers, and 12 are owners of facilities in rural tourism. What is interesting is that the participants are in different professions, most of which were not closely connected with tourism: they were agronomists, economists, etc. Decision makers in rural tourism (for example municipal prefects, the director of a tourist association etc.) as well as business owners in rural tourism (for example owners of family farms, Bed & Breakfast proprietors, owners of rural vacation homes etc.) have no formal education in tourism but have a vast knowledge gained though life-long learning and experience in tourism. Currently, these participants are the main stakeholders of the development of rural tourism. Moreover, out of the total number of participants, 19 or 63% were males and 11 were females. Regarding the age of participants, most of them were between 30 and 45 years of age (43%). The participants answered about 20 questions about four dimensions of sustainability: biological-ecological, economic, socio-cultural and political sustainability (Lay, 2007) in the form of semi structured interview. As is well known, the interview is an important research method in empirical sociology (Abercombie, et.al., 2008). Generally speaking, a half-structured interview is a research method where the researcher has prepared topics and general questions that need to be addressed in an interview with an interviewee but where a researcher follows the conversation logic and allows an interviewee freedom to answer questions as they see fit, while making sure all relevant topics are covered (Tkalac Vercic et. al. 2014). Considering the fact that there is no qualitative research combined with triangulation method[1] (Denzin, 2005) on dimensions of rural tourism in Croatia, this represent the first research of the kind[2] which uses methods of semi-structured interview to determine whether the rural tourism in Koprivnica-Krizevci county is sustainable and in which dimensions.

[1] Triangulation method involves the use of a number of sociological method such as observation, comparative method, and semi-structured intervju and was carried out within the research.

[2] This research was conducted for a doctoral thesis: Development of sustainable rural tourism: potentials of Koprivnica–Krizevci county" (Kantar, S.)

RESULTS

At the moment, Koprivnica-Krizevci county has seven internationally important attractions (Svržnjak, et.al., 2014), which make the county recognizable and that attract most visitors. They are as follows:

1) River Drava;
2) Regional Park Mura – Drava (protected natural heritage);
3) Holy Trinity Greek Catholic Church and Bishop's Palace (protected cultural historic heritage);
4) Vegeta (universal seasoning);
5) Podravka (headquarters of industrial production of Vegeta);
6) Saint Marko Krizevcanin (Croatian Saint);
7) Ivan Generalic (painter of Hlebine Naive Art School);

However, tourism and rural tourism are currently being developed. Natural (river Drava, Lake Soderica, Kalnik, Lake Cambina, Durdevac Sand Dunes (remnants of a desert) etc.) and cultural potentials (Renaissance Festival in Koprivnica and other local events) should be used for tourism, by developing quality agricultural products through marketing (for example cheese "prgica") which is produced on many farms, developing tourism infrastructure, tourism facilities, increasing accommodation capacity etc. Favourable geographic position, proximity to strong markets and the construction of new roads are just some of the opportunities for using the existing agricultural and food image of the County for the production of ecological food and the development of rural tourism as a supplementary source of income.

Rural tourism could be sustainable tourism or sustainable tourism development that: "... *meet the needs of tourists and their hosts protecting and enhancing development opportunities. He wants to achieve resource management in a way that economic, social and aesthetic needs can be achieved in order to maintain the cultural integrity, essential ecological processes, biological diversity and systems of underlying life*" (Carić, 2006).

Ecological dimension of sustainability[3]

The ecological dimension of sustainability in rural tourism is based on putting the emphasis on the importance of the environment and people's attitude towards the environment, promoting ecological values in business, pro-ecological behaviour of tourists, a range of

[3] Summing up the results of the research it must be mentioned that all the statements presented in this section are drawn from the interviews.

conducted measures aimed at reducing pollution, waste reduction, water usage reduction and energy saving methods. Participants were asked about how satisfied they were with the state of the environment around some of the rural tourism facilities, and the questions included the following elements: water, air and soil cleanliness, wastewater management system, refuse collection and recycling, noise, state of plants and animals. Also, participants were questioned on whether there was a threat to the environment and what needed to be focused on in order to protect the environment while sustainably using it at the same time. Generally speaking, the participants were mostly satisfied with the state of the environment in which they live and work and did not identify any major pollutants. Considering the fact that the industry (which is usually considered a pollutant) is mostly ruined, more and more people are turning towards agriculture as a way of life than working in commercial production in its classical sense, thus considering the environment clean. The only pollution the participants noticed was the so-called "visual pollution" which refers to the partially constructed villages and unkempt gardens. However, some participants have noticed positive activities in villages which are becoming a sort of a competition in "who can have the most beautiful garden", which in turn increases the total aesthetics of the area. Some villages have containers for sorting waste, which have not been entirely accepted by the local population. This is closely connected to the level of education but also because most household waste is traditionally recycled (composting, recycling).

Satisfaction with the state of the environment is an essential component of sustainable tourism as it ensures that the tourism can survive over a longer period of time because it does not cause the degradation of the environment but it benefits the economic, ecological, social and cultural environment in which it takes place.

Economic dimension of sustainability

Economic sustainability implies the economic viability of the sustainable way of life and doing business. Therefore, it must be assumed that the rural tourism contributes to the preservation of environmental protection, health, recreation and education of individuals/family, using renewable sources of energy, if those are available, ecological production of food and beverages, authentic cuisine. The participants were asked whether or not the economic profit calculation for farms exists. Considering the fact that the local economy and economic viability are the instruments of survival of life in rural areas, an effective local economy becomes a national interest as well. The need to diversify activities in rural areas, one of which is rural tourism as a potential economic segment, represents one

of the development tools of the local economy. Unfortunately, according to the answers of the interviewees, economic viability based on traditional and sustainable living practices is not recognized in rural tourism. It is difficult to survive on tourism alone, without a main source of income (e.g. agriculture). Tourism is seen as only supplementary source of income. Consequently, economic/sustainable/traditional living practices in rural tourism facilities, on current conditions, are not economically viable at the moment.

Socio-cultural dimension of sustainability

Socio-cultural aspect of sustainability implies the authenticity of family relations, compliance with customs and traditions as well as the culture of living in spiritual and material sense. Specifically speaking, this dimension puts into question nurturing of the Podravina and Prigorje regional identity in everyday life and special social occasions. Socio-cultural sustainability which consists of identity, cultural heritage and tradition of this region is visible, for example, in the wealth of cuisine, hospitability, local celebrations, naive art, folklore and religion. Podravina and Prigorje nourish the culture of dining and the cult of working which belong to the regional spirit, life philosophy and the view of the world, which have always been interwoven in this region (Jelušić-Kranželić, 2001). The participants consider the socio-cultural dimension of sustainability to be very important for the development of rural tourism, and consider it represented to a certain extent. The socio-cultural identity is nurtured in a wider sense through the regional identity of Podravina, Prigorje and Bilogora, and in a narrow sense through the regional identity, and narrower still as a rural identity of Podravina villages, enogastronomy, national costumes and customs. Most participants emphasized the importance of "being oneself" and the need to keep and foster the socio-cultural dimension. However, there is doubt among the participants that all the stakeholders in rural tourism would unconditionally agree to practice such types of behaviour. An example of insufficient care about rural tourism and the lack of sustainability of the socio-cultural dimension is seen in the abandoned Podravina villages, the decaying state of rural architecture and insufficient promotion of regional identity by young people. In conclusion, additional efforts need to be put into the socio-cultural sustainability, as the awareness of the socio-cultural identity already exists.

Political dimension of sustainability

Political dimension of sustainability is manifested in the way our society/country self-defines its cultural identity and destiny as a whole, working and living conditions of people in

its territory or in other words, self-estimation. It is impossible to organize one's own resources and lives in a sustainable way if the working and living conditions are determined by active participants outside of the society one lives in. The political dimension of sustainability of rural tourism refers to general support in doing business - from the tourist board (county, local), local governments (villages, municipalities…), family, neighbours and so on. The support of the local governments is easily seen through the level of infrastructure in the area with rural tourism facilities and activities which contribute to the quality of life and working of the participants. The participants were not satisfied with the local community support and with municipal infrastructure (sewage system, electricity, water, telephone, Internet) or the tourism infrastructure (tourist sign boards).

When talking about the political dimension of sustainability of rural tourism, its most important component is the support of the close and extended family. Therefore, it is essential to save small family farms, as a considerable number of people live in rural areas and they represent the foundations of life in this region. It can be stated that Croatia is still the country of family food production and, hopefully someday, family farm tourism.

CONCLUSION

Based on the conducted interviews, it was concluded that there are people in Koprivnica-Krizevci county that have the knowledge, skills, enthusiasm, ideas and vision of the sustainable rural tourism in the County. The possibilities of sustainable development of rural tourism are reaching the highest level in the ecological dimension while results for economic dimension of sustainability are unsatisfactory due to the general reduction in economic activities. The socio-cultural dimension is also not reached at the expected level and the political dimension has been reached partially (only regarding the family support). The results show that the integral sustainability of rural tourism of Koprivnica-Krizevci county has not yet been reached, as it is not based on the equal representation of all dimensions of sustainability, only in ecological and political, with lower results in economic and socio-cultural dimensions. Despite recognizing the importance of rural tourism as a possible boost for the development of rural areas, rural tourism in Koprivnica-Krizevci county is in its early stages of development. Due to poorly sustainable global/local conditions of development, it cannot be considered integrally sustainable. Traditional agricultural area, where changes happen slowly or not at all, is significantly less engaged in the development of rural tourism,

when compared to coastal and island regions. A possible reason lies in the lack of tradition in developing tourism, as opposed to coastal destinations. The other reason probably lies in the relatively passive role of national and/or regional governments, until recently, in the promotion of the development of rural tourism. Apart from that, the social capital is insufficiently developed, and rural population is not ready to accept new models of development based on cooperation and networking. This indicates the fact that the development of tourism is still not seen as the responsibility of the entire community. However, rural tourism is based on sustainable development (Ružić, 2005) and has basic conditions for achieving integral sustainability. These conditions can be found in natural environment, strong family support, development possibilities in primary (agriculture) and tertiary (services) sector of economy and the deeply rooted hospitability. Thus, it is important to strengthen all dimensions of sustainability in rural tourism in order to make it integrally sustainable. Finally, this paper emphasises that rural tourism is the local response of rural regions toward globalization as a relatively new phenomenon reshaping our current world. Rural tourism needs to be in harmony with the multiplicity of uses, needs and demands which characterize rural areas in order for it to be deemed as appropriated and potentially sustainable.

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Original scientific paper

VLIV SEZÓNNÍ DYNAMIKY JAKOSTNÍCH UKAZATELŮ NA VÝKUPNÍ CENU MLÉKA V KONTEXTU SITUACE NA TRHU

INFLUENCE OF THE SEASON PROGRESS OF THE QUALITY CHARACTERISTICS ON TO THE PURCHASE PRICES OF MILK IN CONTEXT OF THE MARKET SITUATION

Kateřina Kovářová[a], Kateřina Procházková[b]

[a] Univerzita Jana Evangelisty Purkyně, Fakulta sociálně ekonomická, katedra managementu (Jan Evangelista Purkyně University, Faculty of Social and Economic Studies), Moskevská 54, Ústí nad Labem, tel : +420 475 284 709, email: katerina.kovarova@ujep.cz
[b] Česká zemědělská univerzita v Praze, Provozně ekonomická fakulta Katedra obchodu a financí, (Czech University of Life Science, Faculty of Economics and Management, Department of Trade and Finance), Kamýcká 129, Praha 6- Suchdol

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Abstract

In the context of increasing milk production in European Union and overproduction in the Czech Republic (compared to degree of so called self-sufficiency) and difficulties to market the raw milk (due to the degree of market demand for milk and milk products but also due to the market position of dairy processors) is necessary to adopt measures in order to achieve as high quality parameters as possible together with stability of those parameters. The paper investigates progress of the basic quality characteristics of the fresh cow milk on its purchase price in concrete agriculture enterprise. We focused on the quality characteristic CPM and PSB and fat and protein content from 2006 to 2011.The linear and quadratic functions were used for study of the development progress of the quality characteristics. The milk purchase prices are slightly adjusted in purchase contract. The milk purchase price could be scaled in the purchase contract by the sanctions and benefits that depend on the quality characteristics. The average purchase prices of the milk were varied from 6.41 to 8.45 CZK per litter in the Czech Republic. Thanks to the high milk quality the investigated agriculture enterprise reached better prices besides 2009. The worse quality in 2009 was negatively reflected in takings and global economic situation of the enterprise. The long-term monitoring of these characteristics is necessary for investigation of the long-term trends of caring of the production herd and they are also war for reaching of the best purchase prices for this commodity.

Key words: quality characteristics, milk, realization, price

Abstrakt

V kontextu rostoucího objemu produkce mléka v Evropské unii a nadprodukci v České republice (optikou úrovně tzv. soběstačnosti) a obtíží při jeho uplatnění na trhu je nutné přijmout taková opatření, aby bylo dosaženo co nejvyšší kvalitativních parametrů a zároveň stálosti těchto parametrů. V článku byl sledován vývoj jakostních ukazatelů mléka a jejich vliv na tvorbu výkupní ceny v konkrétním zemědělském podniku. Podrobně byl sledován vývoj kvalitativních jakostních ukazatelů (CPM a PSB) a kvalitativních ukazatelů (obsah tuku a bílkovin) v letech 2006-2011 a jednotlivých měsících roku. Pro zjištění jejich tendence vývoje byly použity lineární a kvadratické trendové funkce. Výkupní ceny mléka mohou být v kupní smlouvě různě odstupňovány systémem sankcí/příplatků právě na základě uvedených jakostních znaků. Zemědělský podnik v letech 2006-2011 dodával do mlékárny kvalitnější surovinu a dosáhl tak lepších tržeb za mléko, kromě kritického roku 2009, kdy došlo vlivem krize k propadu cen. Proto je nutné

průběžně sledovat a vyhodnocovat jakostní ukazatele v delší časové řadě pro určení dlouhodobých trendů v péči o produkční stádo a dosahování co nejlepších tržeb za tuto komoditu.

Klíčová slova: jakostní ukazatele, mléko, zpeněžování, cena

ÚVOD

Jakost syrového mléka je významným ukazatelem pro posouzení jeho zdravotní nezávadnosti, určení vhodnosti pro další zpracování, a slouží rovněž k jeho ocenění při zpeněžování. Pro výrobu kvalitního a zdravotně nezávadného mléka je třeba se zaměřit na celou řadu faktorů od půdně klimatických až po společenské. Nejvýznamnější vliv však mají faktory při prvovýrobě mléka a to především technologie, krmení, ustájení a dojení (Baumgartner a kol., 2000).

Proto je třeba právě této fázi věnovat největší pozornost a uplatňovat zde zásady správné praxe pro dosahování co nejlepších výsledků.

Vysoká jakost syrového mléka je dnes jednou z hlavních podmínek jeho odpovídajícího zpeněžení. Za závazné jakostní znaky nakupovaného mléka se považuje celkový počet mikrobů, počet somatických buněk a obsah inhibičních látek. Mezi nezávazné jakostní znaky syrového mlék patří množství tuku, bílkovin a tukuprosté sušiny (Kvapilík, 2005).

Nákupní ceny mléka mohou být v kupní smlouvě různě odstupňovány na základě uvedených jakostních znaků. Sankce za nedodržení mohou být velmi přísně (až 3 Kč za litr mléka) případně nepřevzetí celé dodávky nebo úhradu nákladů za likvidaci znehodnoceného mléka. Naopak příplatky k základní ceně, za lepší jakost dodaného mléka mohou být pro producenty motivační.

Průměrná farmářská cena mléka v posledních letech činila 7,76 Kč za litr. Po nynějším mírném oživení došlo opět k poklesu cen za mléko, které bylo znovu produkováno pod výrobními náklady (Hrubá a Veselá, 2010).

Mléko dnes představuje pro farmáře v České republice přes 40 % tržeb za hlavní živočišné komodity. Kvůli udržení produkce mléka v Česku by se měli chovatelé krav orientovat nejen na vyšší kvalitu produkce, ale také těsněji spolupracovat s odbytovými organizacemi, což jim pomáhá k vyšším cenám za mléko.

CÍLE A METODY

Hlavním cílem předloženého článku bylo posouzení vývoje základních jakostních ukazatelů mléka a jejich vliv na tvorbu výkupní ceny.

Tento hlavní cíl byl rozdělen na následující dílčí cíle:

- Zhodnocení vývoje kvalitativních jakostních ukazatelů CPM a PSB v jednotlivých letech a měsících roku.
- Zhodnocení vývoje kvantitativních jakostních ukazatelů obsahu tuku a bílkovin v jednotlivých letech a měsících roku.
- Tvorba kupní ceny za mléko a tržby za prodané mléko v letech 2006-2011.

Data pro zpracování příspěvku byla použita ze zemědělského podniku nacházející se v řepařské oblasti, hospodařící na 2177 hektarech zemědělské půdy, z toho orná půda zaujímá přes 75% (asi 1645 hektarů). Louky s pastvinami zabírají necelých 540 hektarů. Podnik se orientuje jak na rostlinnou, tak živočišnou zemědělskou výrobu. Klasické obiloviny se pěstují až na 50% orné půdy. Nejvíce pěstovanými plodinami jsou pšenice ozimá, řepka olejka, ječmen ozimý a cukrovka. Živočišná výroba je zaměřena na chov masného, ale zejména mléčného skotu.

Konečný stav hospodářských zvířat v podniku k 31. 12. 2011 byl 1 573 kusů hovězího dobytka, z toho dojnice tvoří necelých 40 % stáda (cca 595 kusů dojnic). Ročně se v podniku vyprodukuje zhruba 240 tun hovězího masa a necelých 3,2 mil. litrů kravského mléka. Vyprodukované kravské mléko podnik dodává do sousední Spolkové republiky Německo.

Z měsíčních výsledků jakostních ukazatelů vzorků mléka (z akreditované laboratoře) byly sestaveny časové řady v letech 2006-2011.

Pro zjištění tendence vývoje kvalitativních ukazatelů mléka (počet somatických buněk a celkový počet mikroorganismů) byla použita trendová lineární funkce ve tvaru:

$$y'_i = a + bt_i$$

a … absolutní člen trendové funkce,
b … regresní koeficient,
$\mathbf{y_i}$ … závislá proměnná,
$\mathbf{t_i}$ … stupnice nezávislé proměnné, pro i = 1, 2, 3, …, n, kde *n* je počet údajů v časové řadě.

Výsledky z těchto ukazatelů pak byly přepočteny na roční průměry z jednotlivých měsíčních měření daného období s použitím následujícího vzorce pro prostý aritmetický průměr:

$$\bar{x} = \frac{x_1 + x_2 + x_3 + \ldots + x_n}{n} \qquad \bar{x} = \frac{\sum_{i=1}^{n} x_i}{n}$$

$\mathbf{x_i}$…měsíční hodnoty jakostních ukazatelů

i=1,2,3…n

Za účelem sledování vývoje obsahových složek mléka (obsah tuku a bílkovin) byla použita trendová kvadratická funkce, tj. polynom 2. stupně ve tvaru:

$$y'_i = a + b_1 t_i + b_2 t_i^2$$

a … absolutní člen trendové funkce,
$\mathbf{b_1}$ … 1. regresní koeficient,
$\mathbf{b_2}$ … 2. regresní koeficient,
$\mathbf{y_i}$ … závislá proměnná,
$\mathbf{t_i}$ … stupnice nezávislé proměnné, pro i = 1, 2, 3, …, n, kde *n* je počet údajů v časové řadě.

Z kupní smlouvy v rámci dodavatelsko-odběratelských vztahů, byla upřesněna tvorba kupní ceny mléka v daném období. Dále byl sledován vývoj výkupní ceny mléka v zemědělském podniku v jednotlivých měsících let 2006-2011. Výkupní cena mléka v podniku byla porovnána s průměrnou cenou mléka v České republice v období roku 2006-2011. Pro toto období byly pak vypočítány dosažené tržby za stádo na rok za dodávané mléko mlékárnám. Výpočet tržeb za stádo na rok byl proveden dle vztahu: Tržby SR= cena mléka celkem x tržní produkce dojnice (5227,3 l) x průměrný stav dojnic (550 kusů).

Ke statistickému zpracování bylo použito nástrojů a funkcí programu Microsoft Excel. Textová a grafická podoba příspěvku byla provedena v programu Microsoft Word.

VÝSLEDKY A DISKUSE

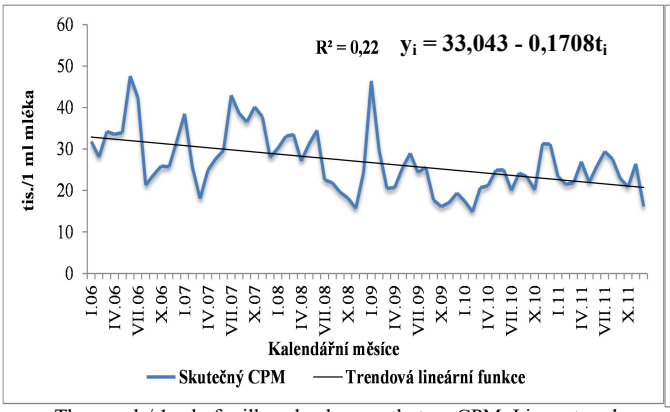
Celkový počet mikroorganismů (CPM) je jedním z hlavních kritérií jakosti mléka, protože vyjadřuje celkovou hygienicko–sanitační úroveň při získávání, ošetřování a uchování mléka. Vývoj tohoto ukazatele ve sledovaném období vykazoval dlouhodobě klesající tendenci. V ročních průměrech byly zaznamenány nejvyšší hodnoty (32,4 tis. v ml) v roce 2007 od tohoto roku pak hodnoty klesaly (obrázek 1). V uvedeném roce byly v podniku realizovány změny týkající se modernizace stájí, technologií a zařízení, pro efektivnější uplatňování a dodržování hygienické úrovně v produkčním hospodářství. Uvedené změny se pozitivně promítly i do celkové ekonomiky dosažením vyšší užitkovosti, snížení brakace ve stádě a zvýšení reprodukčních ukazatelů. Kamarádová a kol., (2008) potvrzuje pozitivní vliv změn v modernizaci stájí na zvyšující se produkční ukazatele mléka.

V letních měsících (květen až červenec) docházelo k nárůstu CPM, kdy rozdíl skutečného CPM byl až o 5 tis. (o 18,8 %). Tyto skutečnosti mohou být zapříčiněny obtížnějším zajištěním požadované hygieny dojnic v letních měsících vlivem vyšších teplot. Kadlec (2003) uvádí, že u hygienických a mikrobiologických znaků jakosti je nejhorších výsledků docilováno právě v letních měsících.

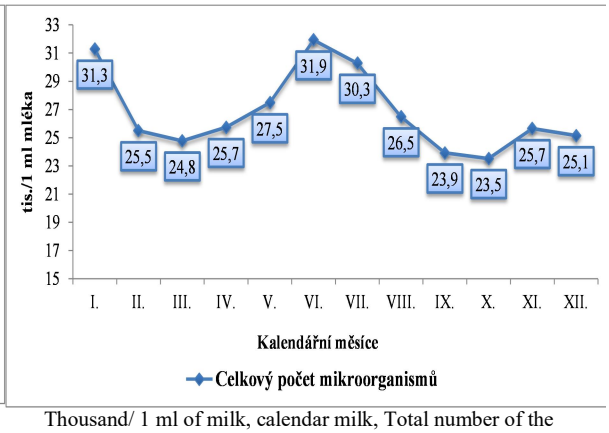
Pokles ukazatele CPM během roku je zaznamenán zejména na podzim a na jaře. Největší diference skutečného CPM byla zjištěna v říjnu, kdy CPM klesl až o 2,7 tis. (o 10,2 %), podobně tomu bylo i v březnu, kdy se hodnota snížila o 2,6 tis. (o 9,6 %). Překvapující nárůst mikrobů v lednu o 3,5 tis. (o 12,7 %) mohl být způsoben nedostačující prací ošetřovatelů při

získávání nebo při uchování mléka (obrázek 1). Pešek (1999) potvrzuje skutečnost, že čistota mléka v nejvyšší míře závisí právě na kvalitě ošetřovatelské práce.

Obrázek 1 Vývoj ukazatele CPM v mléce v letech 2006 až 2011 a měsících (The development of the CPM characteristics from 2006 to 2011)



Thousands/ 1 ml of milk, calendar month, true CPM, Linear trend function



Thousand/ 1 ml of milk, calendar milk, Total number of the microorganisms

Počet somatických buněk (PSB) je druhým rozhodujícím kritériem pro zařazení mléka do jakostních tříd pro účely zpeněžování. PSB je výborným podkladem pro nespecifické hodnocení zdravotního stavu mléčné žlázy. Při výskytu onemocnění zánětem vemene PSB v mléce prudce stoupá. Ve sledovaném období dochází k mírnému poklesu tohoto ukazatele a zejména k eliminaci výrazných výkyvů během jednotlivých let.

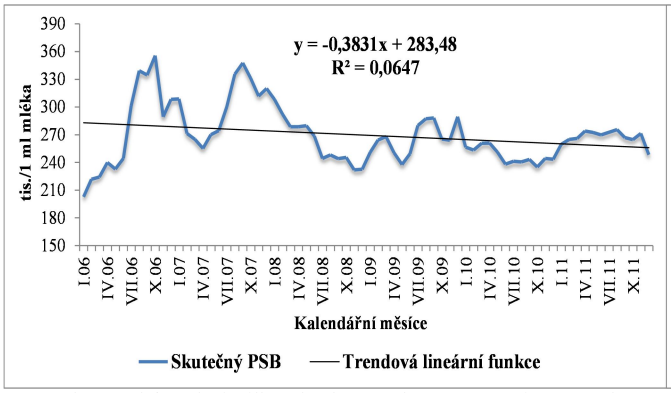
Kvapilík a kol. (2010) konstatuje že PSB přesahující vykázaný průměr (cca 250 a více tis. v ml mléka) poukazuje na výskyt subklinických mastitid a na ekonomické ztráty způsobené především nižší užitkovostí krav. Ježková (2010) uvádí, že mléčnou žlázu lze považovat za zdravou tehdy, pokud PSB nepřesahuje 100 000 v 1 ml mléka. Kvapilík a kol. (2011) ale považují za zdravé stádo to, u nichž je PSB do 200 000 v 1 ml mléka.

Ze záznamů o léčení dojnic v podniku vyplývá, že mastitidou trpí maximálně 1–2 % dojnic ve stádě. Proto nejvyšší hodnotu PSB 299 tis., která byla zaznamenána v roce 2007, lze přisoudit zkrmování nekvalitních krmiv, především špatně konzervovaných nebo zaplísněných s vysokým obsahem mykotoxinů. Dále mohla být vyšší hodnota PSB zapříčiněna typem dojicího zařízení. Naopak nejnižší hodnota PSB 247 tis. byla zaznamenána v roce 2010, kdy rovněž dosáhl podnik nejnižší hodnoty CPM (obrázek 2). Podnik vylepšoval svou kvalitu produkovaných objemových krmiv, kvalitou řezání, dusání, používání konzervačních prostředků, vhodným vyskladňováním a dopravou do stáje, kdy tato opatření pozitivně ovlivnila užitkovost dojnic a jednotlivé jakostní ukazatele mléka.

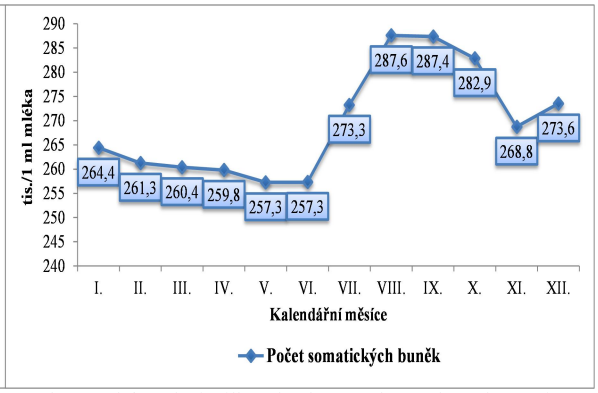
Výrazné zvýšení ukazatele PSB, v letních měsících a začátkem podzimu (červenec až říjen), lze právě přisuzovat vlivu vyšších teplot, který zvyšuje riziko onemocnění mléčné

žlázy. Naopak nižší hodnoty PSB jsou zaznamenány v zimních a jarních měsících (leden až červen) s nejnižšími hodnotami v květnu a červnu, které jsou až o 12,2 tis. (o 4,5 %) nižší než celkový průměr. Nečekaný nárůst PSB v prosinci o 4,1 tis. (o 1,5 %) lze přisuzovat buď zkrmování nekvalitních krmiv, nebo náhlému onemocnění dojnic (obrázek 2). Dle Kopunecze a kol. (2003) mají vliv na sezónní charakter výsledků zejména změna krmné dávky (zimní/letní), nedostatky ve výživě, vyšší teploty, vyšší procento krav nemocných záněty mléčné žlázy a jejich léčení, ale i střídání ošetřovatelů v době dovolené.

Obrázek 2 Vývoj ukazatele PSB v mléce v letech 2006 až 2011 a měsících **(**The development of the PSB in milk from 2006 to 2011)



Thousands/ 1 ml of milk, calendar month, true PSB, Linear trend function



Thousands/ 1 ml of milk, calendar month, number of somatic cells

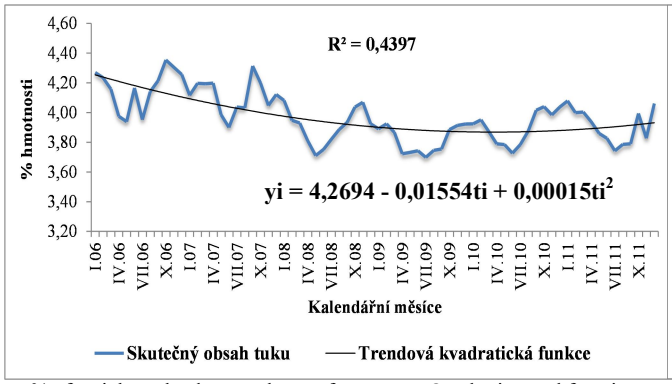
Obsah mléčného tuku je nejvariabilnější složkou mléka, která je ovlivněna řadou významných činitelů, jako je například plemenná příslušnost, pořadí a fáze laktace, výživa a celkový fyziologický stav dojnice. Zjištěný obsah tuku v mléce má kolísavě klesající tendenci s průměrnou hodnotou 3,97 % hmotnosti. I přes patrný pokles průměrného obsahu tuku v mléce, převyšoval svými výsledky v celém sledovaném období standardní hodnotu tuku, která je stanovena kupní smlouvou.

V roce 2009 dosahoval zjištěný průměrný obsah tuku nejnižší hodnoty, a to 3,82 % hmotnosti. K poklesu obsahu tuku v mléce od roku 2007 došlo i z důvodu modernizace velkokapacitní stáje (obrázek 3).

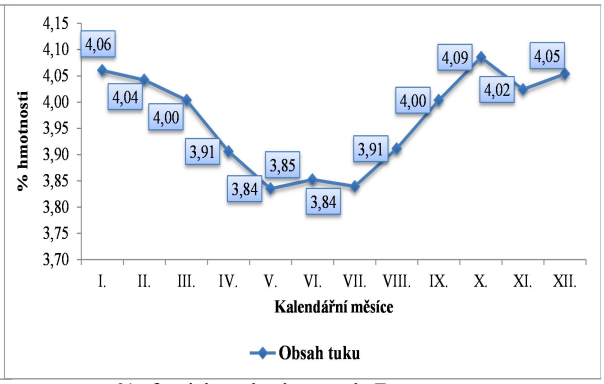
Nejvýraznější pokles obsahu tuku v mléce byl zachycen v měsících duben až srpen. V květnu obsah tuku klesl až o 0,22 procenta hmotnosti, tj. zhruba poklesl o 5,4 % (obrázek 3). Z uvedených charakteristik lze usuzovat, že pokles obsahu tuku v letních měsících může být způsoben zhoršenou termoregulací dojnic vyvolanou zvýšenými teplotami, popřípadě přechodem na letní typ krmné dávky. Roubal (1999) uvádí, že do výsledků obsahových složek mléka se zejména promítá výživa dojnic, která má značný vliv na dosahování nejpříznivějších

hodnot obsahu tuku v zimních měsících a naopak na méně příznivé výsledky v letních měsících.

Obrázek 3: Vývoj obsahu tuku v mléce v letech 2006 až 2011 a měsících (The development of the fat content in milk from 2006 to 2011)



% of weight, calendar month, true fat content, Quadratic trend function



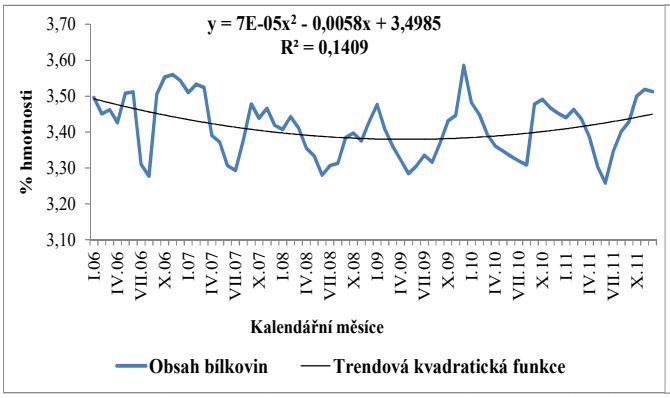
% of weight, calendar month, Fat content

Obsah bílkovin se od počátku sledovaného období projevoval s klesající tendencí, ale od roku 2009 se hodnoty mírně zvýšily. Průměrný obsah bílkovin ve sledovaném období dosahoval hodnoty 3,41 % hmotnosti (obrázek 4). Dle kupní smlouvy podnik v roce 2008 a 2009 nesplňoval toto kritérium, což mělo negativní dopady na zpeněžování mléka v podobě srážek z výkupní ceny. V roce 2008 a 2009 byl také zaznamenán nižší obsah bílkovin ve vykupovaném mléce v celé České republice a to 3,3 a 3,5 % hmotnosti Forman a Čurda (2001).

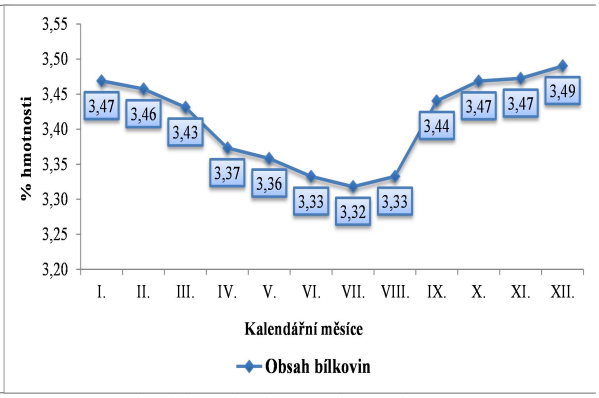
Nutno však připomenout, že obsah bílkovin je výrazně ovlivněn mnoha faktory vstupujícími do chovu dojnic během celého roku, které mají vliv na výsledky obsahu bílkovin v jednotlivých měsících. Jedná se zejména o množství a kvalitu krmné dávky a zdravotní stav dojnic.

Nižší obsah bílkovin v mléce byl zachycen v letních měsících (duben až srpen). Naopak nejvyšších hodnot tohoto ukazatele je dosahováno v podzimních a zimních měsících. Největší pokles obsahu bílkovin byl zaznamenán v červenci s hodnotou nižší než celkový průměr o 0,09 procenta hmotnosti, tj. pokles o téměř 3%. Tradiční nárůst teplot během letních měsíců mohl vyvolat tepelný stres u dojnic, což mohlo být příčinou následného snížení obsahu bílkovin v mléce. Roubal (2000) uvádí, že pokles obsahu bílkovin je vyvolán změnou výživy a pravděpodobně i klimatickými podmínkami. Od září obsah bílkovin opět narůstal s nejvyšší hodnotou v prosinci, která byla až o 0,08 procenta hmotnosti (o 2,3 %) vyšší než celkový průměr (obrázek 4).

Obrázek 4 Vývoj obsahu bílkovin v mléce v letech 2006 až 2011 a měsících (The development of the protein content in milk from 2006 to 2011)



% of weight, calendar month, protein content, Quadratic trend function



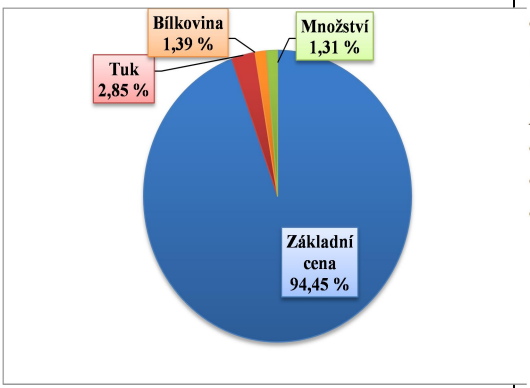
% of weight, calendar month, protein content

Velmi diskutovaným tématem jsou výkupní ceny mléka, které nejen v České republice těžko pokrývají náklady na jeho produkci, ba naopak bývají mnohdy na litr mléka až o korunu nižší. Výkupní ceny mléka pod hranicí osmi korun jsou pro zemědělce likvidační, neboť nepokrývají náklady na výrobu (Hovorka, 2008).

Základem tvorby realizační ceny je cena základní, která tvoří 94 – 95 % ceny realizační. Příplatky/srážky za zvýšený/snížený obsah tuku a bílkovin tvoří kolem 4 – 4,5% realizační ceny mléka a množstevní příplatky cca 1 – 1,5 % (obrázek 5).

Obrázek 5 Složení výkupní ceny mléka (Purchase price composition)

Kupní cena = Základní cena + Příplatek tuk + Příplatek bílkovina + Množstevní příplatek



Fat, protein, quantity, base price

Příplatky/srážky:

- tuk-standardní hodnota 3,7% ± **0,65 Kč/tj** (1 %),
- bílkovina-standardní hodnota 3,4% ±**0,90 Kč/bj** (1%).
- dodané množství:

Additions and subtractions

- Fat, standard value, 3,7% ± **0,65 Kč/tj** (1 %),
- Protein, standard value, 3,4% ±**0,90 Kč/bj** (1%).
- Delivered quantity

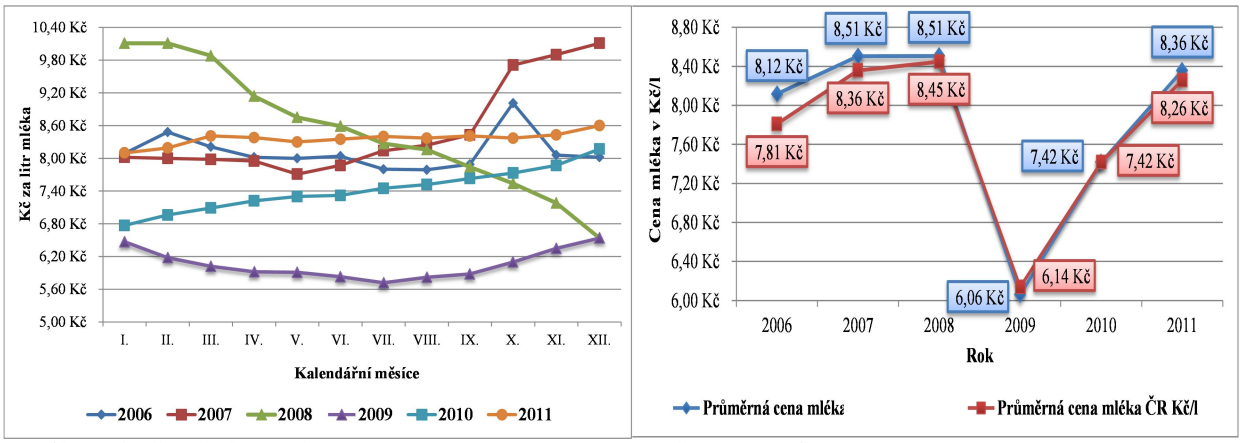
Litrů/den		Příplatek Kč/litr
od	do	
	500	**0,00**
501	1 000	**0,05**
1 001	2 500	**0,07**
2 501	5 000	**0,09**
5 001	7 500	**0,11**
7 501	10 000	**0,15**
10 001	12 500	**0,20**
12 501	a více	**0,25**

Litre/day, premium CZK/litre

V roce 2006 výkupní ceny zaznamenávaly mírný pokles v letních měsících s postupným nárůstem cen do konce roku. Cena mléčné suroviny od poloviny roku 2007 začala významně stoupat a v prosinci daného roku dokonce překročila hranici 10 Kč za litr mléka. V tomto roce došlo ve světě ke značnému nárůstu cen krmiv a jejich komponentů, ale především nastal, tzv. celosvětový „volný pád" cen směrem vzhůru u základních potravin včetně obilí, rýže, masa a mléka. Rok 2008 probíhal v opačném směru než předešlý rok 2007, kdy výkupní ceny mléka po prolomení hranice 10,11 Kč za litr začaly od března výrazně klesat. Tento stav byl ovlivněn značným snížením poptávky po mlékárenských výrobcích především v Asii, ale i rozjíždějící se finančně-hospodářskou krizí ve světě. Právě v roce 2008 byly zaznamenány největší rozdíly ve výkupních cenách mléka během jednoho roku, kdy cena klesla až o 35 % za litr. Dle Hrubé a Veselé (2011) byla situace na evropském trhu s mlékem ke konci roku 2008 a v první polovině roku 2009 kritická, a to vlivem probíhající krize, snížením poptávky, poklesem evropských i světových cen. V průběhu roku 2009 došlo k poklesu ceny pod úroveň 6 Kč za litr mléka. Rok 2010 byl pak ve znamení mírně rostoucích cen, kdy cena dosáhla úrovně 8,17 Kč za litr v prosinci daného roku. Tento trend se udržel i v následujícím roce 2011, kdy se průměrné ceny pohybovaly na hodnotě 8,36 Kč/litr mléka (obrázek 6). I přes cenově stabilní rok 2011 začaly výkupní ceny mléka od začátku roku 2012 radikálně klesat a mléko bylo znovu produkováno hluboko pod výrobními náklady.

Vývoj cen mléka v podniku kopíruje průběh průměrných výkupních cen v celé České republice. Ve sledovaném období nebyl zachycen výrazný rozdíl ve výkupních cenách mléka. Ceny mléka v podniku byly v letech 2006 až 2011 vyšší než průměrné ceny v ČR, kromě roku 2009 (obrázek 6).

Obrázek 6 Průměrné měsíční výkupní ceny mléka v letech 2006 až 2011 v podniku a v ČR (Average month purchase price of milk from 2006 to 2011 in enterprise in the CR)

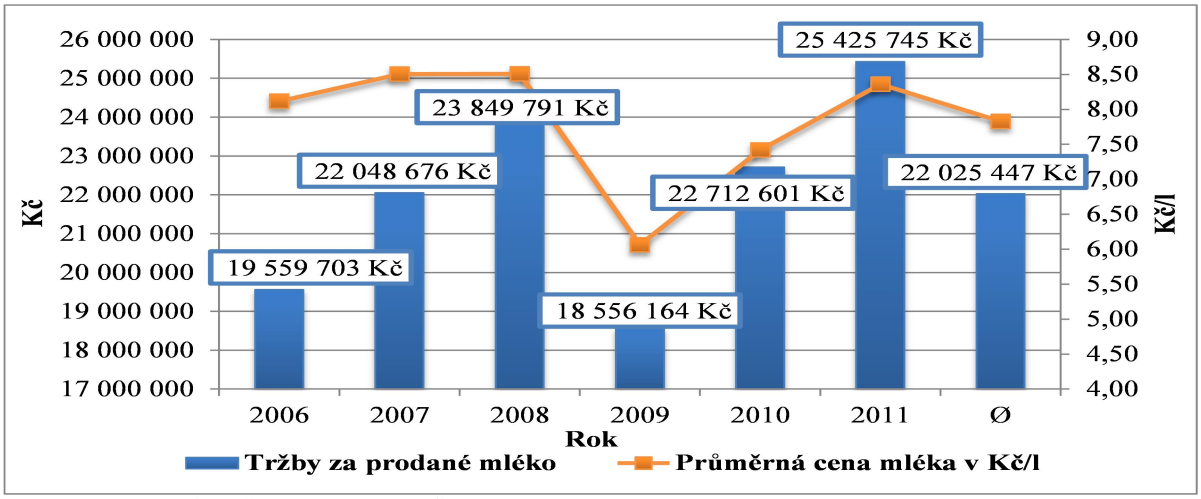


Kc/ litter of milk, calendar month

Milk price CZK/litre, year, average price in enterprise, average ice in CR

Ve sledovaném období dosáhl podnik průměrných ročních tržeb za prodané mléko ve výši 22 mil. Kč. Od roku 2006 tržby v podniku rostly spolu se zvyšujícím se objemem prodaného mléka. Přestože dodávky mléka v roce 2009 dosáhly svého maxima (3 065 544 litrů), výrazný propad výkupních cen mléka v tomto roce způsobil pokles tržeb za prodané mléko na nejnižší úroveň ve sledovaném období (18,5 mil. Kč), což mělo negativní dopad na výsledek hospodaření celého podniku. Po kritickém roce 2009 tržby každoročně průměrně rostly o 3 mil. Kč a v roce 2011 dosáhly úrovně až 25,5 mil. Kč (obrázek 7).

Obrázek 7 Tržby podniku za prodané mléko v letech 2006 až 2011 (Enterprise turnover for milk from 2006 to 2011)



CZK, year, Turnover for milk, average price CZK/litre

ZÁVĚR

V prostředí nárůstu produkce mléka v Evropě a úsilí řady evropských producentů využít produkční kapacity prostřednictvím realizace vývozu dále roste význam kvalitativních parametrů mléka a také jejich stabilita v průběhu roku. Změny situace na trhu mléka je třeba očekávat i v souvislosti s odstraněním kvót na produkci mléka v rámci Evropské unie (Andersson, a Lingheimer, 2015). Zpracovatelé, kteří jsou na trhu velmi často v pozici oligopsonu (Čechura, Kroupová a Hockmann, 2015), mají významnou vyjednávací sílu a široké možnosti výběru dodavatele. V případě nižší kvality či nestálosti parametrů dodávané suroviny pak poměrně snadno přechází k jinému dodavateli.

Hodnoty kvalitativních ukazatelů mléka (CPM a PSB), se dlouhodobě vyvíjely s klesající tendencí, což vypovídá o efektivní realizaci technicko-organizačních opatřeních ve výrobním podniku.

K eliminaci velkých výkyvů v jednotlivých měsících a letech u těchto ukazatelů je třeba věnovat pozornost především vytvořením teplotně stabilního stájového prostředí, kvalitě a

kontrole ošetřovatelské péče o stádo včetně prevence a včasné diagnostiky klinických mastitid.

U hodnot kvantitativních ukazatelů mléka (obsah tuku a bílkovin) ve sledovaném období byla také zaznamenána klesající tendence. I přes tuto skutečnost obsah tuku v mléce převyšoval základní parametry stanovené kupní smlouvou.

Proto je třeba zvláště v letních měsících věnovat maximální pozornost teplotním výkyvům stájového prostředí a eliminovat změny ve výživě dojnic.

Dlouhodobé sledování kvantitativních a kvalitativních jakostních znaků v delší časové řadě vykazuje trendy péče o produkční stádo a jsou také hnacím motorem pro dosahování co nejlepších tržeb za tuto komoditu.

SUMMARY

In the context of increasing milk production in European Union and overproduction in the Czech Republic (compared to degree of so called self-sufficiency) and difficulties to market the raw milk (due to the degree of market demand for milk and milk products but also due to the market position of dairy processors) is necessary to adopt measures in order to achieve as high quality parameters as possible together with stability of those parameters. Processors, who are often in the market position with an oligopsony market power are endowed with a considerable bargaining power and wide opportunities to choose a supplier. In case of a lower quality of instability of parameters of the supplied raw material, they rather easily switch to another supplier.

The market situation will even change as the effect of abolishing milk quotas with the European Union. The introduction of milk quotas within the Common Agricultural Policy of the European Union has been strongly affecting the situation in the milk market for many years, so analogously the repeal of the EU milk quota is expected to change the market situation as well. The paper investigates progress of the basic quality characteristics of the fresh cow milk on its purchase price in concrete agriculture enterprise. The main aim of the paper is to assess development of basic quality indicators of milk and their impacto on the purchase price determination. Interim objectives related to the main aim are as follows: (1) to assess development of quality indicators CPM and PSB in every particular year and month of the pursued period; (2) to assess development of the quantitative quality indicators of the fat content and protein content in every particular year and month of the pursued period; and (to analyze the pricing of milk and turnover of the milk sold in the period 2006-2011. The trend linear function was employed in order to assess the trend of the development of qualitative indicators of milk (number of somatic cells and total number of microorganisms). The trend quadratic function (i.e. second degree polynomial) was employed to assess the development of the milk constituents (fat content and protein content).

We focused on the quality characteristic CPM and PSB and fat and protein content from 2006 to 2011.The linear and quadratic functions were used for study of the development progress of the quality characteristics. The milk purchase prices are slightly adjusted in purchase contract. The milk purchase price could be scaled in the purchase contract by the sanctions and benefits that depend on the quality characteristics. The average purchase prices of the milk were varied from 6.41 to 8.45 CZK per litter in the Czech Republic. Thanks to the high milk quality the investigated agriculture enterprise reached better prices besides 2009. The worse quality in 2009 was negatively reflected in revenues and global economic situation of the enterprise. The long-term monitoring of these characteristics is necessary for investigation of the long-term trends of caring of the production herd and they are also war for reaching of the best purchase prices for this commodity.

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Original scientific paper

A JELENLEGI ÁLLAPOT ÉSZAKBÁCSKA 8 KÖZSÉGÉBEN A 2009 – ES NÉPESSÉGMEGTARTÓ GAZDASÁG FEJLESZTÉSI FORGATÓKÖNYVÜNK ÉS FOGLALKOZTATOTTSÁGI PRONÓZISUNK TÜKRÉBEN

THE CURRENT STATE OF 8 COMMUNITIES IN THE REGION NORTH BACSKA IN THE LIGHT OF ECONOMIC DEVELOPMENT AND POPULATION RETENTION SCENARIO FOR 2009

Sándor Somogyi[a], András Ricz[b]

[a] Emeritus professor, Lifka Sándor u. 29, 24000 Subotica, Serbia, phone: +38124542265, e-mail: ssomogyi11@gmail.com author
[b] Regionális Tudományi Társaság, phone: + 38124670850, e-mail: riczandras@rcgroup.co

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Abstract

We had in 2010 a report to HSSV (Hungarian Scientific Society of Vojvodina) on development scenarios and employment forecast. The report and the conclusions are still valid. The development problems today are also current for Hungarian minorities who lives in Vojvodina.
We recognized that number of model has limitations to treat region as complex system and to characterize the future behavior. Therefore, we used a combination of a direct questionnaires and an expert scenario-assessment method.
We accepted that the most likely to achieve an economic development, which is strongly reflected in the role of the agricultural sector a certain level of small and medium-sized enterprises and remains a particular operation and stagnation. This indicates that this region of the endogenous levels of forces is not sufficient to form the engine of development. The economic development analyzes had indicated that the projections about the number of employees can be very important. The number of employees we could provide 22-year data series, which allowed the use of prognostic models. For making the forecast we used the SPSS ARIMA models. The forecasted results are based well by the R2 indicator.
The employment forecasts and possible scenarios of economic development are also point in the same direction, the region's communities, but also Vojvodina and Serbia, has to take urgent measures to make further progress, to prevent the region's falling behind.

Keywords: Scenario, prognozis, Smic – prob – expert, Arima, agrar, employment

Kivonat

A fejlesztési forgatókönyvekről és foglalkoztatási prognózisunkról beszámoltunk a VMTT (Vajdasági Magyar Tudományos Társaság) ülésén 2010 - ben. Az akkori bevezető megállapításai ma is érvényesek. A tömbmagyarság fejlesztési problémái mindég aktuálisak.
A különböző modellek korlátozottan képesek olyan összetett rendszerek, mint a régiók jövőbeli viselkedését jellemezni. Ezért tűnt úgy, hogy egy közvetlen kérdőíves és egy szakértői forgatókönyv-elemző módszer kombinációját alkalmazzuk.

Elfogadtuk, hogy a legvalószínűbb egy olyan gazdaságfejlődési forgatókönyv megvalósulása, amelyben erősen kifejezésre jut az agrárszektor szerepe, bizonyos szinten a kis és középvállalkozások működése és fennmarad egy kifejezett stagnálás. Ez azt jelzi, hogy ebben a régióban az endogén erők szintje nem elégséges ahhoz, hogy a fejlődés motorját képezzék.
Az elvégzett gazdaságfejlesztési elemzések arra utaltak, hogy a foglalkoztatottak létszámának prognózisai is nagyon fontosak lehetnek. A foglalkoztatottak számáról 22 éves adatsorokat tudtunk biztosítani, ami lehetővé tették a prognosztikai modellek alkalmazását. Az előrejelzések készítéséhez az SPSS ARIMA modelljeit használtuk. A prognosztizált eredmények az R2 mutató alapján jónak tekinthetők.
A projekt minden elemzése, a foglalkoztatási prognózisok valamint a gazdaságfejlődés lehetséges forgatókönyve is abban az irányban mutatnak, hogy a régió községei, de Vajdaság és Szerbia is sürgős lépéseket tegyenek a régió további visszafejlődésének, leszakadásának megakadályozására.

Kulcsszavak: Forgatókönyv, prognózis, Smic – prob – expert, Arima, agrárszektor, foglalkoztatottak

BEVEZETŐ

A fejlesztési forgatókönyvekről és foglalkoztatási prognózisunkról beszámoltunk a VMTT (Vajdasági Magyar Tudományos Társaság) ülésén 2010 - ben. Az akkori bevezető megállapításai ma is érvényesek, mint látható a következőkből:

Szabadka, Topolya, Kishegyes, Kanizsa, Zenta, Ada, Becse, Csóka, vagyis a tömbmagyarság fejlesztési problémái mindég aktuálisak, de fontosak a következő jellemzők is:

- Az itt élő vegyes nemzetiségű lakosság az egymás - közötti viszonyokban toleráns és együttműködő, ami egy kivételesen fontos fejlesztési potenciál a közeledő klasszikus ipari társadalmat meghaladó fejlődési szakaszban.
- A X. korridor és a határ - mentiség lehetővé teheti, hogy ez legyen az ország kapuja Európa fele és fordítva. A kihasználási lehetőségek felismerése és a tenni- akarás munkahelyeket, logisztikai és egyéb szolgáltatási fejlesztéseket, valamint bevételeket generálhat.
- Korábban e területet az ország fejlettebb részeként kezelték. Ez ma már nem érvényes, mert fokozatosan lemaradunk, de még mindég támaszkodhatunk a pozitív tradíciókra, munkamegszokásokra, technikai – technológiai kultúrára. Természetesen, el kell dönteni, hogy a régi ipari struktúrát akarjuk revitalizálni, vagy egy szofisztikáltabb gazdasági struktúrát célzunk meg, ami nem csak a lokális, hanem az ország céljait is szolgálná.
- A régió különösen érdekes élelmiszertermelési szempontból, mivel a lehetőségek diverzifikáltak. A Tisza mente fontos gabona és ipari növénytermelő, a Szabadka – Horgos homokvidék kiváló szőlő, gyümölcs és kertészeti termőterület. Nem utolsó sorban az egész terület alkalmas az állattenyésztésre és az élelmiszeripar is fontos gazdasági szereplő. Az egész területen öntözéssel hatalmas potenciális lehetőségek használhatók ki.
- Ugyanakkor stagnálást tapasztalunk, fokozatos lemaradást, a munkanélküliség növekedését, ami rontja a társadalmi gazdasági viszonyokat, közhangulatot és félő, hogy ezek a jelenségek további lemaradást generálhatnak.

ÉSZAK - VAJDASÁG GAZDASÁGI FEJLŐDÉSÉNEK LEHETSÉGES FORGATÓKÖNYVEI

"A jövőt nem lehet előrelátni, azt elő kell készíteni."
Maurice Blondel, filozófus

Alkalmazott módszer

A különböző modellek korlátozottan képesek olyan összetett rendszerek, mint a régiók jövőbeli viselkedését jellemezni. Ezért tűnt úgy, hogy egy közvetlen kérdőíves és egy szakértői forgatókönyv-elemző módszer kombinációját alkalmazzuk munkánkban, amely hasznosítja a szakértők tudásbázisát is.

Az adatgyűjtés és szakértői adatelőkészítés folyamán használt ötletvihar, Delphy, valószínűségi intervallumok meghatározására és egyéb módszertani részletekre nem térünk ki.

A forgatókönyv építés folyamatában elvégeztük a jövőbeni tendenciák kölcsönhatási vizsgálatát. Ez a technika megpróbálja megbecsülni egy-egy elem megjelenési valószínűségét, tekintetbe véve a kapcsolódó lehetséges jelenségek bekövetkezési valószínűségét is. A kölcsönhatás módszer célja a valószínűségi becslések módosítása és összehangolása. Munkánk során a SMIC-PROB-EXPERT kölcsönhatási analízis eszközét használtuk, melyet (Michael Godet, Branfield et al. 2005) fejlesztett ki.

A forgatókönyv fejlesztés folyamatára nem térünk ki, de megemlítjük, hogy a vizsgált folyamatok, elemzések alapján a 64 programcsomaggal generált folyamatrendszer közül az alacsony valószínűségi mutatók alapján 58 – at elhagytunk és hat lehetséges folyamatrendszert vizsgáltunk részletesen. Ezekből kombináltunk s fogadtunk el egy folyamatrendszert – forgatókönyvet a programcsomag számításai alapján és Cluster analízis alkalmazásával.

Gazdaságfejlesztési forgatókönyv eredményei és elemzése

A lehetséges folyamatkombinációk elemzése alapján eljutottunk a következő megállapításokig :

- Az olyan folyamatkombinációk, vagyis szcenáriók (gazdaságfejlődési forgatókönyvek) összevont valószínűsége, amelyeknek van agrárvonatkozása 0.428, amelyeknek a kombinációjában van stagnálás 0.357 és amelyekben megjelenik a kis és középválalkozói szektor (KKV) erősödése mint folyamat 0.16.
- Ennek alapján elfogadtuk, hogy a legvalószínűbb egy olyan gazdaságfejlődési forgatókönyv megvalósulása, amelyben erősen kifejezésre jut az agrárszektor szerepe, bizonyos szinten a kis és középvállalkozások működése és fennmarad egy kifejezett stagnálás.

- Abból az alapgondolatból kiindulva, hogy az optimista forgatókönyvek elemzése felesleges, mert passzivitáshoz vezethet, elfogadtuk, hogy ez a forgatókönyv komoly elemzést és erőteljes lépéseket igényel a döntéshozók részéről, mert a stagnálás veszélye nagyon erős.
- Gyakorlatilag ez a forgatókönyv azt jelzi, hogy ebben a régióban az endogén erők szintje nem elégséges ahhoz, hogy a fejlődés motorját képezzék. Elképzelhetetlen az agrárszektor és a KKV. akkumulációja alapján komolyabb strukturális fejlődést generálni, különösen a stagnáló hatások mellett.
- A kivezető út az elvonások csökkentésében és a tőkevonzó képesség növelésében van. Csak a külső forrású tőke az, amely olyan termelő és szolgáltató – logisztikai, szállítmányozási kapacitásokat teremthet a régióban, amelyek magukkal húzhatják a KKV szektor fejlődését és a nagyobb mértékű munkaerő lekötést.
- Az agrárszektor lehetőségei a természeti adottságokból erednek. Problémáit az élelmiszeriparral együtt kell vizsgálni, vagyis a szántóföldtől a fogyasztóig. Szerepe nem hanyagolható el még akkor sem, ha akkumulációs képessége korlátozott, mert a mezőgazdaság helyhez kötött és a lakosok egy részének kötődése – alapvető szociális biztonsága függ tőle.
- Feltétlenül szükségeltetik megszabadítani az agrárszektort a felesleges munkaerőtől, ugyanakkor a bió - termelés és egyéb diverzifikációs lehetőségek (pl. vidéki turizmus, bioenergia-termelés, gyógy-és fűszernövény-termelés, gyümölcstermelés, szőlőtermelés, állattenyésztés) fejlesztésével és az élelmiszeriparral piaci kitörési pontokat teremteni.
- A piaci lehetőségek felderítése és kihasználása elsőrendű fontosságú, mert a piaci lehetőségek kihasználása nem a nyersanyag forgalmazásán, hanem a magas fokú feldolgozáson, a fogyasztási cikkek piacra dobásán múlik.

FOGLALKOZTATÁSI PROGNÓZIS ÉSZAK – VAJDASÁGRA

Az elvégzett gazdaságfejlesztési elemzések hangsúlyosan arra utaltak, hogy a munkanélküliek, vagy a foglalkoztatottak létszámának prognózisai nagyon fontosak lehetnek a jelenlegi helyzetre, de a jövőre nézve is, mert a döntéshozók nem tekinthetnek el a gazdaságfejlesztés strukturálásánál a foglalkoztatás égető kérdéseitől.

Sajnos a munkanélküliek számának statisztikai adatai felhasználásra alkalmatlanok voltak az idősorok rövidsége miatt. Ugyanakkor a foglalkoztatottak számáról 22 éves adatsorokat tudtunk biztosítani az „Opštine u Srbiji - (1989 - 2009.) - Republički Zavod za Statistiku

Srbije, Beograd, AP Vojvodina kiadványokból és a Nacionalna služba za zapošljavanje által rendelkezésünkre bocsátott községekre vonatkozó Excel táblázatokból (1. táblázat).

A táblázatba foglalt adatsorok lehetővé tették a prognosztikai modellek alkalmazását. Ugyanakkor elővigyázatosságra is intettek, mert az idősorokra alapozott prognózisok megbízhatósága nagyban függ az idősorok hosszúságától. Tudtuk, hogy még hosszabb idősorokra lenne szükség, de abból kellett kiindulni, amivel rendelkeztünk és maximális szakmai elővigyázatossággal dolgozni.

Alkalmazott prognosztikai módszer

Az előrejelzések készítéséhez az SPSS ARIMA modelljeit használtuk, azzal, hogy a valós adatok változásának megfelelően határoztuk meg a modelleket jellemző p, d, és q értéket.
A „p" meghatározza, hogy hány előző adatot használjon a modell az előrejelzések kiszámításához. A „d" érték attól függött, hogy az adatok milyen függvényt közelítenek. Ha lineárist, akkor 1., ha négyzetest, akkor 2, stb. A „q" pedig azt jelezte, hogy a modell hány tényező mozgóátlagából számítja a becsült adatot.

1. Táblázat

A foglalkoztatottak száma Szerbiában, Vajdaságban, Régióban és a községekben 1988 – 2009.

Év	Szerbia	Vajdaság	Összesen	Szabadka	Topolya	Kishegyes	Kanizsa	Csóka	Zenta	Ada	Óbecse
1988	2 569 181	624 005	117073	55 642	15 027	3 151	8 348	4 795	9 648	6 364	14 098
1989	2 562 563	619 146	115659	55 201	15 011	3 145	8 181	4 713	9 368	6 356	13 729
1990	2 481 509	604 412	111118	53 433	14 656	3 116	7 198	4 482	8 767	6 113	13 353
1991	2 315 438	559 922	100879	47 895	13 064	2 682	7 032	4 251	8 292	5 422	12 241
1992	2 194 811	537 484	95554	45 710	12 108	2 643	6 611	4 132	7 557	4 981	11 812
1993	2 112 414	519 061	90518	43 628	11 377	2 595	6 183	4 040	7 026	4 693	10 976
1994	2 048 811	500 324	85551	40 651	10 806	2 439	5 795	3 940	6 450	4 875	10 595
1995	1 988 676	482 500	81158	38 629	10 456	2 299	5 620	3 709	6 135	3 904	10 406
1996	1 953 689	470 528	79190	37 882	9 712	2 237	5 744	3 638	6 306	3 653	10 018
1997	1 892 852	451 999	75622	36 341	8 750	2 250	5 546	3 615	6 167	3 460	9 493
1998	1 844 820	444 232	73938	35 510	8 862	1 929	5 533	3 512	5 739	3 365	9 488
1999	1 670 869	426 973	70151	33 327	8 618	1 474	5 366	3 399	5 246	3 252	9 469
2000	1 596 510	413 561	68200	32 557	8 369	1 267	5 346	3 144	5 256	3 181	9 080
2001	1 555 056	404 442	66211	31 892	8 315	1 212	5 297	2 681	5 051	2 993	8 770
2002	1 458 676	382 244	62930	30 844	7 975	1 227	5 040	1 748	4 795	2 772	8 529
2003	1 383 815	361 531	61031	30 289	7 506	1 254	4 798	1 623	4 724	2 751	8 086
2004	1 580 146	407 480	69415	35 957	8 272	1 354	5 031	1 559	5 421	3 175	8 646
2005	1 546 473	400 747	67617	35 880	7 639	1 496	4 750	1 294	5 235	3 052	8 271
2006	1 471 752	380 986	64982	34 686	7 309	1 372	4 342	1 164	5 028	2 960	8 121
2007	1 432 854	373 762	63414	34 164	7 084	1 238	4 101	1 155	5 067	2 767	7 838
2008	1 428 459	375 932	63811	35 162	7 066	1 220	4 303	1 064	5 003	2 605	7 388
2009	1 410 942	364 806	61410	33 508	6 704	1 294	4 347	1 007	4 798	2 612	7 140

Forrás: RTT szerkesztett ábra - CESS projektum 2010

Önellenőrzés céljából minden egyes ARIMA modellel készült prognózishoz készítettünk egy az SPSS EXPERT Modeller funkciójával készített modellt is. Ezzel az eszközzel gyorsan elemezhetőek a históriкus adatok és becsülhetőek a trendek. Ez az eszköz automatikusan meghatározza az adott adatokra legalkalmasabb ARIMA, vagy más modellt. Automatikusan teszteli az adatok szezonális jellegét, folyamatosságát, hiányzó értékeit és kiválasztja a megfelelő modellt, majd a végén grafikonokat készít a konfidencia intervallumra és a modell megfelelő illeszkedésére.

A Kapott eredmények áttekintése

A prognózisokat a következő adatsorokra végeztük:

1. Foglalkoztatottak Szerbiában.
2. Foglalkoztatottak Vajdaságban.
3. Foglalkoztatottak a régióban (8 községben összesen).
4. Foglalkoztatottak minden egyes községben.

A kapott eredmények áttekinthetők a 2. és 3. táblázatokban:

2. táblázat

Foglalkoztatottak számának prognozált alakulása

Területi egység	Előrejelzési modell	R^2	2010			2015		
			Előrejelzés	UCL	LCL	Előrejelzés	UCL	LCL
Szerbia	AR. (2,1,1)	0.976	1 386 145	1 518 733	1 253 558	1 406 146	1 567 506	1 244786
Vajdaság	AR. (2,1,1)	0.979	375 061	400 324	349 797	410 580	438 576	382 585
Összesen	AR. (2,1,1)	0.906	62 886	75 917	49 854	68 810	81 949	55 671
Szabadka	AR (0,1,0)	0.938	34 195	37 970	30 419	40 003	49 252	30 755
Topolya	AR (0,1,0)	0.970	6 656	7 582	5 730	6 888	9 156	4 620
Kishegyes	AR (0,1,0)	0.951	1 291	1 616	967	1 395	2 189	600
Kanizsa	AR (2,1,0)	0.950	4342	4874	3810	4 738	5 837	3 640
Csóka	AR (1,2,1)	0.975	970	1 424	516	1 412	3 101	-277
Zenta	AR (0,1,0)	0.964	4 879	5 443	4 315	5 708	7 089	4 328
Ada	AR (1,1,0)	0.951	2 629	3 200	2 058	2 992	4 227	1 758
Óbecse	AR (2,1,1)	0.978	7 108	7746	6470	7 084	8 011	6 157

UCL – felső határ, LCL – alsó határ
Forrás: RTT szerkesztett ábra - CESS projektum 2010

3. táblázat

A prognózisok konfidencia intervalluma és a foglalkoztatottak számának prognozált növekedése

Területi egység	Várható tendencia	Konfidencia intervallum (UCL vagy LCL / előrejelzés)	Előrejelzett növekedés (2015 / 2010)
Szerbia	Stagnáló, alig emelkedő	± 11.47%	19 960 = 1.44%
Vajdaság	Növekvő	± 6.82%	35 519 = 9.47%
Összesen	Csökkenő majd növekvő	± 19.10%	5 924 = 9.42%
Szabadka	Növekvő	± 23.10%	5 808 = 16.98%
Topolya	Gyengén emelkedő	± 32.90%	232 = 3.48%
Kishegyes	Alig emelkedő	± 43.00%	104 = 8.05%
Kanizsa	Gyengén emelkedő	± 23.18%	396 = 9.12%
Csóka	Gyengén emelkedő	-	442 = 45.56%
Zenta	Növekvő	± 24.18%	829 = 16.99%
Ada	Gyengén emelkedő	± 41.24%	363 = 13.80%
Óbecse	Stagnáló	± 13.09%	-24 = - 0.24%

Forrás: RTT szerkesztett ábra - CESS projektum 2010

A 2009 – es állapot összehasonlítása a 2015 -re prognosztizált és a 2013 - ban ténylegesen megvalósult foglalkoztatással most készülhetett el és a 4. táblázatban látható:

4. táblázat A foglalkoztatottsági prognózis és alakulása

Területi egy.	2oo9 (1.táb)	Prognozált (3. t. -2o15)	% (3/2)	Megvalósult (2o13)	% (5/2)	% (5/3)	Mely elmúlt évnek felel meg a 2o13. F.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Szerbia	1 41o 942	1 4o6 146	99	1 715 ooo	121	122	1998/99
Vajdaság	364 8o6	41o 58o	112	443 ooo	121	1o8	1998
8 község	61 41o	7o 22o	114	8o 572	131	115	1995
Szabadka	33 5o8	4o oo3	119	42 152	126	1o5	1993
B. Topola	6 7o4	6 888	1o3	8 3o4	124	121	2oo1
Kishegyes	1 294	1 395	1o8	2 215	171	159	1996
Kanizsa	4 347	4 738	1o9	5 964	137	126	1993
Csóka	1 oo7	1 412	14o	1 823	181	129	2oo2
Zenta	4 798	5 7o8	119	7 o75	147	124	1993
Ada	2 612	2 992	114	4 472	171	149	1993
Becse	7 14o	7 o84	99	8 567	12o	121	2oo2

Foglalkoztatási prognózisok értékelése

- Minden területi egységre készített ARIMA modell R2 értéke a 2. Táblázat szerint 0.95 -től magasabb, kivéve a régió esetében. Elvben a prognosztizált eredmények e mutató alapján jónak tekinthetők. A prognosztizált növekedés csak Szabadka, Zenta és Ada esetében több mint 10 % az öt éves periódusban a 3. Táblázat szerint. A többi községben, a régióban, mint egészben, Vajdaságban és Szerbiában 10 % alatt marad.

- Csóka esetében a prognosztizált növekedés igen magas, de a konfidencia intervallumot nem is számoltuk, mert az alsó határ negatív értéket mutat. Emiatt a prognosztizált növekedés megbízhatósága elégtelen és a kapott eredmény értékelhetetlen.
- A 2013 – ra megvalósult foglalkoztatási szint összevetése az 1. Táblázat adataival a 4. táblázat utolsó oszlopában mutatja, hogy melyik területi egység mely korábbi év szintjét érte el.
- Az egyes települések, városok 2013 – ra a következő foglalkoztatási szinteket érték el: Szabadka 1993, Topolya 2001, Kishegyes 1996, Kanizsa 1993, Csóka 2002, Zenta 1993, Ada 1993, Becse 2002. Tehát, a foglalkoztatottsági visszaesés hatalmas, megközelítőleg 15 – 2o évet tesz ki és ennek ledolgozásához hosszú évek kellenek.
- A prognosztizált eredmények, vagyis a foglalkoztatás növekedésének 2 -3 % évi átlagos növekedése összhangban vannak a gazdasági fejlődést jelző forgatókönyvvel, vagyis a gazdasági stagnálással.

A gazdasági növekedési mutatók 2010 – 2013 között 0.6, 1.4, -1.0, 2.6 % - t tettek ki Szerbiában. (A községekre nem rendelkezünk adatokkal, de lényeges eltérés nem feltételezhető.) Ugyanakkor a gazdaság stagnálása ellenére a 2013 ra megvalósult foglalkoztatás adatai jelentősen felülmúlják, mint látható a 4. Táblázat 6. És 7. Oszlopában a 2009 –es foglalkoztatási és a 2015 – re prognosztizált foglalkoztatási szintet is.
A prognózisról feltételezhető, hogy a számszaki korrektség ellenére sem megfelelő. Az alkalmazott megszorításokkal pesszimista eredményt adott.

A 2009 – es és 2013. állapot empirikus összehasonlítása nagy javulást mutat, de ez a gazdasági fejlődéssel nem indokolható foglalkoztatás növekedés magyarázata nem a gazdasági szférában keresendő.

Ezt támasztja alá az is, hogy korábbi kutatásainkból tudjuk, 1 – 2 % - os gazdasági növekedéshez – szabály szerint – nem kell új munkaerőt alkalmazni, mert ilyen növekedéshez mindég van elegendő belső munkaerőtartalék a gazdaságban.

Záró gondolatok

A projekt minden elemzése, a foglalkoztatási prognózisok valamint a gazdaságfejlődés lehetséges forgatókönyve is abban az irányban mutatnak, hogy a régió községei, de Vajdaság és Szerbia is sürgős lépéseket tegyenek a régió további visszafejlődésének, leszakadásának megakadályozására.

- Elsősorban csökkenteni kell a központi jellegű elvonásokat a régión belüli eszközellátottság javítása érdekében.
- Növelni kell a régió tőkevonzó képességét.
- A beruházások területén keresni kell a megfelelő egyensúlyt az akkumulációképes, méretökonómia nemzetközi kívánalmainak is eleget tevő kapacitások és a munkaerő lekötő KKV kapacitások között.
- Az élelmiszertermelésnek, vagyis a mezőgazdaságnak és feldolgozó iparnak segítséget kell nyújtani a piaci áttörésben, pl. közös marketing fellépéssel, mint azt más országok is teszik.
- Megteremteni a mezőgazdasági szövetkezés megfelelő jogi feltételeit.
- A mezőgazdaságot mentesíteni kell a nem kihasznált munkaerőtől más szektorok fejlesztésével.
- A gazdaság, szolgáltatás és a többi szektor fejlesztésével lehetőségeket teremteni a foglalkoztatás legalább 4 – 5 %. növekedésére a szociális feszültségek és elvándorlás megakadályozására.
- A belső migráció és az elvándorlás koránt sem mellékes kérdések. A belső migráció, amely a többségi nemzet nagyobb mobilitásának is következménye, azt eredményezte, hogy Vajdaságban már 2002 – ben az őshonos lakosság csak 53.1 % - ot tett ki,még a más vidékről idetelepülők 46.9 % (Kincses, 2o12).
- Ugyanakkor a vajdasági magyarok emigrációja kifejezett, mert 1948 – 1991 között 69 193, a 90 – es években megközelítőleg 50 000 magyar ment el külföldi vendégmunkásnak (Gabrity, 2009). Bukurov (1977) szerint az 1965 – 1970 között 60 000 Vajdaságból külföldi munkavállaló közül 27.5 % volt magyar nemzetiségű. Meg lehet azokat az ezektől eltérő hivatalos adatokat is említeni, amelyek szerint 2011 – ben Szerbiából 294 045, azon belül Vajdaságból 46 831 személy volt külföldön, mint vendégmunkás (Nagy). Az adatok eltérőek, de nagyon egy irányba mutatnak.

- Nem akarok kitérni például a Harris – Todero (1977) modell alapesetére, amelyben a cél – és a kibocsájtó régió béreinek várható külömbsége és a munkanélküliség lehetősége határozza meg a migrációs döntést, de az ilyen magatartás megkérdőjelezésére sem (Stark – Bloom, 1985), mert nekem úgy tűnik, hogy ez a jelenség egységes modellel nehezen írható le.
- Az empírikus tapasztalatok azt mutatják, hogy az emberek nálunk sok esetben a már beállt munkanélküliségtől, a munkaügyi bizonytalanságtól, az elvesztett jogoktól és a befogadó országok olcsó munkaerő éhsége miatt nyújtott

biztonságosabb megélhetésért vállalják a periferikus társadalmi szerepet a külhonban.

- Azok kivételével, aki magasabb képzettséggel azért migrálnak a fejlettebb országokba, hogy megvalósítsák önmagukat a maslowi motivációs piramis (Maslow, 1954) negyedik, ötödik szintje értelmében, az alacsony képzettségűek a piramis két alsó szintjéért a fiziológia szükségletek és a biztonsági szint eléréséért vállalják a gyökértelenséget, vagy az új talaj keresését külhonban.
- Meg lehet kockáztatni a megállapítást, hogy a romló gazdasági helyzet és kilátástalanság a jobb kilátásokhoz szokott őslakosok közösségét, mind jobban megbontja, exoduszra készteti. Ugyanakkor a fejletlenebb vidékek lakóinak, a háborúk következtében menekülőknek ez a környezet még mindég javuló lehetőségeket jelent az ország fejletlenebb részeihez viszonyítva.
- Az előzőek fényében nem tudom, hogy lehet e népességmegtartó erőről beszélni, vagy a jelenkori migrációk enyhe oldalvizéről.

SUMMARY

We originally reported on the 2009 Economic Development and Population Retention Scenario during the 2010 Vajdasági Magyar Tudományos Társaság meeting. The conclusions are still current.
The communities of Szabadka, Topolya, Kishegyes, Kanizsa, Zenta, Ada, Becse, and Csóka represent a large proportion of Hungarians in the region, with a long history of challenges to economic development.
There are several important factors to consider:
The fact that the native population of mixed ethnicity in these communities tends to be tolerant and cooperative points to an exceptionally important factor for developmental potential.
The X. corridor and the proximity to the border creates a gateway to and from Europe. Recognizing this potential and the will to act on it could generate job opportunities and income potential in a range of industries.
This region used to be considered among the most developed areas of the country. This is no longer the case because of the gradual decline, however we still have the foundation of tradition, work ethics, technical and technological orientation. Of course, it has to be decided if we should revitalize the traditional industrial structural framework, or rather aim for a more sophisticated economical structure serving not only the local but the national developmental agenda.
The region is particularly interesting from the perspective of food production due to its potential for diversification. The planes adjacent to the river Tisza are farming grains and industrial crops. The sandy soils of the Szabadka – Horgos region are excellent for growing grapes, fruits, and vegetables. The entire region is well suited for meat production and food processing. Irrigation could hugely increase the potential already outlined.
Despite of such potential we are witnessing stagnation, gradual decline, and increased unemployment. This has a corrosive effect on socioeconomic relationships and public morale, which could further exacerbate the decline seen in the region.
Existing models of development have a limited ability to predict the future development of the entire region, which can be viewed as a network of complex systems.
We used a mixed methodology of direct questionnaires and expert driven Economic Development and Population Retention Scenario. In the process of building the scenario we analyzed the interaction of predicted future trends using a cross-impact probability method. The probability of individual trends relative to the probability of dependent trends was estimated using SMIC-PROB-EXPERT software (Michael Godet, Branfield et al., 2005)

The software generated 64 possible scenarios out of which we selected 6 with the highest probability for in depth analysis. By applying cluster analysis, we generated a single final scenario that puts a strong emphasis on the role of agriculture (0.428), strengthening of small and medium size producers (0.16), and continued stagnation (0.357). What this means is that the existing resources of the region are insufficient to generate future development, especially significant structural growth.

The way out is by decreasing the economic drain and strain of the region while simultaneously attracting investment capital. Outside investments in production, transportation, and logistics capabilities are vital if we are to generate employment and advance the capabilities of small and medium size producers.

Agricultural potential lies in natural resources. The challenges need to be considered in the context of food production, from the source to the consumer. The role of agriculture cannot be undervalued despite its limited ability to accumulate profit. Agriculture is intrinsically tied to location, and represents the social safety net of the local population.

It is essential to invest in diversification. This includes agricultural tourism, bioenergy, the production of meat, fruits, wine, herbal and medicinal plants. This would rebalance the agricultural labor force, advance the manufacturing of food products, and position the region on a more global market. Discovering and harnessing market potential is top priority. Value is best generated by high level food processing, as opposed to sales of primary agricultural products.

We were able to use 22 years' worth of employment data in the process of modeling future employment trends. SPSS ARIMA software was used. The R 2 index indicated promising employment trends.

The sum of our analyses, the prognostication of employment trends, and the economic development scenario outlined above all point us to one conclusion. The communities in question, Vajdasag and Serbia all need to entertain urgent steps in order to prevent further decline.

First and foremost, the centrally generated economic drain that the region is subjected to has to diminish.

Recommendations:

- Increase the region's ability to attract investment capital.
- Find a satisfactory balance between the local small and medium size producers and the demands of international economy of scale.
- Agriculture and the food processing industry require support in order to move towards integration and shared marketing on the global marketplace.
- Create a legal infrastructure for agricultural organization and collaboration.
- Existing agricultural labor inefficiencies need to be relieved by developing complimentary economic sectors.
- A 4%-5% increase in employment needs to be achieved by the development of manufacturing and service industries in order to diffuse the growing social tensions and economic migration away from the region.
- In 2002, as a result of internal migration, the native population of Vajdasag represented 53.1%, while new and recent arrivals amounted to 46.9% (Kincses, 2012).
- At the same time, the emigration of Hungarians from Vajdasag accelerated. Between 1948 and 1991 an estimated 70 000 people left in order to become guest workers in foreign countries. In the 1990's alone 50 000 Hungarians emigrated (Gabrity, 2009). According to Bukurov (1977), from the 60 000 foreign guest workers who left Vajdasag between 1965 and 1970 27.5% were of Hungarian nationality. According to official data, in 2011 294 045 citizens of Serbia lived abroad as guest workers, 46 831 of them from Vajdasag. These numbers are different; however, they speak of the same trend.
- The Harris – Todero (1977) model bases the decision of economic migration on the wage difference and the unemployment risk of the regions involved. This model was challenged (Stark – Bloom, 1985), in my opinion justifiably so. This is a highly complex decision not well suited to a simplified explanatory model.
- Empirical experience tells us that on one side of the balance we have to add already established unemployment, employment insecurity, and loss of worker rights. On the other side is the need for cheap labor in more developed countries, and the promise of more financial security despite diminished social standing.
- When it comes to migration, we can apply the Maslow motivational pyramid (A. Maslow, 1954). Those with higher education migrate to more developed countries in the hope of self-actualization, while those with less education pursue the lower levels of physiological need and security.

The combined effect of declining economy and the lack of prospects is demoralizing to the native population which was used to better prospects in the past. The result is the unraveling of traditional social structures and population exodus. At the same time people from undeveloped regions, those displaced by war, refugees, and economic migrants see the region as a promise of improved circumstances.

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Original scientific paper

LOCAL FOOD SYSTEMS SUPPORTED BY COMMUNITIES NATIONALLY AND INTERNATIONALLY

Izabella Mária BAKOS[a]

[a] Szent Istvan University, Faculty of Economic and Social Sciences, H-2100 Gödöllő, Páter K. Str. 1., bakosizabella89@gmail.com

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Abstract

Due to the concerns about the long-term sustainability of globalized retail trade as well as the more and more determining health-conscious food-consuming attitude the systems of government respectively the groups of conscious consumers all over the world put emphasis on the popularization and development of local food chains and small-scale supply chains simultaneously they connect the retailers producing high-quality, local foods with the direct markets. In my study, I would like to present an overview of the development and current state of community supported agricultural systems on the international and Hungarian level and on the basis of the results of my questionnaire survey. I will indicate whether there are any demand for local food in Hungary and about how much the population of the six investigated settlements are familiar with it. Within this type of alternative local food systems, farmers and their buyers form a community based on social capital (co-operation, mutual trust and mutual responsibility), a direct sales channel, in such a way that cooperation is also beneficial to the producer and the consumer. The producer is in an advantageous position as he can form a direct and long-term relationship with his consumers selling his high-quality products locally consequently he can work in a cost-effective and optimal way. However, the advantage of the consumer is that he can obtain healthy foods from reliable sources contributing to the maintenance of his health respectively to the development of local economy.

Keywords: agriculture supported by communities, buyer communities, communal farms, box systems

INTRODUCTION

These days the industrialized food supply chains are not sustainable in the long run, they do not contribute to the development of the local economies and the unity, wealth, identity, as well as the maintenance of the local values of local communities or to the environmental protection and maintenance of agricultural employment rate, consequently to the preservation of the classical characteristics of the countryside, either. The present intensive, industrial, and conventional food production started in the second half of the 20th century all over the world making the lives of farmers impossible. The retails are not competitive compared with the industrialized agriculture, globalized food trade as well as with the significantly changed consumer trends (Réthy and Dezsény, 2013). As opposed to the preference of the origin and nutrition value of foods and that of the local characteristics respectively the high-quality, nutritious food the mass consumption prevails. Today it is most important that every product should be available in the same place independently of the season, preferably at a low price

and in a semi-prepared state. Generalization is not the right thing to do and I would like to avoid it but based on the empirical researches it is obvious that we can talk about a current set of problems whose multiplicative and negative effects should not be neglected. A radical change of paradigm is required by the consumers as well as in the respect of the re-consideration of food supply chains.

The international literature dealing with agricultural and food business practices pay special attention to alternative solutions, such as the food production activities of the population, consumer communities, community-supported agriculture, urban food councils, local food systems, school programmes hosted by farms, etc. (See Cooley-Las 1998, DeLind, 1999, Lamine, 2005, Mariola, 2008). These short food supply chains offer alternative opportunities for those who want to engage in conscious production and conscious consumer behaviour and support the local economy.

The current rural development policy of the European Union puts great emphasis on the supporting primary producers and small producers, the promotion of local food and the strengthening of the short supply chain type of distribution channels. In Hungary, the demand for developing and improving a network of short supply chains, both from the supply- and demand sides, has increased, so in the 2014-2020 Rural Development Program Hungary has developed the Short Supply Chain Thematic Program (REL), in which 3.84 billion forints can be used for these initiatives. In order to create viable, small-scale food systems, I think it is essential to examine consumers' attitudes, preferences and general consumer behaviour on local food. In this paper, I summarize the most important results of this questionnaire survey, which provide support for decision makers and local food system organizers as well.

OBJECTIVES AND METHODS

In my present study I intend to review the history of development and the present situation of agricultural systems supported by communities at national and international scales based on secondary research and document analysis method.

By conducting questionnaire surveys, I also examined the attitude towards local food, as well as the general food buying and consuming behaviour among the population of six Hungarian settlements. When selecting the sample areas, it was important to conduct the survey in settlements where there is already an alternative type of community-supported local food system, the bottom-up consumer-producer communities. My goal was to analyse various settlement types and demographic groups. I conducted the survey in the following six settlements, with the aid of second-year Agrobusiness and Rural Development Engineering students from the Szent István University: Esztergom, Kecskemét, Érd, Csömör (Spring 2016), Miskolc and Eger (Spring 2017). The method of sampling was arbitrary, but it was

considered an important factor to make the questionnaire representative. The number of respondents providing valid data is 817, of which 63.0% are women and 37.0% are men. 27.6% of the respondents were from Csömör, 21.2% from Kecskemét, 16.3% from Esztergom, 14.4% from Miskolc, 12.2% from Érd and 8.2% from Eger. The sample is very mixed, based on the fact that group varied much according to their age, school education, occupation and income level. To process the questionnaire database, I used the statistical program package IBM SPSS Statistics 20.

When processing the results, besides the general description, I tried to discover the dependency relationships between the different criteria by using cross-table analysis. According to H0 there is no correlation between the variables in the study. If H0 was discarded during the test, significant relationship was identified. The existence of the relationship is tested by the Pearson Chi-square. If the significance level of the indicator (Asymp.Sig. (2-sided) is below 0.05% (which is a typical significance level in the field of social sciences), there is a correlation between the variables examined (Sajtos-Mitev, 2007). The following association coefficients were used in order to examine the strength of the relationship: Cramer's V, Gamma and Eta indicators. The strength of the relationship was interpreted as follows:

- 0 to 0.199: weak connection
- 0.200 to 0.399: moderately strong
- 0.400 -: strong connection.

RESULTS

The history of the development of agriculture supported by the communities

International scale

The so-called CSA-type (Community Supported Agriculture) movements were launched in *Japan and Europe* in the second half of the 20th century independently of each other. The first CSA-type communities appeared in Germany in the 1950s. Based on Rudolf Steiner's activity respectively his biodynamical agricultural system and social aspect the forming German communities promoted the creation of a natural and ecological type of farming. They provided areas of lands to biodynamical farmers who, in return, sold their products to them. During the 1970s the system showed significant development and the members could purchase lands that they rented out to farmers at affordable prices supplying them loans at the beginning of the seasons to cover their costs. This model became widespread in *Switzerland* and the leader of the movement there named Jan Van der Tuin imported and introduced the practice of communal farming in the *USA* as well. In the 1980s similar types of farms

appeared in the USA and the worldwide spread equivalent of CSA called "*Community Supported Agriculture"* is supposed to have been born there. (Réthy-Dezsény, 2013) According to the determination of a community named Farm to City (n.d.) in Philadelphia the CSA can be regarded as a mutually favorable agreement between the community members and the local farmers according to which the farmers guarantee products during the season for the money payments made before the season. Each week of the season the farmers do the harvest and distribute them among the "share-holders", typically the members of CSA. In the majority of CSAs the so-called "boxes" delivered every week content the same things for each member. In case of some CSAs the members select the things that they want from a list every week. This is the equivalent of the methods applied by the buying communities. The producers deliver their foods to the premises determined by the members or they can be taken over at the farms. As the members of the CSAs pay for the foods at the beginning of the seasons they can share the advantages and risks with the farmers the level of which may differ depending on the weather conditions of the year. There have been many examples for the *food-autonomy* in the history of humankind, see the mayors in the medieval ages or the Soviet type farmers' co-operatives. For example, in Cuba all the institutions are obliged to be self-sufficient with food so the companies and schools have their own farms or gardens. These examples, however, are far from the agriculture supported by communities. The modern, present form of CSA derives from Japan. In 1971 Teruo Ichiraku, a philosopher, the leader of farmers' co-operatives drew the attention of the Japanese consumers to the dangers of chemicals used in agriculture and he took measures to launch the movement of ecological agriculture. Three years later the movement became real in the frame of the first Teikei project ("Food supplied with the face of the farmer") thanks to the co-operation of the enthusiastic housewives and farmers (Henderson, 2010). The Japanese Organic Agriculture Association – JOAA founded in 1971 described the "Teikei" as an idea to create an alternative way of distribution that is independent of the conventional markets (in. URGENCI). The manifestations of Teikei may vary but they share the characteristic in common that they are all direct distributing systems. For the sake of the formation and operation of Teikei systems the farmers and consumers have to create close relationships and hold meetings based on mutual understanding. Both parties ensure the work power and capital to support their own transport system. The Teikei is not only a practical idea but a dynamical philosophy to make people consider their lives better through their relationships either as a consumer or as a producer (URGENCI).

The center of the *world organization of CSA* is located in the little town of Aubagne in South France. The international top organization named "The International Network for Community Supported Agriculture (URGENCI)" started to spread the *concept of communal*

farming that was popular in France in ten Middle-European countries and in North Africa in 2008 (Perényi-Horváth, 2009). Now the activity of the organization is present in several parts of Africa, Asia, Europe, the Middle-East, North- America and Latin-America. All over the world there seem to be an ever-growing interest for local foods and the farmers along with consumers form different communities and local food systems. The nominations of the initiatives and forms of manifestation may vary from country to country (Tab. 1), but they have the main characteristics in common.

Table 1 The names of Agriculture Supported by the Communities in some parts of the world

Nomination	Original name	Abbreviation
USA and UK	Community Supported Agriculture	CSA
Canada/ Québec	Agriculture Soutenue par la Communauté	ASC
Japan	Teikei	提携
Belgium	Groupes d'achat solidaire de l'Agriculture paysanne	GASAP
Bulgaria	Съпричастно земеделие	-
France	Association pour le maintien d'une agriculture paysanne	AMAP
Croatia	Grupa solidarne razmjene	GSR
Hungary	Közösség által támogatott mezőgazdaság, Közösségi mezőgazdaság	-
Germany	Solidarische Landwirtschaft	-
Italy	Gruppi di Acquisto Solidale	GAS
Portugal	Reciproco	-
Romania	Asociația pentru Susținerea Agriculturii Țărănești	ASAT
Switzerland	Fédération romande d'agriculture contractuelle de proximité	FRACP

Source: on the basis of http://urgenci.net/, my own edition

The active civils are committed to their local farms sharing with them the advantages and risks of ecological farming. In the past century due to the development the relationship between humans and food-producing lands broke up. During the decades of free trade the family farms got into trouble. However, the several cases of food scandal-illnesses caused by food bacteria, the dairy and other products polluted by GMO and other chemicals- related to the import products- deriving from industrial production resulted in a crisis of no confidence (Henderson, 2010). The CSA means a return to a small-scale and direct direction of food supply that is favorable for the consumer, the producer and the environment as well.

Nowadays the Japanese CSA model has become well-known and followed all around the world. The agriculture supported by communities is present in four continents of the World.

Tab. 2 shows the spatial distribution of the number of groups, consumers and farms based on the estimated data of URGENCI. At world scale the *Farm Fresh To You* can be considered as one of the biggest CSA communities counting 13.000 members.

Table 2 The estimated data of the Community Supported Agriculture in the world*

Nomination	Groups (pcs)	Consumers (head)	Farms (number)
NORTH AMERICA	7103	409700	7100
United States of America	7000	400000	7000
Canada (Québec)	103	9700	100
EUROPE	3547	412580	4257
France	1600	180000	3000
Italy	1000	100000	700
England	140	24000	100
Germany	80	16000	80
Eastern-Europe (7 countries)	51	3600	51
Switzerland	38	7030	38
Spain (Basque Country)	30	100	30
ÁSIA	1515	176650	1877
Japan	1000	100000	700
China	500	75000	500
Korea	10	1000	100
India	4	600	576
AFRICA	9	543	35
***The given data of the continents and countries are estimated ones and they are not complete.**			

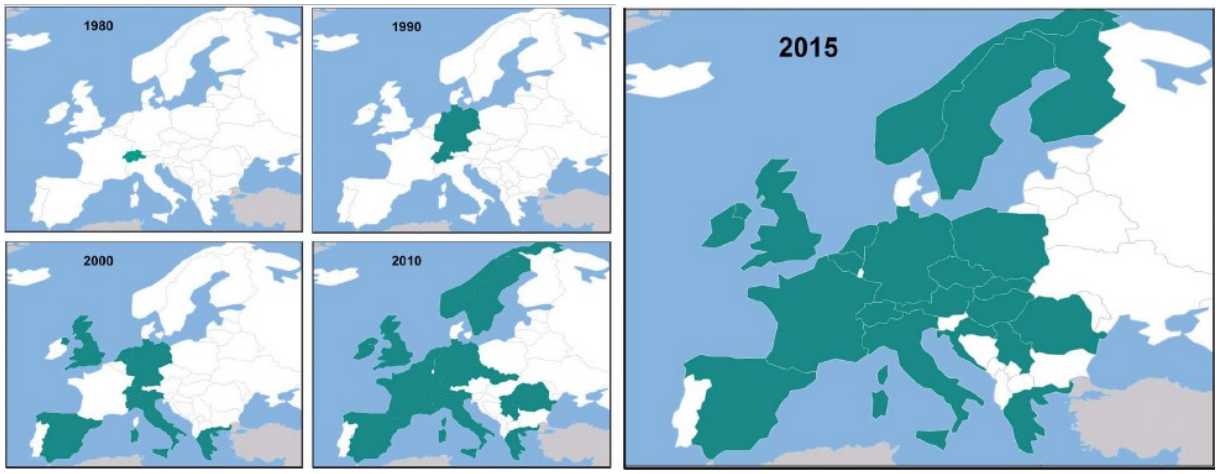
Source: based on Parot (2015), my own edition

The European situation

The first CSA was founded in 1978 in Switzerland, near Geneva (Les Jardins de Cocagne). In the 1970s and 1980s only few similar initiatives were launched in Europe, however, after 2000 this type of movement became more and more popular. As defined in the regulation of 834/2007/EK of the European Council on the ecological farming: " the ecological farming is a system consisting of economic management and food-production that involves the best environmental protection practices, the high-quality biodiversity, the preservation of natural resources, the application of animal welfare standards at a high level, and certain producing methods that agree with the preferences of given consumers to products made of natural ingredients and produced in natural ways. The ecological production has a double social role: on the one hand, it supplies a special market that satisfies the need of the consumers for ecological products; on the other hand, it produces common goods that can significantly contribute to the environmental protection and animal welfare as well as to the rural development."

As the map shows (Fig. 1), nowadays this environmentally and socially sustainable type of alternative farming is present in the majority of the European countries. Countries in which CSAs operate are shown in dark green color based on surveys of 2015.

Figure 1 The spread of Agriculture Supported by Communities in Europe between 1978-2015



Source: Weckenbrock, Volz, , Parot, Cressot (2016, p. 9)

According to the estimation of the European CSA research group in 2015 approximately 2 785 CSAs were operating all over Europe producing foods for about half a million consumers (474 555 people). Recently this number has been supposed to grow, but unfortunately, no updated data is available. Tab. 3 shows the estimated number of European CSAs and consumers. France can supply the majority of the farms (2000 pcs) as well as consumers (320 000 heads). At the same time, there is a considerable number of CSAs in Belgium (138 pcs), Italy (104 pcs), Germany (92 pcs), United Kingdom (80 pcs), Spain (75 pcs), Switzerland (60 pcs) and Netherlands (47 pcs). In other countries the number of CSAs spreads between 2 - 35.

Table 3 The estimated numbers of European CSAs and consumers by countries (2015)

Number of CSAs (number)		Number of consumers (head)	
France	2 000	France	320 000
Belgium	138	Switzerland	26 000
Italy	104	Netherlands	25 500
Germany	92	Germany	25 000
United Kingdom	80	Italy	22 800
Spain	75	Belgium	14 500
Switzerland	60	United Kingdom	10 000
Netherlands	47	Spain	7 500
Norway	35	Norway	6 000
Austria	26	Croatia	4 000
Czech Republic	23	Greece	2 400
Croatia	20	Finland	2 000
Romania	15	Austria	1 500
Hungary	12	Czech Republic	1 400
Sweden	12	Slovakia	1 300
Finland	10	Hungary	1 200
Slovakia	10	Romania	1 000
Poland	8	Sweden	1 000

Table 3 (continued)

Number of CSAs (number)		Number of consumers (head)	
Greece	7	Poland	800
Ireland	7	Ireland	485
Serbia	2	Serbia	70
Lithuania	2	Lithuania	100
Total	**2 785**		**474 555**

Source: on the basis of Weckenbrock, P.- Volz, P.- Parot, J.- Cressot, N. (2016, ps. 9, 10) my own edition

Near the Black Forest, in Freiburg the representatives of twelve European Countries were holding a meeting about the opportunities of co-operations of researches carried out in relation to CSAs in August, 2015. At the meeting the definition of CSA was made which all the participant were able to identify with serving as a guide the existing and future CSAs as well: *"The CSA means a direct partnership between a given group of consumers and producers where all the risks, responsibilities and rewards deriving from the agricultural activities are shared according to the long-term contracts. Usually the CSA operates at a low or local level with the aim of supplying high-quality food in an agro-ecological way"* (European CSA Research Group, 2016, p. 8).

According to the survey carried out in 2015 by the European CSA research group 73% of the CSA consumers hand over the ordered foods or in case of a subscription system the share of food he is entitled to at the so-called *takeover points.* These takeover points are usually function as public spaces near the consumers' homes or workplaces, however, in some countries there are *fix takeover points* in the shops of the buying communities. In these shops not only the orders can be handed over but other hand-made, local foods are available all the time. The 42% of the interviewees *take over* the ordered foods at the farms of the farmers, while 24% *take part in the harvest* and 20% of them *take the opportunity of* home delivery. In about half of the 22 countries there is a national network the CSA. This can be considered as quite a good rate regarding the fact that the communal agriculture appeared in some countries only some years ago. According to the survey of the international network of CSA (URGENCI=The International Network for Community Supported Agriculture) only 7% of the interviewed European CSAs are the members of the above mentioned network. Based on the study in the analyzed countries the food distribution directly through the *buying communities* is typical of the following courtiers: Austria, Belgium, Hungary, Greece and Spain. In my view, if not in the strict sense, but the direct selling forms respectively consumer-producer co-operations that do not work in a contractual way or according to a strict subscription system can be regarded as buying communities only figuratively as the consumers themselves organize their food supply systems and they have a relatively wide

latitude regarding the quality and quantity dimensions of their purchasing. The frequency of their further orders is set according to their needs.

The realization and aspects of CSA in Hungary

After the millennium in Middle- and East – Europe the communities that produced high quality, nutritious foods also appeared reaching an ever-growing, conscious circle of consumers. Due to the fact that these communities formed in a different way and structure from each other in time and space there is not a standard term to define the CSA, only common guidelines qualifying as the cross-sections of national definitions. According to the European research group of CSA (2016) these principles ensuring an alternative attitude to agriculture based on solidarity, direct human relationships, mutual respect, small-scale food-production and consumption respectively the respect of the environment.

In Hungary there is relatively little scientific literature on the topic of CSA consequently the standard definition has not been formed yet. The term of CSA and the English definition first appeared in the 1990s and mostly its loan translation was used by the authors. As the above mentioned term seemed too long and difficult to say the Conscious Buyers' Association (the Hungarian TVE) introduced shorter expressions in its programs as of 2008 and its professional materials such as *"communal agriculture"* or simply *"communal farming"*. Réthy and Dezsény (2013) has drawn the attention to the fact that this simplification results in the change of the meaning as well. As a result, it should always be precisely defined what kind of farming and selling types are meant by a given nomination. The authors have also mentioned the definitions of *"producer-consumer communities (in Hungarian TFK)* as well as that of *"vegetable community"* used by farmers and the so – called nominations of *"AMAP farmland"* on the basis of French antecedents.

The systems of Community Supported Agriculture are in the beginning phase of development in Hungary. The TVE has a lion share in the popularization of CSAs and buying communities. On its web page and in its magazines it regularly publishes informative articles on the systems of communities, respectively it organizes thematic programs and through the project partners it promotes the spreading of them. For example, in co-operation with the Swiss partner Agridea they held lectures and workshops with the aim of promotion in more Hungarian and Swiss cities in the spring of 2013 under the frame of a common project. They supplied information to the inquiring audience on the CSA giving practical advice to the farmers as well. In the frame of the program the French Institute in Budapest hosted the first lecture. (Nagy, 2013). Similarly to the TVE, the Ecological Agricultural Research Center (ÖMKI) along with the involvement of ESSRG researchers of Szent István University play an important role in the popularization of CSAs with its programs and forums to the inquiring

farmers (Réthy-Dezsény, 2013). These conferences mainly help the farmers interested in CSA or being experienced in communal farming respectively consumers can get to know each other's activities and they have the opportunity to share their ideas. The conference series of *Grundtvig realized in the frame of lifetime learning program of the EU* was a similar one also hosted by the French Institute in Hungary. The series of programs was held in five countries. Hungary, England, Austria, France and Germany. The TVE represented Hungary as a co-operating partner (Szilva, 2012).

The promotion of the local food networks is most important to sustain the food supply and distribution as well as to enforce the local selling, consequently Hungary drafted the Short Supply Chain Thematic Basic Program (REL) in its Rural Program of 2014-2020 in the frame of which 3.84 billion HUF could be spent on the formation and development of local food systems. This was a vital step in Hungary as the direct selling ensured existence and the possibility of advance planning for the Hungarian farms respectively the small-scale family businesses in an unfavorable macroeconomic condition. These farms mainly do ecological farming based on personal relationships and confidence contributing to the change of the consumers' attitude. (Réthy-Dezsény, 2013). The system of CSA provides a most environmentally friendly solution as it reduces the emission of harmful things accompanying the packing and delivery to the minimum. Furthermore, it saves the fields as the majority of CSA farmers fail to use herbicides, fertilizers or other chemicals. It is important to mention that the prices of these foods are much lower than that of the bio products in the shops enforcing the local economy and identity respectively as a multiplicative effect of them they contribute to the survival and sustainability of rural spaces.

The beginning phase of the system of CSA was in 1998 in Hungary with the involvement of the Institute of Environmental and Rural Farming respectively the Bio gardening workshop of the University led by Matthew Hayes in Babatvölgy (Gödöllő). The farm was named as Open Garden continuing its producing and selling activity until 2002. Some 10 years had to go by and as a result of the visit of the French AMAP farmers organized by the TVE the communal agriculture appeared in Hungary again on the initiative of some enthusiastic and talented bio farmers. In the past four years the number of farms based on communities has grown slowly and due to the increasing producer and consumer inquiry this number may multiply in the future (Réthy-Dezsény, 2013).

Buying communities

The buying communities are committed to the popularization of local foods, to the support of local farmers as well as to the sustainable food consumption. At present the buying communities are in their infancy in Hungary but they have a lot of latent potency to stimulate

the local economy. According to the data base of January 2016 of the Association of TVE there are 12 buying communities all over the country (Tab. 4). This is supposed to be an estimated number and there may be a lot of similar initiatives in Hungary but from the aspect of the study I consider the communities as relevant that organize their activities consciously and are available for a wider circle of people by demonstrating themselves online (for example, their own web side, Facebook). I have decided to focus on these buying communities because they are supposed to have a food-distributing and delivering system as well as experience the good practices of which are to be applied in my elaboration of the *sample model of the Hungarian buying communities.*

Table 4 Buying communities in Hungary

Name	Distributor points	What is on sale?
Bajai Szatyor Közösség (Batyor)	Baja	vegetables, fruits, dairy products, smoked meat, corns, natural cosmetics, herbs, drinks, syrups, local hand-made products
Borsodi Kosár Kör	Miskolc	vegetables
Csömöri Éléskamra	Csömör	honey, dairy products, eggs, cheese, pasta, oils, vegetable, juices, jams, syrups
Félegyházi Szatyor Klub	Kiskunfélegyháza	vegetables
Kecskeméti Szatyor	Kecskemét	vegetables, fruits, bread, honey, jams, syrups, cleaning products, cosmetics, cured products, sandwich creams, herbs, spices, drinks, meat products, seeds, corns, oily seeds
Kiskosár Bevásárló Közösség	Esztergom	vegetables, fruits, dairy products, bakery products, honeys, jams, tinned fruits, spreads, drinks, meats, other products
Miskolci Zöld Kosár Közösség	Miskolc	bio vegetables and fruits, different kinds of local and hand-made products, eco cleaning products, reform cakes, gifts made by recycling processes, etc,.
Natúr kosár	Érd	fruits, vegetables
Nyíregyházi Kosár Közösség	Nyíregyháza	vegetables, fruits, herbs, seeds, pickles, jams, honey, meats, drinks, dairy products, cleaning products, cosmetics
Szatyor Bolt	Budapest	vegetables, fruits, eggs, bakery products, dairy products, meat products, drinks, cosmetics
Szatyor-Debrecen	Debrecen	vegetables, fruits, bakery products, honeys, oils, cheeses, long-lasting foods
Szigetközi Szatyor Közösség	Mosonmagyaróvár	vegetables, fruits, syrups, jams, honey

Source: based on TVE (2016), my own edition

According to the registration of TVE the buying communities are mainly specialized *in the distribution of vegetables and fruits*, however, but there are groups (baskets) distributing a wider choice of products and not only raw ingredients but processed foods as well as local hand-made products such as Bajai Szatyor Közösség (Batyor), Csömöri Éléskamra, Kecskeméti Szatyor, Miskolci Zöld Kosár Közösség, Nyiregyházi Kosár Közösség, Szatyor-Debrecen, Sziegtközi Szatyor Közösség.

In the event of buying communities the members have the widest range of choice since they are not obliged to pay in advance or take over the their share produced by the co-operating farms as in case of the system of regular customers (communal farms) or symmetrical farms (box systems). Actually, buying communities can be regarded as the combination of the above mentioned two types of systems as the buyers, if in an informal way, commit themselves to the foods of the local farmers accepting the choice determined by the seasons but they decide how many and what kind of products they intend to buy on the basis of the list made by the basket organizers on a certain week.

This present, innovative form of short supply chain has the opportunity to develop dynamically in the present programming phase and with some help it may be an integral part of the industry of tourism as well. The buying communities provide high quality, nourishing local foods deriving from verifiable origin to the members and the customers. These communities distribute the products of farmers from a territory of 50, maximum 80 kms at farm prices. Selling the products of the farmers of a given territory the local hand-made and mainly high quality, eco products become more available common properties. At the same time the *community-building function* of these communities is also significant since besides the organization of food supply and transportation these communities organize programs in the frame of which there is an opportunity for common cooking while listening to living folk music or the participants have the chance to visit the supplying farmers enjoying the time spent with other members, etc. In my view, mainly Hungarian tourists interested in the traditional, hand –made farming and food production should be involved.

These types of communities as well as the Net-bag type shops can give a realistic picture of the high quality, local foods. They could contribute to the development of the small-scale, local economy and tourism by different programs, authentic guest tables, organized visits of farmers and other programs. The local foods and various gastronomic events can affect positively the tourism performance of a particular settlement and region (Csizmadiáné et al., 2015; Bottyán, 2015; Bakos-Topa, 2016). To realize the abovementioned, effective marketing communication is required respectively an intensive connection with the participants of

tourism, for example these shops and their programs should be recommended in the offices of Tourinform, at places of accommodation and restaurants. A mobile application available in more world languages supplying information on the location of local foods and shops would be most useful. For example, where authentic, local foods are on sale, respectively the other, related programs such as guest tables, or visiting farms, etc. Tourists should be informed about this type of application in as many ways as possible and they should be provided with it. An initiative of this kind is supposed to have been started but I have never met an application used all over the country.

Also, the symbolic *space forming role of the buying communities* is worth mentioning. The most common symbols as well as indirect meaning content related to the buying communities are the followings: returning to the roots, consumption of healthy and sustainable foods, environmental consciousness, Hungarian identity, belonging to a community, cultural roots, taking social roles, support of local farms, etc.

The majority of buying communities are present in the *virtual space* by their web pages and community pages (e.g.: http://szatyorbolt.hu/). The tourism-type services such as common cooking, film club, visiting of farmers, etc. as intensive ways of communication could also promote the local gastro-tourism.

The system of regular customers (communal farms)

In case of this type of farms the consumers join the farmers for a whole year undertaking to take over the food produced at the farms each week. They pay a flat rate for the varied, seasonal foods. The circle and amount of the given food largely depend on the season. At the beginning of summer the choice is much wider than in spring (TVE, 2016). Tab. 5 shows the 17 communal farms operating in Hungary. Similarly to the case of buying communities I worked up the data base of January, 2016 of TVE. Typically, members can access to a wide range of fruits and vegetables but other basic foods, such as meat, dairy products, eggs, breads, etc), processed and tinned foods as well as spices.

Table 5 The system of regular customers operating in Hungary (communal farms)

Name	Where is the farm/takeover point?	What is in the box?
Bio Pipacs	Pusztaszer Szeged	vegetable
Biofaló	More qualified farms Some districts of Budapest and Isaszeg	vegetables, fruits

Table 5 (continued)

Biokert, Szigetmonostor	Szigetmonostor Óbuda, Szigetmonostor, Pomáz, Szentendre Dunakeszi Csillaghegy	vegetables, fruits
Birs Közösség	Kunszállás Budapest	vegetables, fruits
Cékla Klub	Tata, Győr, Komárom	vegetables, fruits, spices and processed products
Dunabogdányi Tölgyes Ökofarm	Dunabogdány Szentendre, Óbuda	vegetables
Dunaszigeti ZöldségKözösség	Dunasziget Mosonmagyaróvár	vegetables, spices
Eleven Föld Szociális Szövetkezet	The agglomeration of Miskolc, Miskolc	vegetables, dairy products, long-lasting products, soaps
Évkerék Ökotanya	Balástya-Kistelek Szeged	vegetables, spices, fruits
Háromkaptár	Tahitótfalu Vác Szentendre Budapest Pilisszentlászló	vegetables, eggs, spices, seeds, breads
MagosVölgy Ökológiai Gazdaság	Terény Some districts of Budapest	vegetables, occasionally processed products, jams, nuts, syrups
Ökotársulás Közösség	Herencsény Some districts of Budapest	vegetables, fruits
Pásztortáska Baráti Kör	Debrecen	vegetables and other bio products, (oil, flour, seeds, bread, bakery products, creams))
Pomázi Közösségi Életkert	Pomáz	vegetables, mushrooms
Táncoskert Biogazdaság	Polgár, Budapest, Nyíregyháza	eggs, meats
Virágos tanya	Ásotthalom, Szeged, Budapest	vegetables, fruits, eggs, jams
Virágoskert Zöldségközösség	Székesfehérvár	seasonal vegetables, eggs

Source: based on TVE (2016), my own edition

Symmetrical farming (box-system)

In fact, symmetrical farms operate on the basis of the communal farms, widely known as box systems. In this case buyers can obtain products at a fix price but they have the opportunity to order the box weekly or not (TVE, 2016).

According to the registration of January, 2016 of TVE there are four box systems in Hungary specialized mainly in vegetables (Tab. 6). In the "Cargonomia" box system the weekly boxes contain producer wines as well.

Table 6 Symmetrical farms operating in Hungary (box systems)

Name	Where is the farm/takeover point?	What is in the box?
Átalakuló Dunapart	Zsámbok, Budapest, Pesterzsébet	vegetables
Átalakuló Wekerle-Mikosarunk	Gödöllő, Budapest, Wekerle	vegetables
Cargonomia	Zsámbok, Kispest, Bp. VII.district, Kelenföld, Óbuda, Gödöllő, Albertfalva and bicycle home delivery	vegetables, wine
Kelenföldi Zöldségkör	Zsámbok, Budapest, Kelenföld	vegetables

Source: based on TVE (2016), my own edition

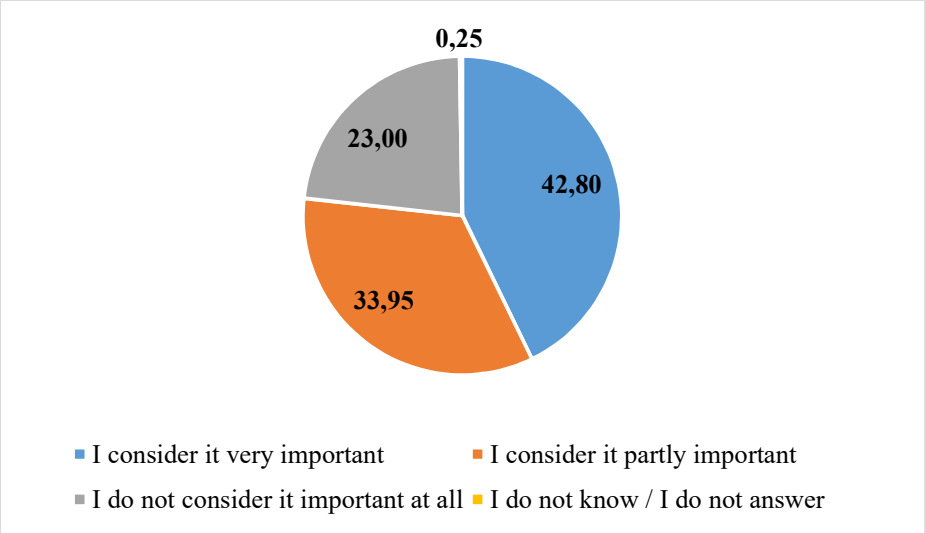
Results of the questionnaire survey

From the sample, for 42.8% of the respondents it was very important and for 33.9% of them it was important to have the opportunity to buy locally produced and processed foodstuffs (Fig. 2). From the demographic characteristics the gender ($\chi 2 = 24.304$; df = 3; p = 0,000; Cramer's V = 0.173), the school qualification ($\chi 2 = 50{,}002$; df = 12; p = 0.000; Eta = 0.154) and the occupation ($\chi 2 = 81.470$; df = 27; p = 0,000; Cramer'V = 0.183) indicated a significant but weak correlation with the importance of availability of local food.

In spite of my prediction, the perception of local food is unrelated to the income situation of the respondents. Responses suggest that women are more committed to local food than men, as 82.5% consider it important for local foods to be accessible to consumers. By contrast, 32.4% of men do not consider this important at all.

Respondents with higher qualifications indicated higher demand for local food (85.6%). 40.6% of young students do not consider local food important at all, which is saddening, because in a few years they will be the largest part of the demand for food. For people staying at home with children it was important to buy high-value, healthy, traceable food, similarly to housewives, from whom 91.7% said the same.

Figure 2 The importance of buying locally produced food (%)



Source: Own questionnaire survey (2016-2017, n = 817)

Based on the results of the cross-table analysis (Tab. 7), we can see, which are the most important aspects when buying food for the locals interested in local food products.

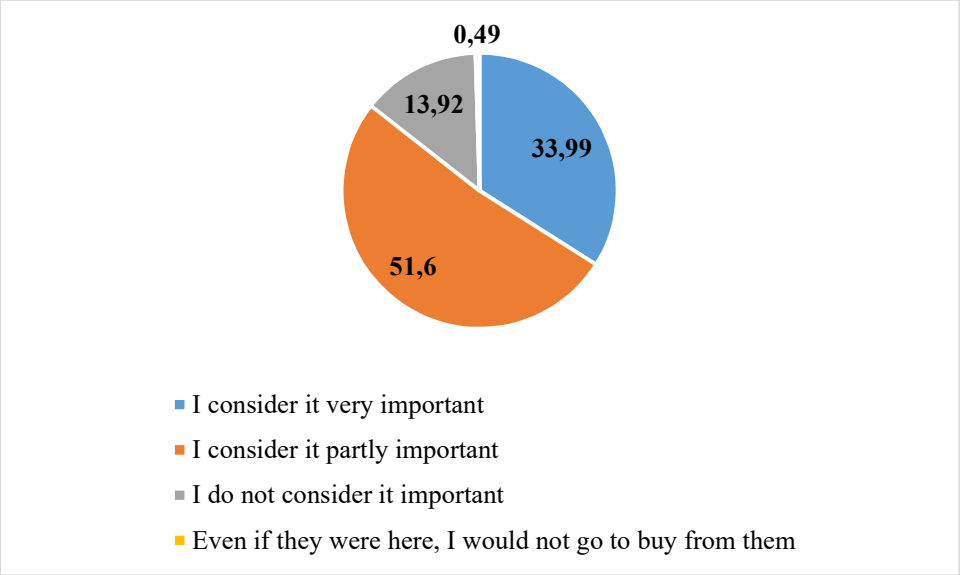
Table 7 Food buying profile of people preferring local food (%)

Factors	During buying food, how important are the following factors to you on a scale from 1 to 6, where 1=not important at all, and 6=very important						Correlation
	1	2	3	4	5	6	
The fame of the grocery	7.8	5.8	13.0	21.6	25.1	26.8	Weak relationship: $\chi2$=34.344; df=15; p=0.03; Eta=0.160
Everything should be available in one place	2.3	6.3	12.1	19.5	34.5	25.3	None
The Hungarian origin of the product	1.7	1.1	5.7	14.1	31.3	**46.0**	Strong relationship: $\chi2$=224.956; df=15; p=0.000; Eta=0.480
Locally produced food	1.7	2.0	10.3	17.2	35.6	33.0	Strong relationship: $\chi2$=403.422; df=15; p=0.000; Eta=0.617
If the product is from an organic farm	5.5	12.6	18.7	20.7	23.3	19.3	Moderate relationship: $\chi2$=105.896; df=15; p=0.000; Eta=0.300
The fame of the brand of the food product	6.0	9.2	17.8	27.6	24.4	14.9	None
Price	3.7	2.9	6.0	20.1	27.3	39.9	None
Quality	0.3	0.6	0.9	4.6	24.7	**69.0**	Weak relationship: $\chi2$=28.831; df=15; p=0.017; Eta=0.174
Environment-friendly packaging	2.3	8.6	14.1	22.1	21.6	31.3	Moderate relationship: $\chi2$=111.690; df=15; p=0.000; Eta=0.326
Health-consciousness	1.1	1.4	5.7	14.9	37.4	39.4	Moderate relationship: $\chi2$=125.894; df=15; p=0.000; Eta=0.351
The recommendation of family, friends	4.9	5.7	14.4	22.4	30.2	22.4	Weak relationship: $\chi2$=54.254; df=15; p=0.000; Eta=0.189

Source: Own questionnaire survey and calculation (2016-2017, n = 817)

However, the most important characteristic of their food buying habits is probably the awareness. 33.99% of the respondents consider it very important, while 51.60% of them consider it at least important to have a grocery store in their area, where only local and Hungarian food products would be available (Fig. 3). There is a considerable demand for local food, however, only 11.03% of the people are members of shopping communities in the settlement, and only 30.27% of them have heard of this initiative, but have never purchased food there. 58.7% of respondents have never heard of shopping communities. The highest number of people among the respondents who knew about these communities lives in Csömör and Esztergom. This is probably due to the fact that Csömör is a small town of 8,723 people where the fame of such a community is spreading more easily. Among the shopping communities in the settlements investigated, Esztergom performs intense online marketing activities, and its positive impact was supported by the results of the questionnaire.

Figure 3 How important would it be for you to have groceries in your town where only local and Hungarian food producers would be available? (%)



Source: Own questionnaire (2016-2017, n=817)

There is usually an NGO behind shopping communities, and most of them face resource shortages and infrastructure problems, so their survival and development largely depends on cost-effective online communication. 33.95% of the respondents would be willing to pay more for local food, while 38.73% of them would pay more only for a few basic foods. Tab. 8 illustrates the most common channels the respondents use to purchase food products. In the case of meat products and bakery products, retail shops are still popular sources, and the case is similar for the market for vegetables and fruits, eggs and pickles. Regardless of the type of

settlement, the Hungarian households surveyed still have pickling, as well as jam and compote making.

Table 8 The places of purchasing food products for the respondents (%)

Place of purchase	Meat products	Fruit and vegetables	Bakery products	Dairy products	Pickles	Marmalades, honey, other jarred products	Egg
Hypermarket	18.5	10.5	10.7	**23.4**	15.4	10.6	11.1
Supermarket	16.9	13.0	12.9	**29.8**	17.0	12.4	13.6
Local grocery	12.8	11.5	29.3	**28.5**	10.7	9.8	14.5
Market	10.3	**37.1**	2.3	6.8	**25.5**	13.2	**27.1**
Retail shop	**35.7**	16.9	**40.4**	7.2	8.4	3.7	5.3
Buying group	0.5	1.4	0.7	2.2	1.3	2.7	2.5
Homemade product	5.3	9.5	3.8	2.2	**21.8**	**47.7**	**25.9**

Source: Own questionnaire (2016-2017, n=817)

Based on the calculations of the Hungarian Central Statistical Office in 2014, the increase in income results in the decrease of the number of purchased and self-produced foods decreases, while the proportion eating at the workplace, at school and at restaurants increases. In the case of the top income quintile, nearly three quarters of food expenditure for its households is made up by purchased food, only 3.0% of their own production and about 23% of out-of-home meals. It is also remarkable that in 2014 the structure of the food consumption of the lower income categories has changed favorably; on comparative prices, the expenditure on purchased and out-of-dining meals increased more rapidly than for those who have better income levels and this resulted more favorable expenditure rates for their food in the year 2013.

CONCLUSION

Due to the industrialization of agriculture as well as the globalization of food trade the small-scale agricultural production and consumption supporting local products have been neglected all over the world. Global food chains are squeezing out and prevailing over local farmers resulting in unequal power relations that generate significant social tension in the world putting a strain on the environment. Recognizing it in several countries of the world the governments and conscious consumers make efforts to form local food networks and to maintain them. The agricultural systems supported by the communities supply an indirect way of alternative selling channels with maximum one mediator for the food producing little farms that have been neglected by reason of the global competition. These innovative selling

channels forms from below can bring producers and end-consumers closer to each other contributing to the direct marketization of high quality, nourishing foods and to the development of local economy as well as tourism.

The systems of CSA in their present form are not able to compete with and to substitute for the industrial food supply chains, nevertheless, they do not even aim to do that as they can operate only parallely to these systems completing them. The aim is to demonstrate that it is possible and required to move to a socially, environmentally and culturally more sustainable direction. I am convinced that a certain level of self-sufficiency is coded in the local communities that can be revived and stimulated by a suitable supporting community and its function activating the "local heroes" who take an active role in the development of local economy. The good practices that have been applied in Hungary and abroad in the past few decades based on these efforts definitely prove the reason for existence of the CSA systems.

The local food products as well as the traditional and alternative short supply chains promoting their selling (e.g. buying community-type shops) may contribute to the development of rural tourism respectively to the transmitting of local values directly or indirectly. I do hope that the European Union financial resources promoting the above mentioned channels and their participants will be used efficiently and economically in the present program period having a multiplicative effect on the local economies and tourism.

The results of the questionnaire survey could provide directions for decision-makers and local food system operators and organizers. Based on the results, women with small children and female mental workers could mean the highest demand for high-value-added and safe source food products. When compiling the marketing mix for local food systems, it is very important to create powerful online marketing and to shape their marketing mix to be attractive to a conscious, but modern consumer segment.

On the policy side, besides the European Union and domestic financial resources, the importance of small-scale food production and consumption should also be promoted by other means, which could bring the countryside and the city closer together, directly and indirectly as well, and contribute to the development of local communities and could support those not able to compete on the global market. This popularizing and awareness-raising activity would be especially important among young people, since the results of the questionnaire showed that young people do not prefer local food.

This generation has been born into the world of multinational companies, and most of them are not familiar with the flavor and feeling of rural, healthy foods. There are efforts by the government to feed local and organic food into canteens and buffets, but I believe that even

more efforts are needed to raise the awareness of young people, because they will determine food demand in a few years. The positive effects of local and organic food consumption, such as health, environmental, social and economic impacts should be promoted among young people.

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Original scientific paper

E-BUSINESS DEVELOPMENT: THE COMPARATIVE STUDY OF THE CZECH REPUBLIC AND THE UKRAINE

Victoriya KULYK[a], Dagmar ŠKODOVÁ PARMOVÁ[b]

[a] Poltava University of Economics and Trade, Koval St., 3, Poltava, 36014 e-mail: kutsenko_va@mail.ru
[b] University of South Bohemia, Faculty of Economics, Studentská 13, České Budějovice CZ-37004 e-mail: parmova@jcu.cz

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Abstract

This paper summarizes the current basis for e-business development in the EU with the focus on the Czech Republic with comparison with the associated Ukraine. After description of managerial and accountancy aspects for the e-commerce way of selling goods and services and after summarizing the legislative framework there is an analyses for future Human Resources Management according to the needs of Industry 4.0 introduced. After this theoretical part there you can find the comparison of the particular tools for e-business support and training of employees in related services between the Czech Republic and the Ukraine. As conclusion there is a list of recommendation summarized with the focus on how to improve the situation of e-business in nowadays Ukraine.

Keywords: e-commerce, accounting in e-business, HRM for e-commerce.

INTRODUCTION

Transformation of a significant number of business processes in the on-line sphere led to the emergence and further improvement of a new sector of the economy – e-business. E-business is a business activity that relies on the use of the Internet for modification of internal and external relations at an enterprise in order to gain revenue.

E-business is increasing continuously in various sectors of economy in many countries. According to the data of Global B2C Report 2016 (ECOMMERCEWIKI, 2016) the number of customers who shopped online accounted for 1,436 million people in 2015. Total online sales of goods and services obtained by e-business enterprises equalled $2,273 billion in 2015 (estimated for 2016 was $2,671 billion) that was significantly higher than in the preceding year, the growth was 19.9%. The share of goods and services sold online in the total amount of goods and services sold worldwide made up 5.6% in 2014. Global B2C e-commerce sales of products and services continued to grow significantly in 2015 (ECOMMERCE EUROPE, 2015). In 2016, total retail sales across the globe were about to reach $22,049 trillion, 6.0% more than previous year. eMarketer estimates sales will top $27 trillion in 2020, even as annual growth rates slow over the next few years, as explored in a new eMarketer report (2016).

Europe is the most mature market of e-commerce, 274 million people from this region shopped online in 2015 (ECOMMERCE EUROPE, 2015). According to UNCTAD B2C Index 2016 (UNCTAD, 2016), six European countries were in the list of top-10 leaders in e-business, such as Luxemburg (ranked 1st); Iceland (ranked 2nd); Norway (ranked 3rd); Finland (ranked 6th); UK (ranked 8th); Switzerland (ranked 9th). Besides that, three countries from the Asia-Pacific region and one from North America were also listed among top-10 countries. Four following indicators were used to calculate UNCTAD B2C Index 2016: 1) Internet users; 2) secure servers; 3) credit card penetration; 4) postal reliability score.

The European countries mentioned above are very efficient in e-business, because they are creating and using some competitive advantages. For example, Luxembourg can offer well-developed financial sector to e-business players. This sector attracts international corporations, the head-offices of Amazon, PayPal, Apple, etc. are situated there. The low rate of VAT concerning e-books encourages some spheres of e-business in this country. Despite being landlocked, Luxembourg has a developed logistics network and it is the second largest European country, which has the highest postal rate of reliability.

In the second place is Iceland. Internet penetration rate is very high in this country; people can use different types of credit cards, which facilitate international online purchases; the network of post offices is large and reliable in this country.

Ukraine was ranked 54th in 2016 (58th in 2014), between Romania (46th in 2014) and Costa Rica (49th in 2014). According to this information, Ukraine improved its position in comparison with 2014. At the same time, it can be seen that 54th place among 137 countries is not good enough for Ukraine.

If we look at the Czech Republic ranks, it was 29th in 2016 (28th in 2014). Subsequently, it can be noted that the Czech Republic overcame a half of way between Ukraine and the leading countries at e-business.

In 2015, the Czechs spent 3 billion euros in domestic online stores. Compared to the previous year, the Czech e-commerce industry achieved growth of over 20 percent. According to the data of the Czech association for electronic commerce, the local e-commerce grew by at least 15 percent in 2016. During 2015, e-commerce in the Czech Republic accounted for 8.1 percent of total retail turnover (APEK, 2016). According to preliminary estimates (Statista, 2016), the revenue in the e-market is set to reach $2,610 million in 2017. Revenue is expected to show an annual growth rate (CAGR 2017-2021) of 6.7% resulting in a market volume of $3,384 million in 2021. User penetration will be at 55.9% in 2017 and is expected to hit 59.2% in 2021. The average revenue per user (ARPU) currently amounts to $524.30. This suggests that the Czech Republic experience in running e-business can be very useful for Ukraine.

Therefore, it can be noted, that e-business is a popular economic activity, which is developing at a high speed worldwide. E-business is one of the most perspective directions of business development as it has considerable advantages in selling goods and services to potential consumers in comparison with other kinds of trading activity.

The main advantages of e-business activity are the following: 1) e-business allows potential consumers to choose and compare goods and services independently, by the most comfortable method and in proper time for them; 2) possibilities of e-business allow to offer customers the widest list of goods and services possible; 3) organizational features of functioning of e-business enterprises allow to offer the most affordable prices to potential customers.

E-business plays an important role and makes a large-scale influence in the world markets. It is held that, under the influence of e-business, the quality of life in the first decade of the 21st century will change more than in the hundred years of the 20th century. Based on the first experiences in the development of e-commerce, e-governance and e-banking, it may be concluded that they open up for major opportunities, and start bringing in quality changes in the business activities as well as in the life of citizens (Knežević, 2015).

OBJECTIVES AND METHODOLOGY

In this study, we will research e-business in three aspects, such as: 1) the main directions of e-business development and its obstacles; 2) the features of management in e-business and the components of e-business information system, which include accounting; 3) professional requirements needed for people who will work in the virtual economy in the near future. Using the experience of EU-member states and the Czech Republic in particular, we will offer some recommendations for e-business development in Ukraine.

In terms of literature review, two research gaps concerning the running of e-business in developing countries (e.g. Ukraine) were noted:

1. Theoretical – no in-depth analysis of the improvement in e-legislation to shape virtual environment.
2. Empirical – an incomplete description of new accounting advantages, experience and its implementation in business under the use of information and communication technologies in virtual companies. The description of the research can be acquired and the generalization of empirical knowledge fills this gap in partially.

The above-described problem definitely leads to a considerable need to conduct research in this area. This study is undertaken with the following objectives:

1. To evaluate the influence of globalization on doing and development of e-business;

2. To determine the influence of e-management on accounting system;

3. To identify professional skills needed in virtual economy and features of education system, which may help students to acquire these skills.

Considering the defined aims of the paper, there is a need to provide a review of the literature on the understanding of e-business models and trends, its obstacles considering e-legislation, e-management and accounting system in e-business as well as e-learning features.

The rest of the paper is organized as follows. The next section presents literature review on e-business aspects, which will be considered in the research (e-business evolution and directions of development; e-legislation framework as advantages and disadvantages of e-business; accounting as an information system to manage e-business; professional requirements and e-education). Next section proposes a review of e-business development and its trends, which affect the management of e-business. Then, we define how accounting system should be changed under the influence of information economy. Following this, we formulate suggestions, which are based on conclusions from the previous parts of the research and which can be used in education system to improve its quality in accordance with e-business requirements. Finally, we conclude the study with a list of suggestions, which can improve e-business in Ukraine.

We will use the content analyses to research the documents and the current studies according to e-business and to the future needs in the labour market as well. The syntheses will be based on the recommendations from the developed markets in e-business to improve the knowledge and the education of experts in higher education institutions in the Ukraine to raise the quality of this kind of business in this country.

LITERATURE REVIEW

Technological development is changing the way companies do business. One of the main sources of these transformations is the Internet, which became of great importance for doing e-business and to improve the productivity of economic activities in general. In this study we use the concept “e-business” in accordance with Beynon-Davies’ definition, such as “electronic business or e-business might be defined as the utilization of information and communication technologies to support all the activities of business” (Beynon-Davies, 2007).

The studies of different scientists were used to examine the main stages of e-business evolution and the components of e-business, such as internal models of e-business which were proposed by Osterwalder, Pigneur, and Tucci (2005); Markides and Sosa (2013); and Dasilva and Trkman (2014). E-business is recognized as a strategy that coordinates business processes

across organizational boundaries effectively. Information and communication technologies (ICT) and e-business are affecting our economic progress, social development, and the environment profoundly and in a complex manner. In order to further explore the relationship between e-business and the environment Yi and Thomas (2009) investigated its components. Aspects of e-business evaluation were investigated by Amit and Zott (2001); Chaston and Mangles (2002). The impact of external factors on e-business has been explored by Moreira de Souza and César de Sousa Batista (2017).

The issues concerning accounting in e-business have been considered in the articles of many scientists, following this, the aspects of using information and communication technologies in accounting have been explored. In terms of ICT-use, the problems involved in accounting improvement were investigated in the articles of the following European scientists: Gonzálbez and Rodríguez (2012); Grande, Estébanez and Colomina (2011); Poel, Marneffe and Vanlaer (2016). Taking into account significant contribution of the scientists into the development of accounting aspects mentioned above, it should be noted that distinguishing accounting features at e-business companies should be more thorough and requires further investigation.

The connection between management effectiveness organizational learning and knowledge management capabilities towards e-business implementation success was investigated by Khamis, Sulaiman and Mohezar (2014). These days, the problems of the future of education system are becoming more and more relevant; they were highlighted in numerous researches, such as Kotb and Roberts (2011); Tanaka and Sithole (2015); Pan and Seow (2016).

RESULTS

E-business evolution and current challenges

In the future, business will be conducted through flexible networks of interdependent organizations all over world. It will be global, open and collaborative, dynamic and adoptive, frictionless and consistent. Information and communication technologies will be one of the most essential presuppositions for successful business development. All industries will be affected by such kind of transformations.

Electronic communications started in US in 1958. It was the research on the US ARPA project, which increased technological progress on networks, protocols and software and led to the ARPAnet (1969). More inventions followed such as the EDI (1972) and the WWW (1992, CERN) which was created as a management system of multimedia resources that

permits data exchange between computers. The development of e-commerce was fast: in the period of 1994-1997 many business firms created a web page on the Internet without electronic transactions (e.g. amazon.com, e-bay). In the period of 1997-2000 the first electronic transactions were made possible, and since 2000 e-commerce is widely considered as a way of increasing profit (Col., 2013).

At the beginning, in the mid-90s, ICT were used in business for selling and paying for goods and services, which was well-known as e-commerce. Then, when ICT were implemented in all chains of business processes, such as ERP, CRM, EAM, and HR-management, researchers prefer to call this kind of business activity e-business. Nowadays, e-business includes not only e-commerce, but also m-commerce (mobile commerce) as a new kind of business with ICT use.

Nowadays, enterprises, which belong to e-business, can be conventionally divided into four layers (table 1).

Table 1 The Layers of Companies Related to E-business

Layer	Types of companies	Examples
Layer 1 The Internet infrastructure layer	Companies that provide the infrastructure for network and its services (Network hardware provider, ISP, Software companies, Server manufacturers)	MCI, TCS, Cisco, AOL, AT&T, Qwest
Layer 2 The Internet applications layer	Companies that provide software for enabling transactions and services (Consultancy software developers, Multimedia development providers)	Netskape, Adobe, Microsoft, IBM, Oracle
Layer 3 The Internet intermediary layer	Companies that act like the platform for transactions (Online portals, Content providers, Internet brokers)	Yahoo, eBay
Layer 4 The Internet commerce layer	Companies that directly interact with the customers to sell their products (Subscription based companies, T-tailors, Online ticket sellers)	Flipkart, Amazon, Dell

Source: E-commerce essentials (2016)

Thus, e-Commerce Directive 2000/31/EC (ECD) highlights other classification for groups of e-companies within the Internet intermediary layers (European Commission, 2000):

1) web hosting providers (including domain name registrars) and data processing, transforming data, which prepare data for dissemination or store data or content on the internet for others (Navisite, Akamai, OVH, Easyspace, Rackspace, Regsiter.com, Leaseweb, Go daddy, GMO Internet INC.);

2) Internet search engines and portals, which provide help navigating on the Internet (Google, Yahoo!, Baidu, Never, MSN, Bing);

3) e-commerce intermediaries, enabling online buying or selling, but don't owe the goods sold (Amazon, eBay, Allegro, Ali Baba, Priceline.com);

4) participative networking platforms, which do not create or own the content being published. They provide help in creating content and social networking (Facebook, LinkedIn; Youtube, Ohmynews);
5) Internet access and service providers (ISPs). They prove access to the Internet to households, business and government (Verizon, Comcast, NTT, Internet Initiative Japan, BT, Free fr, Vodafone, Orange, Tmobile, MTN);
6) Internet payment systems, which process Internet payments (Visa, Paypal, Mastercard).
E-business companies belonging to every layer, have internal and external environment. The evolution of e-business enterprises depends on the components of internal and external environment. Previous studies in e-business were used to construct the model of internal and external environment of e-business enterprises (Osterwalder, 2004, Osterwalder et all. 2005, Durbhakual, Kim 2011).

The external environment consists of four aspects including the following: 1) country characteristics (corruption, human capital); 2) government dimension (e-government development, e-participation, government policy and vision); 3) business dimension (business competitiveness, business environment); 4) technology dimension (ICT infrastructure, technology innovation, technology readiness).

This model illustrates what aspects of the internal environment have to consider and what dimensions of external environment should be taken into account by managers. The pillars of internal aspect of e-business include nine building blocks of business model. Product pillar consists of Value Proposition building block. A Value Proposition is an overall view of a company's bundle of products and services that are of value to the customer. There are three building blocks of business model in Customer Interface Pillar, such as: Target Customer, Distribution Channel and Relationship. The Target Customer is a segment of customers a company wants to offer value to. A Distribution Channel is a means of getting in touch with the customer. The Relationship describes the kind of link a company establishes between itself and the customer. Infrastructure Management Pillar includes next blocks: Value Configuration, Capability and Partnership. The Cost Structure is the representation in money of all the means employed in the business model. The Revenue Model describes the way a company makes money through a variety of revenue flows (Osterwalder, 2004).

To sum up, the components of internal and external environment of e-business enterprises influence decision-making process. In terms of every component of e-business environment, the managers of virtual enterprises in developing countries face numerous challenges (table 2).

Table 2 Challenges Facing E-managers in Developing Countries

Components of e-business environment	Challenges facing e-managers in developing countries	International experience in solving these problems
Components of external environment		
Country Characteristics	Political instability High level of corruption in country	Politic and economic reforms
Government Dimension	Trade barriers Differences in legal regulation of trade activity	Simplification of VAT taxation for different kinds of e-business enterprises among the European Union member-states
Business Dimension	High level of competition at the international market	Governments may provide an access for various versions of web-sites (where different prices are established) for customers from different countries
Technology Dimension	Insufficient level of infrastructure development	Creation of a new legislative base that involves regulation of trade activity through mobile phones and other gadgets that will be used at e-business sphere in the near future
Components of internal environment		
Product	High prices and limitations in selling and usage of separate types of commodities	Unification of legislation among the European Union member-states
Customer Interface	Insufficient level of customers' trust to Internet-shops Language barrier	Customer personal data protection Prevention and fighting e-crimes
Infrastructure Management	Lack of legislation regulating cooperation in e-business	Creation of identical requirements for e-business activity considering regional aspect. In this case, it is important to create equal conditions for all enterprises that perform in e-business sphere and implement these requirements at legislative level
Financial Aspects	Differences in accounting and Financial Statement	Implementation of IRFS

Source: Own compilation.

One of the ways to solve these problems is the creation of e-legislation connected with e-business demands. In our opinion, EU member-states and other developed countries have a huge experience in tackling these challenges; some aspects can be used in Ukraine.

E-legislation

The problems highlighted above arise during performing economic activity by e-business enterprises and are more or less common in developing countries. However, attempts to solve these issues, in terms of legislative regulation of e-business, have been initially made in EU-countries.

E-business takes a significant place in international trade, as evidenced by numerous attempts on behalf of NGOs and state bodies to harmonize e-commerce regulations. E-commerce transactions should be legally straightforward. E-entrepreneurs get money up front for the sale, in return for

delivery of a product as described within the timeframe specified. A standard set of terms and conditions should cover the vast majority of transactions (ECOMMERCE GUIDES, 2016).

The Internet is one of the most regulated areas of society. In the EU, there are at least fifteen Directives, proposals and recommendations to try to regulate e-commerce. The EU has attempted to assert regulatory control of online issues and it is hoped that as each country incorporates various EU legislative packages into local law, the opportunity will be taken to abolish outdated provisions and set forth an e-commerce-friendly approach throughout Europe (Jahankhani, 2002).

The first of them is e-Commerce Directive 2000/31/EC (ECD), which has created the basic legal framework for online services, including electronic commerce in the Internal Market. The purpose of the Directive is to remove obstacles to cross-border online services in the European Union and provide legal certainty to business and citizens in cross-border online transactions.

The main feature of the ECD is its horizontal application such as provision of "information society services" (ISS) (e.g. online sellers of goods and services, ISPs, search engines, etc.). ECD complements other EU legislation, for example, identifies procedural rules and substantive rules. At the same time, ECD does not apply to taxation, data protection and gambling activities.

In 2010, the European Commission developed its EU 2020 Strategy by establishing three development priorities on smart, sustainable and inclusive growth. In addition, the EU 2020 strategy proposed seven flagship initiatives: 1) an innovation Union; 2) youth on the move; 3) a digital agenda for Europe; 4) a resource-efficient Europe; 5) an industrial policy for the globalisation era; 6) an agenda for new skills and jobs; 7) a European platform to tackle poverty (European Commission, 2010 and 2012).

In terms of EU 2020 Strategy, the Directive 2011/83/EU89 on consumer rights will change the requirements for pre-contractual information was adopted. It repeals previous directives on distance and off premises contracts (85/577/EEC and 97/7/EC) and (re)establishes consumer rights on the basis of full harmonization. New harmonised rules on the passing of risk in sales contracts and the default time limit for the delivery of goods as well as a ban on hidden charges, on pre-ticked boxes which impose surcharges higher than the trader's actual costs for the use of a certain payment means (e.g. credit cards) and on charges for telephone hotlines higher than the standard telephone rate for calls. However the Directive 2011/83/EC still presents certain disadvantages: There is still fragmentation of national laws on remedies (guarantees) and unfair contract terms since national laws still apply on the validity, termination or enforceability of a contract; transfer of ownership of goods; gambling and healthcare services. In addition, member States may impose linguistic requirements on consumer contracts (Col., 2013).

The Digital Single Market is the first pillar of the Digital Agenda. Therefore, nowadays, the European Commission is working on the improvement of European legislation, aiming to remove barriers between e-business legislation in different countries and create a common digital market in Europe. The main activities of the European Commission for the improvement of e-business legislation are the following:

– stimulation of e-business enterprises involved in cross-border trade, particularly small and medium e-business enterprises; this improvement relates to the harmonization of contract law, consumer rights protection, and more structured of parcels delivery;

– simplification of VAT taxation as it is an important problem for small and medium enterprises that needs to be solved urgently (Ecommerce Europe, 2016).

The major part of the problems e-business European enterprises face has been resolved in the political sphere. It especially concerns the following: 1) problems concerning online safety and data protection can be solved by stimulating investments in innovative products in e-industry; 2) consumer rights protection can be enhanced through self-regulation of the market and a high rate of competition; 3) legislative regulation of payments made with mobile gadgets should be improved considerably; 4) implementation legislation that would harmonize VAT within EU member-states and introduction of the Mini One-Stop Shop Scheme (MOSS); 5) improvement of e-logistics by providing more efficient parcels delivery from the country where the company performs its activity.

To sum up, many aspects of e-business are regulated by current legislation in the EU, such as: shipping and delivery policy; refund policy; protecting e-entrepreneurs interests; standard e-commerce terms and conditions; data protection; protecting customer's privacy online; online advertising compliance; taxes in e-business; customer financial data security. At the same time, there are some obstacles, which discourage e-business development in the EU. Overcoming these obstacles involves the following:

– harmonization and synthesis of the different legal systems, regulations, and laws in different member countries for e-business complete solutions across the EU;

– development of the contractual framework, related meta methodology, and associated legal information systems;

– development of contractual templates and related guidelines for online contracting;

– acceleration of regulatory studies on online security, DRM, and IPR;

– proposal of tentative mechanisms for cross border compensation and dispute resolution, self-regulation, and relevant codes of conduct;

– initiation of holistic approaches regarding applied ontologies and artificial intelligence for several key areas which hinder SEEM deployment such as natural language processing and creating

a legal/regulatory framework for European laws and regulations;

– development of regulations relevant to e-business registries, in particular user registry information validation and confirmation, and defining the roles and legal responsibilities of certification authorities;

– development of specific regulations tailored for SMEs to facilitate their trusted participation in the SEEM and prevent them from facing alone unaffordable disputes in other countries and under unfamiliar laws;

– development of ICT services for online dispute resolution as a key element for trust building in e-business across Europe. Although much depends on the general social infrastructure, the SEEM developers and general interest groups should work out effective online/offline dispute resolution services to solve

– any potential conflicts generated in the SEEM;

– inclusion of the ethical side in all the studies of regulations about intercompany and even interpersonal e-business relations across Europe (Renl et al., 2007).

Barriers for increased uptake of ICT are very much related to the lack of resources, insufficient knowledge about ICT costs and benefits, absence of skills, as well as the prevailing traditions and culture in this sector. Therefore, there is still great potential for further ICT uptake, for example: production planning systems, ERP systems with financial components, inventory management systems, supply chain management (SCM) and mobile solutions. Another conclusion is that business process integration may be a key driver for ICT adoption in the future.

This indicates that it could be cost-effective to launch policy initiatives in order to increase the level of awareness of e-business applications. In this context, the following three areas of policy actions have been identified as appropriate: 1) improving ICT skills; 2) increasing the awareness of ICT benefits and potentials; 3) facilitating the process of interoperability (Gatautis, 2007).

Accounting as a part of e-business management system

According to the Standish Group Report (2013), the most important reasons for e-business failure are the following: a) inappropriate project scope definition; b) inappropriate project communication; c) lack of appropriate project management competencies. So, well-prepared business strategy and good management communication are extremely important for effective running of e-business. Firstly, before researching the main features of e-management, we should study the impact of ITC-technology on different components of e-business (table 3).

Table 3 ICT Impact on the Development of Company's Individual Elements

Company element	Possible consequences of the implementation of ICT in the company
Systems	Development of a comprehensive integrated management information system Redefining organizational procedures for the needs of the digital environment Dissemination of telework
Structure	Transition from hierarchical structures to flat and network structures Increasing role of self-organization and self-control staff Redefining departments role - IT outsourcing
Strategy	Replacing strategic role of interest groups in the company's environment Change in key drivers of competitive advantage Shortening the product life cycle New forms of economic cooperation New variants of competitive strategies
Styles of action	Change in the nature of intellectual work New model of communication Dispersion of decision-making process Increase in utilization of digital tools to support decision-making
Personnel	Extension working time Increased psychological stress associated with work Internet use for staff recruitment Reduction in the importance of staff unions
Values	Facilitate the formation of the desired image and dissemination of the value of the company Promoting a culture of tasks within the company Increasing the role of trust as a tool of control and coordination Decreasing threat to data security Construction of universal value systems
Skills	Need for continuous improvement of employees Treating the Internet as a source of organizational knowledge Change the nature of managerial work as a result of the acquisition of new competencies by the company

Source: Nycz et al. 2015

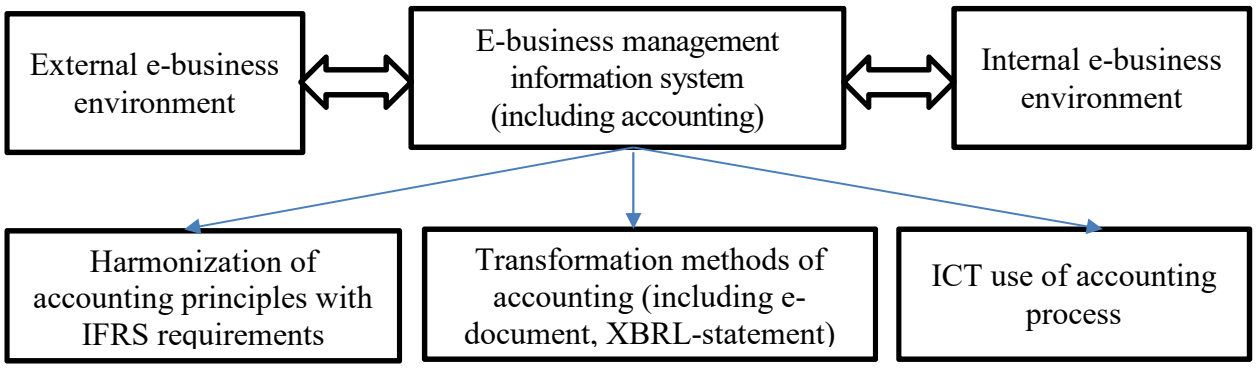
From our point of view, the most important component of e-business enterprise, which has been changed under influence of ICT, is the management information system of a company. E-managers have to be informed about their business in general and about their area of responsibility in particular. Midway through the first decade of the 21st century, the narrowly conceived idea of the MIS has become somewhat fuzzy. Management information systems, of course, are still doing their jobs, but their function is now one among many others that feed information to people in business to help them manage. Management information systems give the manager access to key data about his department and about the company in general.

Accounting is the main part of management information system. Therefore, its main purpose is providing complete, truthful and unbiased information about business activity for the users who can make relevant decisions based on this information. These decisions ensure that business entities run effectively in the present and will continue doing it in the future. In our

opinion, accounting should develop at the same rules as management information system progress.

Based on a key part of management information system development, such as strategic planning and budgeting, accounting should improve as well. Management information systems contain past data for fundamental company functions such as sales, production and customer service. They include information on revenue, expenses and investments, broken down into separate components. A manager can look for trends by asking the systems to project past performance patterns into the future. Management information systems have sophisticated mathematical analysis tools that can evaluate relationships and calculate probable future trends (Inc., 2016). So management information systems, including accounting, should give needed information for decision making, taking into account external and internal environment of e-company. As a result, some approaches to accounting theory have to be changed (fig. 3).

Figure 3 Changes of Accounting in E-business Management Information System (Source: Inc. 2016)



In our opinion, the experience of accounting organization in Belgium, Spain and Italy can be very useful for Ukrainian e-business enterprises. The means of accounting improvement used in these countries allow to reduce operating costs of e-business enterprises and to improve the efficiency of accounting system.

As of 2014, Belgium, the UK, France, the Netherlands, and Ireland were top five leading countries in Western Europe in terms of e-business turnover. Exploring the accounting experience at e-business enterprises in Belgium, the following information can be noted.

One of the main directions aimed at improvement of accounting in Belgium is the introduction of e-invoicing, which provides receiving and sending all invoices between counterparties digitally using integrated digital platforms. In particular, the study conducted by Poel et al. (2016) state that introduction of e-invoicing to the private sector saves a considerable amount of administrative costs for enterprises. The costs for preparing, sending and receiving invoices are a classic example of transaction costs, and costs related to the

actual implementation of the agreement. According to this research, introduction of e-invoicing should have a significant impact on tackling bureaucracy and, thus, reducing operating costs at companies.

In 2014, total annual cost of invoicing in Belgian private sector amounted to about 3.47 bn EUR (0.96% of GDP). This figure could be reduced to 1.46 mn EUR (0.38% of GDP) if all invoices were sent with integrated digital platforms. At the same time, the real savings from implementing e-invoicing are much lower than the potential ones.

Thus, the majority of managers at surveyed companies confirmed that e-invoicing reduced printing costs, provided more efficient information storage, and saved time required for its processing. However, a significant number of respondents have significant doubts concerning e-invoicing security. Moreover, it was supposed that creating and sending invoices by e-mail were more convenient and secure.

Apart from documentation improvement, the processes of grouping and summarizing accounting information should be transformed concerning modern information technologies. In this case, experience of Spanish enterprises can be used.

Spain is the leader in terms of e-business turnover within Southern European countries. As of 2014, the gross revenue in this sector was at 16.9 mn EUR. Apart from Spain, top five leading countries in Southern Europe (in terms goods and services sold online) include Italy, Turkey, Greece and Portugal.

The major direction towards improving the process of preparation, presentation and use of reporting is to carry out this process by using XBRL, which are accounting standards of information sharing. In Ukraine, the use of XBRL standards is planned to be implemented at the companies engaged in financial sector in 2018. At the same time, the necessity to apply XBRL standards by every single large enterprise, as well as the benefits that can be achieved as a result of the of XBRL standards introduction, have been provided in the study by Gonzálbez and Rodríguez (2012).

As regards small and medium enterprises, the need to use automated forms of processing accounting information is grounded in the research by Grande et al. (2011). The scientists have studied the efficiency of partial and complete automatization of accounting process for small and medium-sized companies. According to the research, partial automatization of accounting process is unprofitable and will not ensure competitive advantages for the enterprise.

All the changes in accounting system mentioned above illustrate new challenges, which top-managers and workers will have to cope with in the near future, and highlight new requirements for staff in e-business.

Skills required for professionals in digital economy and the development of educational system.

Nowadays, society is at the early stage of the Fourth Industrial Revolution. The Fourth Industrial Revolution is a consequence of the Third Industrial Revolution, which used electronics and information technology to automate production. The main features of The Fourth Industrial Revolution is the fusion of technology and the "blurring of boundaries" between the physical, digital and biological spheres.

Features of the Fourth Industrial Revolution and its impact on modern society were the main topic of the world at the World Economic Forum in Davos in 2016. According to the results of the World Economic Forum, the Fourth Industrial Revolution will influence more than 35% of existing jobs. Numerous IT-technologies, such as robotics and autonomous transportation; artificial intelligence and machine training technologies; new materials and new achievements of biotechnology and genomics will be relevant and available by 2020. Proceeding from this, some professions will disappear, some of them will be changed under IT-technology influence and many others will come to the future society.

However, underneath this aggregate outlook, there is once again significant relative growth in some job families and significant relative decline in others. For instance, some industries will need less labour force, such as reduction in Office and Administrative will consist 4,759 thousand employees during 2015-2020; Manufacturing and Production – 1,609 thousand employees. At the same time, some traditional industry will need more staff in the near future. For example, the rise in the number of employees in Business and Financial Operations will make up 492 thousand employees during 2015-2020; Management – 416 thousand employees; Computer and Mathematical – 405 thousand employees; Architecture and Engineering – 339 thousand employees; Sales and Related – 303 thousand employees; Education and Training – 66 thousand employees (WEF 2016, Chetverta promislova revolyuciya, 2016).

Therefore, people should obtain many new professional skills for being demanded at the future labour market. Today's workers should adapt to the changing environment and develop their skills in accordance with IT-progress while students should study in new conditions and get new abilities and skills.

Future needed abilities consist of two groups: Cognitive Abilities (Cognitive Flexibility; Creativity; Logical Reasoning; Problem Sensitivity; Mathematical Reasoning; Visualization) and Physical Abilities (Physical Strength; Manual Dexterity and Precision). The skills of future staff are divided into Basic Skills and Cross-functional Skills. Content Skills include Active Learning, such as Oral Expression; Reading Comprehension; Written Expression and

ICT Literacy and Process Skills, which involve Active Listening; Critical Thinking; Monitoring Self and Others. Cross-functional Skills include Social Skills; Systems Skills; Complex Problem Solving Skills; Resource Management Skills and Technical Skills (WEF 2016, Chetverta promislova revolyuciya, 2016).

According to the other researches results, more than 47 % kinds of profession which exist today will be fully automated in 20 years, and millions of employees will be unemployed (Chel, 2015). A University of Oxford report predicts that "by 2030, let alone by 2050, we'll have lost almost 50% of the workforce to artificial intelligence" (Price, 2013).

The list of future jobs was highlighted in the World Economic Forum White Paper Digital Transformation of Industries: In collaboration with Accenture (table 4).

Table 4 Exemplary new job roles of the future

Industry	Professions
Commercial	E-business manager Digital account manager Digital product manager Digital business developer Fraud manager
Technology	Scrum Master CDO (Chief Data Officer) Data scientist Data protection officer Traffic manager
Web	Web project manager Webmaster Web designer Web integrator Developer SEO manager
Marketing	Digital marketing professional/Micro marketing Digital communications manager/Digital planner SEM/PPC manager Digital copywriters Media acquisition manager User experience designer
Facilitation	Service design thinker Crowd innovation facilitator/Fabmanager Community manager/ social media manager Editorial manager Content curator Chief listening officer
Human Resources	Design learning manager Digital work experience expert Employer brand director (including social media strategist)

Source: WEF 2016

This information motivated scientists to research the problems connected with decrease in the importance of the current humanity as a huge labour force. One of them is low computer

literacy rate of a large part of the world's population, including the lack of access to the Internet worldwide and ICT-knowledge and skills. This problem is extremely topical in African countries and in Asia partially, which have the highest population growth on the planet.

At the same time, the largest number of Internet users comes from developed countries. They are 15-24-year olds with the experience of network use for over 5 years. People in this age group, are also called generation “X”. These individuals were born after 1980 and reached adulthood in the new Millennium. They are more likely to use and create online materials and evaluate their innovative and creative abilities on the higher level. Moreover, network technologies are changing their way of thinking and ways of understanding information. Generation “X” will make up 75% of the global labour force by 2025. The hallmark of this generation is that it was the first of the younger digital generation. A significant part of their activities, including socializing and knowledge management is carried out by means of digital technologies (UNCTAD, 2015).

Therefore, a high level of computer literacy is a prerequisite for employment in the future. However, the rapid development of ICT technology worldwide will determine numerous changes of workplace organization, which are important for employers and employees. There are some of the potential options of future labour market, which should be taken into account (table 5).

Table 5 Workplace Development under Influence of ICT by the Year 2050

Aspect	Comments
1. “Corporation ladder” will turn into “Corporation network”	Over the past 25 years, Every fourth company began transition from a vertical to a horizontal hierarchy, reducing a significant part of management levels. This not only helps to reduce salary costs, but also reduces performance. On the one hand, ordinary employees do not have prospects for career growth. On the other hand, the absence of managers help to solve the problem of inequality of salaries
2. Artificial intelligence will replace people in many jobs	Experts from Oxford studied all industries, where employees have a risk to lose their jobs. This list includes many industries, such as transportation and logistics, because now unmanned vehicles are developed and implemented there and school teacher, despite the fact that this profession needs direct human participation (Canton 2015).
3. New professions will emerge as a result of the robotization of economy	In the future, humans and robots will work together. The representatives of new professions will control robots by artificial intelligence. Workers owning the “old” professions, will perform work under the robot-managers
4. Employers can refuse from staff and will find the staff among freelancers	Using the work of freelancers will be very popular among employers. This approach to the use of labour force saves money of companies. For workers, freelancing is the ability to work at flexible hours from any point of the globe. Feature of freelancing is the lack of medical and social insurance

Table 5 (continued)

Aspect	Comments
5. The lack of pension insurance	Life expectancy is constantly growing; so many people have to work to the logical conclusion of their lives. At the same time, the younger generation has no opportunity to accumulate savings for the future through the failures of the financial system and the crisis phenomena in the economy. The positive thing in this situation is that the latest achievements in medicine will help people to have good health for long time
6. Employees will increase the requirements for employers and more likely to change jobs	The concept of "one life, one profession" recedes into the past. Workers will change jobs, "on call of their hearts". Social responsibility and moral principles of top-managers will be an important criterion in choosing a workplace
7. Employees will be under the close control of the employer, even in their free time	In future employers will be able to monitor and track their employees to a higher level. The sensors will transmit information about their location, performance and health
8. Companies will abandon from the traditional offices and headquarters	Coworking is becoming more popular not only among freelancers and entrepreneurs, but also among corporations. Coworking center will become the places, where they will accommodate its employees. Abandoning of the traditional system of offices and headquarters will allow companies to hire the best candidates worldwide, regardless of how far they are from the main office
9. The use of autonomous cars will help faster and easier to get to the workplace	On the one hand, unmanned vehicles will capable to provoke a wave of mass layoffs of current employees in the transport industry. On the other hand, unmanned vehicles will help solve the problem of morning traffic jams and reduce the number of accidents

Source: Stanger 2016.

Therefore, the generalized list of professional skills, aiming on the creation future successful workforce, was compiled by researchers of Institute for the Future (IFTF). There are ten professional skills, which will be needed by 2020 and six drivers, which are important in shaping the landscape in which each skill emerges, and include following:

1) extreme longevity - increasing global lifespans change the nature of careers and learning;

2) rise of smart machines and systems - workplace automation nudges human workers out of rote, repetitive tasks;

3) computational world - massive increases in sensors and processing power make the world a programmable system;

4) new media ecology - new communication tools require new media literacies beyond text;

5) superstructed organizations - social technologies drive new forms of production and value creation;

6) globally connected world – increased global interconnectivity puts diversity and adaptability at the centre of organizational operations (table 6).

Table 6 Future Work Skills 2020

Skill	Driver, which is important in shaping of each skill emerge	Comments
SenseMaking	Rise of smart machines and systems	That skill involves the ability to understand the deep meaning and significance of the information that people try to convey. At this stage of the development of technology, machines cannot understand the meaning of information that is processed by them. Currently, no robot can replace a human's ability to generate specific ideas, to come to certain conclusions and have a critical approach to information when decisions are made
Novel and Adaptive Thinking	Rise of smart machines and systems Globally connected world	Situational adaptability – the ability to respond to unique unexpected circumstances. In the future, employees who are able at the right time to go beyond not lose; even in the most difficult situation will be needed indeed. Employees who have well-developed social and emotional intelligence can feel the mood of others, to cause the desirable reactions of people
Social Intelligence	Rise of smart machines and systems Globally connected world	Despite the presence of "social" and "emotional" prototypes among robots, they do not possess the necessary social skills and needed level of emotion to replace human beings. Employees, who have well-developed social and emotional intelligence will have a big competitive advantage in the future. People who can feel others' mood, to cooperate with different people will have a great demand in the labour market
Cross Cultural Competency	Superstructed organizations Globally connected world	In the context of globalization, employees must be able to work anywhere in the world. Cross Cultural Competency provides successful cooperation with representatives of various cultures and nationalities. This skill is necessary not only for the employees, who will work abroad, but also for workers, who will perform their professional duties within a country. Due to the fact that a close cooperation between different age and national groups is considered by corporations as a potential source of innovation for the enterprise as a whole. The combination of people belonging different nationalities and age groups in one team is one of the ways to increase of business efficiency
Virtual Collaboration	Superstructed organizations Globally connected world	In the future, to be successful, all employees will need to learn how to work productively as a member of virtual team. The company will have not only to build effective production processes, but also to learn how to attract and motivate employees at a distance. Gamification is one of the main ways of development workplace. Taking into account these changes, members of virtual work teams, should care how work productively and efficiently outside of the classic office

Table 6 (continued)

Skill	Driver, which is important in shaping of each skill emerge	Comments
Design Mindset	Superstructed organizations Computational world	Sensors and other telecommunication gadgets will bring new opportunities in the development of our work organization. Future workers should become an expert in the recognition of the type of thinking their conversational partners. Moreover, people need to learn how to filter information, using all the technological achievements and develop their own means to cope with the information "noise" to manage all information flows effectively
Cognitive Load Management	Superstructed organizations Computational world New media ecology	Cognitive load management is the ability to discriminate and filter the most important information exceptionally. Nowadays, often feel overwhelmed. Future workers should learn how to make decisions taking into account a huge amount of information. This skill needs to be developed because the amount is rising constantly
New Media Literacy	Extreme longevity Computational world New media ecology	New media literacy is the ability to evaluate the content of different sources of information critically. This ability includes using new media-opportunities for persuasive communication. Blogs, social networks, forums are important spheres for collabouration among consumers and will become field for professional skills applications. Future employees should know how to create and post text, audio and video content in the modern forms of media and communication
Computational Thinking	Computational world New media ecology	The amount of data that we process every day is increasing exponentially. The ability to understand all this information and summarize it is other important skill in the future career. At the same time, employees should not rely on data exceptionally. Workers should often make decisions and act when the information for decision making is missed
Transdisciplinarity	Extreme longevity Computational world	Many of companies require interdisciplinary solutions for their development and growth. The ideal employee in the future has specialization in some field and has good knowledge in other related fields, needed to talk to specialists of other areas on the "same language"

Source: Davies et al. 2011

Later, this list was completed by four new skills, such as: self-motivation; time management; management of own incomes; online PR-management. It can be seen that all needed skills are connected not only with some particular kind of knowledge, but also with social and emotional spheres of human life. Therefore, many scientists researches different means of including social and emotional education into curricula.

To prove of necessary of social and emotional learning (SEL), other group of scientists highlighted more wide lists of professional skills. Coupled with mastery of traditional skills, social and emotional proficiency will equip students to succeed in the swiftly evolving digital economy. According to the near researches, 16 crucial proficiencies for education in the 21st century were defined. Those skills include six "foundational literacies", such as literacy, numeracy and scientific literacy, and 10 skills that we labelled either "competencies" or "character qualities". Competencies are the means by which students approach complex challenges; they include collaboration, communication and critical thinking and problem-solving. Character qualities are the ways in which students approach their changing environment; they include curiosity, adaptability and social and cultural awareness (WEF, 2016).

Given current trends in the development of the information economy, members of the international community noted that for people who are currently working in various sectors of the economy is needed the "lifelong learning" approach in education and for pupils and students need the transformation of the education system.

Incentivizing lifelong learning should be important part of government policy. The dwindling future population share of today's youth cohort in many ageing economies implies that simply reforming current education systems to better equip today's students to meet future skills requirements—as worthwhile and daunting as that task is—is not going to be enough to remain competitive. Ageing countries won't just need lifelong learning—they will need wholesale reskilling of existing workforces throughout their lifecycle. Governments and businesses have many opportunities to collaborate more to ensure that individuals have the time, motivation, and means to seek retraining opportunities (WEF, 2016).

By one popular estimate 65% of children entering primary schools today will ultimately work in new job types and functions that currently don't yet exist. Technological trends such as the Fourth Industrial Revolution will create many new cross-functional roles for which employees will need both technical and social and analytical skills. Most existing education systems at all levels provide highly siloing training and continue a number of 20th century practices that are hindering progress on today's talent and labour market issues. Businesses should work closely with governments, education providers and others to imagine what a true 21st century curriculum might look like (WEF, 2016).

The challenges of the modern economy, which is changing constantly, influence on the learning approaches in various educational institutions. The teachers of the University of South Bohemia have considerable experience in the formation of specialists for a new type of economy. Their achievements in the methods of teaching of economic courses can be applied in higher educational institutions of Ukraine.

Application of the European Union and the Czech Republic experiences in development of Ukrainian e-business and Ukrainian education system.

ICT industry is developed enough in the Czech Republic because the government is sure that this industry can become a driver for Czech economy at whole. There are many indicators, which demonstrate development of IT-sector in the Czech Republic and make this country attractive for foreign investors.

The Czech Republic is one of Europe's top locations for ICT investments. Repeatedly recognized by various researchers, this fact is confirmed by the strong inflow of high-value-added projects of the world's top ICT companies and is fuelled by the country's tradition of excellence in technical fields. The list of successful investors in the country involves Microsoft, Skype, DHL, Tieto, Red Hat, SolarWinds and IBM. Two of the world's few antivirus-software providers, AVAST and AVG, grew out of this environment (Discover ICT, 2015).

This favourable environment, which was created in the Czech Republic, allowed to develop different sectors of economy, such as e-business and education sphere. In this research, we generalized positive aspects, which exist in the Czech Republic concerning IT-sector and related spheres for using Czech experience in Ukraine.

Table 7 The Czech Republic Experience in IT-sector

Aspect	Czech experience
The Czech Republic is one of Europe's top locations for ICT investments	1. The Czech Republic is the only country using the Latin alphabet where Google is not number one on the Internet as the Czech web search provider Seznam.cz is locally dominant. 2. Thanks to investments in infrastructure other Czech regions other than Prague are gaining attractiveness, especially in the ICT sector. 3. The Czech Republic's ICT-friendly policies and skilled workforce, good infrastructure and well-developed optical-fibre network make it the most prominent location in the CEE region in terms of the ICT field
ICT Related Education	The Czech Republic combines an outstanding level of general education with strong science and engineering disciplines. Universities offer programs ranging from ICT to life sciences. University education is generally focused on meeting the needs of a competitive economy, and cooperation between universities and the corporate sector has been expanding in recent years
Labour Availability and Skills	The Czech Republic offers a large number of skilled technical workers. The country's well-deployed education system can serve as a basis for future skills development and contributes to the development of the sector. The wage amount always depends on the level of education, specialization and level of experience, as well as on the size of the given company

Table 7 (continued)

Research and Development Centres	IT4Innovations carries out research mainly in the fields of supercomputing and embedded systems. In addition to research, the centre, as the national HPC e-infrastructure, operates unique state-of-the-art supercomputing resources and makes them available to Czech and foreign research teams from academia and industry CERIT Scientific Cloud (CERIT-SC) the CERit-SC centre is one of the three essential parts of the national e-infrastructure, a complex system of mutually interconnected network, computing, and storage resources and corresponding services for the Czech research community Czech Education and Scientific NETwork (CESNET) CESNEt, its main goals are operation and development of the Czech National Research and Education Network (NREN), research and development of advanced network technologies and applications and broadening of the public's knowledge of advanced networking topics. SIX Research Centre the Centre of Sensor, information and Communication Systems (SiX) was established to provide comprehensive research and development services in the area of wireless communication. NTIS New technologies for the information Society (NtiS) is a modern research centre, its activities are focused on the development of cybernetics, computer science, mechanics, physics, mathematics and geomatics
Company Focus	AVG is an online security company providing leading software and services for the purpose of securing devices, data and people AVAST is one of the pioneers in the computer security business, with a portfolio that includes free antivirus applications for PC, Mac and Android, as well as premium suites and services for both consumers and business. in addition to being top-ranked by consumers on popular download portals worldwide
Avast enthusiasts	Today Seznam.cz reaches approximately 90 % of the Czech internet population. this means that at least once a month almost every one of the six million Czechs who use the internet in the Czech Republic uses some of the services that Seznam.cz offers Red Hat Red Hat is the world's leading provider of open-source software solutions, using a community- powered approach to reliable and high-performance cloud, Linux, middleware, storage and virtualization technologies. Red Hat also offers award-winning support, training and consulting services. MSD is a global healthcare leader working to help the world be well. through its prescription medicines, vaccines, biological therapies and animal health products, MSD works with customers and operates in more than 140 countries to deliver innovative health solutions
Selected Clusters	***Safety & Security Technology Cluster*** This cluster focuses primarily on activities in the fields of research, development and innovation, marketing and promotion, while strengthening the links between members and supporting activities leading to effective training and development of the cluster members' staff http://www.btklastr.cz/en/ ***Czech Cloud Cluster*** This cluster's mission is to increase the competitiveness and economic growth of entrepreneurs in the fields of big data and iCt services www.czechcloudcluster.cz ***Czech IT Cluster*** This cluster comprises mainly small and medium-sized companies in the field of information technology, educational institutions, and a range of partner organizations www.czech-itc.cz

Table 7 (continued)

Selected Clusters	***Hradec IT Cluster*** The objective of the Hit Cluster is to provide services for its members to jointly improve the quality of management, increase innovation potential, save costs and to develop business possibilities in the areas of human resources development, marketing, sharing of capacities, technological development and innovations. the applicability of new technologies includes distributed backup environments, automation of information system management, information system security and server housing (server virtualization, application clustering, geographical backup) www.hitklastr.cz ***IT Cluster*** The IT Cluster's core activities include research projects in the areas of software service quality, it service management, research and development in wireless and mobile technologies (using the potential of 3G networks and developing Intelligent Traffic Systems) www.itcluster.cz ***Network Security Monitoring Cluster*** The Network Security Monitoring Cluster is a leading organization in network security in the CEE region. its mission is to create a centre of excellence in the field of computer network security www.nsmcluster.com
Professional Groups	Czech ICT Alliance Members of the Czech ICT Alliance are significant multinational companies operating in the Czech Republic (e.g. Ness) and leading Czech firms (e.g. Unicorn, LCS) as well as a range of small and medium-sized Czech companies with extensive international ambitions. the alliance currently has 20 members, but thanks to the scope of its activities, it has helped dozens of Czech IT firms with foreign expansions. ICT Unie iCt Unie is an professional association of companies in the iCt sector, other business and educational entities that aims to raise awareness of the importance of innovating and using modern information technology and electronic communication in society, including the creation of optimal conditions for the development of the iCt infrastructure in the Czech Republic, as a prerequisite for the development of the information society. AFI the Association for Foreign investment (AFi) represents a group of service companies with local experience that support the entry of foreign investors into the Czech Republic and offer a wide range of professional services to foreign investors entering the local market. CzechInvest's Services. Objectives of CzechInvest's Services are to advise and support existing and new companies and foreign investors in the Czech Republic; to support the competitiveness of the Czech economy; to create a space for communication between foreign investors, the state administration and Czech companies

Source: CzechInvest 2016

If we look at all these aspects of IT-sector in the Czech Republic, it can be seen that Ukraine may use many of them for Ukrainian IT-sector development. In our opinion, the most important of them:

1) improvement of investment climate, in IT-sector, particularly. There are some particularities in Ukrainian investment climate. The advantages are developed human capital; higher level of investment return than in developed countries; transit position of the country.

The disadvantages consist of low institutional level of development, bureaucracy; unstable politic situation; corruption;

2) support to IT-related education. Nowadays, Project of the European education initiative started in January 2016 in Ukraine. The project aims at the development of education and the integration of global best practices in system training for professionals. The project's goal is to provide everyone who wants quality and modern education in the field information technologies, help IT professionals to be competitive and guaranteed employed. In terms of cooperation with universities, this project consist following: grants and scholarships for students of it specialties; professional certification and testing of students for compliance with professional it standards the requirements of it companies to it professionals; integration certified training centres of information technology in the educational process of educational institutions; financial support of higher education institutions of project partners from the it business; graduates (The Council on competitiveness ICT industry, 2016);

3) appropriate tax regulation for IT-companies and E-business. Ukrainian legislation is changing permanently, this situation has negative influence on invest climate in Ukraine and e-business development within Ukraine;

4) support to Research and Development Centres and creation IT- clusters in Ukraine. There are five IT-cluster in Ukraine, in Cherkasy, Kharkiv, Lutsk, Lviv and Odessa. They work with participation of IT-companies, e-business companies, educational institutions and local authorities. At the same time, it is too earlier to speak about great results of them.

Despite the fact that the level of collaboration in IT-sector is not too high, cross-industry and public-private collaboration is a perspective way of economic development.

Businesses should work with industry partners to develop a clearer view on future skills and employment needs, pooling resources where appropriate to maximize benefits, and work more closely with governments to map a future view of skill demand versus supply. While a single business can form one-to-one partnerships for its own talent needs, partnerships between multiple businesses, educational institutions and accreditation providers can result in an overall increase in the quality of the talent pool, at lower costs and with greater social benefits. Businesses also need to engage with governments on strategically redeploying redundant skills between sectors, addressing cost concerns and social stability (WEF, 2015).

The growing role of business virtualization needs the changes of professional skills. These changes should touch all participants in e-business, both employers and employees. Many Ukrainian universities already have curricula items with “E-commerce” and “E-business” issues, such as Poltava University of Economics and Trade.

DISCUSSION AND CONCLUSION

Based on the information presented in this research, the problems of university education at e-business sphere should be considered. Because students, who will work at virtual enterprises in the near future, should be ready for many new challenges, which are involved e-business (table 8).

Table 8 Advantages and Disadvantages of the Virtual Form of Work

Advantages	
Employer	Worker
Flex staffing Reduced overhead No benefits Scale Improved margin Specialty expertise as needed No labour unions Variable labour model	Flexibility of hours Work remotely Variable work Variety More opportunities Projects you choose Less job discontentment Self-employment
Disadvantages	
Employer	Worker
No loyalty Less retention Lost domain knowledge Challenging social aspects	Limited job security Minimal benefits Cyclical wages Less career advancement

Source: Houlne 2013.

If we look at educational system in Ukraine, some obstacles could be seen, which inhibit of obtaining, needed professional skills by students, who will work in digital economy.

First of all, to obtain these needed skills, students should get an appropriate level of training during their studying at university. At the same time, Ukrainian universities may not offer their potential students high level of educational services at e-business field, because they have some issues at educational process. For example, teachers of universities do not know English enough and it becomes the main problem in educational process because they cannot use the latest achievements in scientific and practice fields and share with them with their students. So, students should find out this information from different sources.

Besides that, students do not get some real practice experience during their studies at universities. So, they have big problems when they start looking for job after graduation. In addition, a difficult economic situation has negative influence at the students. Traditionally, in Ukraine parents pay for the university and subsidize their children for five years of education. In current economic situation, many parents cannot do it anymore. In this case, many potential students refuse from university education and start working. In our opinion, it may be good if they can possibility to study and work at the same time.

One of the ways to solve these problems is the creation of educational clusters. On the one hand, it is very important to have well-known brand of university or academy and to prove

that students of a particular university are better than students of other universities or academies daily. Unfortunately it is necessary, because branding is the main way of attracting students who are the key financial source for the universities now. One the other hand, all economic institutions in Poltava region have the same challenges to overcome. Some of them are real, some of them are delusive but many potential students and their parents, who invest money in their children education, have special points of view about education.

One of the most striking features of this problem is that many people in the Ukraine claim that: 1) potential students often should choose educational institutions in cities or other countries because they think that the quality of education is better there; 2) potential students know that the situation at the labour market is better in cities and foreign countries; 3) life and work in cities and foreign countries are more interesting, vibrant and can give more possibilities in their future.

To address these issues universities have to: 1) improve the level of educational services in particular regions. To reach (For reaching) this, education institutions should create conditions aimed at the development of teachers' professional skills, foreign language skills, research skills and so on; 2) help their students to get real experience in operating enterprises; all trainings should be real; 3) develop curricula which would include courses that may help students to create their own business in different industries; 4) give possibilities to study in foreign countries during their study at regional universities.

Tackling these issues can be reached by cooperation, some common projects might be: 1) creation of a linguistic centre to improve knowledge of English among teachers of universities. This centre should have not only educational purpose, but also certify its students and help teachers to translate their scientific researches; 2) creation of a data-base centre for spreading the results of scientific research abroad. This centre should give teachers an access to different data-bases and provide information about different scientific journals where their research can be published; 3) creation of a centre of international cooperation, which should accumulate and provide information about perspective grant programs available for teachers and students and the offers from foreign partner-universities; 4) creation of a centre of business planning, which can help teachers and students to run their own business or get earnings as freelancers. This centre should track information about the latest business trends, which do not need big investments and present it for teachers and students. As reported by Molnár and Vancsik (2016) human resources are the most important in the development of companies.

All these things may be done easily in conditions of cooperation between universities. However, it is difficult to solve these issues because in this situation the universities should stop being competitors in the same fields. Therefore, we can say beyond any doubt that creation of educational clusters in regions would generate many benefits, such as: 1) higher level of educational services in the region; 2) closer (better) international cooperation; 3) the use of new interesting forms of study; 4) the development of business in the region.

SUMMARY

E-business is, without any doubt, a leading trend in the world. E-business is a new kind of business that is run with the use of ICT-technology and the Internet. E-business is developing very rapidly worldwide. E-business integrates all components of modern society and changes the existing business model. All e-business companies are influenced by components of the external environment, which includes: 1) Country Characteristics; 2) Government Dimension; 3) Business Dimension; 4) Technology Dimension.
For the successful functioning of e-business enterprises and the achievement of their strategic objectives, managers have to manage the components of the internal environment of the enterprise, e-business, which include: 1) Product; 2) Customer Interface; 3) Infrastructure Management; 4) Financial Aspects.
For being a part of the EU Digital Single Market, Ukraine needs to change its legislation in accordance with the EU legislation. This step will allow Ukraine to attract investments in Ukrainian IT-sector and provide an opportunity for Ukrainian e-business companies to work in the EU. The key fields that need be considered in the process of establishing a legal framework for e-business are the following: data protection; a safe form of a contract in legal and commercial sense; the electronic signature; consumer protection; e-privacy; computer crime prevention; intellectual rights; the regulations of the contents posted on the Internet; a law on the free access to information; a law on personal information protection. Also, in the European Union member states, e-business has contributed to the social and economic development of the region. One of the main way of that is the creation of IT-clusters.
The EU encourages such initiatives and shares the examples of best practices. It is necessary to raise awareness of the advantages of e-business at all levels of society, provide appropriate telecommunication infrastructure, provide support to e-business companies and their associations, take an active participation in the IT-education promotion and create a solid legal environment for e-business. As a result, Ukrainian e-business will become more developed and all participants' goals will be achieved.
Besides that as the share of e-business enterprises in Ukraine tends to increase, the implementation of the following means concerning accounting improvement can take place: 1) e-invoicing should be used by all kinds of e-business enterprises; 2) XBRL (extensible business reporting language) has to be implemented by all large e-business enterprises; 3) small and medium-sized companies need rely on fully automatized accounting processes in its activities.

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Professional paper

THE SOCIAL CONDITIONS OF REGIONALISM IN THE HUNGARIAN BALATON REGION

A REGIONALIZMUS TÁRSADALMI FELTÉTELEI A BALATON TÉRSÉGÉBEN MAGYARORSZÁGON

Gergely KABAI[a]

[a] University of Pécs, Faculty of Humanities, Interdisciplinary Doctoral School, Program of Political Science, e-mail: kabai.gergely@pannonelemzo.hu

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Abstract

This paper shows the social conditions of Lake Balaton area. The first part presents the theoretical framework for the cohesion of society. The second part describes the processes that led to the complexity of local society in Lake Balaton area in the 20th century. Then, the paper presents the problems of cohesion about the society of Lake Balaton area. The author concludes that although there is a strong local cohesion in the society, but this phenomenon is geographically, dimensionally and thematically different in the area. All of this does not prevent the processes of bottom-up regionalization, which is a hundred years old phenomen in that area.

Keywords: Regionalism, cohesion of society, social capital, Lake Balaton, Hungary

Absztrakt

A tanulmány a Balaton térségének társadalmi jellemzőit taglalja, a regionalizmus kialakulásának tekintetében.A társadalmi kohézió elméleti kereteinek áttekintését követően bemutatja azokat a folyamatokat, amelyek a balatoni társadalom összetettségét eredményezték. Ezt követően e kohézió dimenzióinak tárgyalása és problémáinak bemutatása következik. A szerző arra a következtetésre jut, hogy bár a helyi társadalmi kohézió sok tekintetben kimutatható, de az területileg, tartalmában és egyes társadalmi érdekcsoportok tekintetében is megosztott a Balaton térségén belül. A regionalizmus folyamatát ez nem gátolja; a meghatározóan erős területi kötődés ösztönzőleg hat.

Kulcsavak: Regionalizmus, társadalmi kohézió, társadalmi tőke, Balaton

INTRODUCTION

Following the Hungarian change of government in 2010 the topic of creating regions, thus the question of regionalization, was seemingly removed from the agenda of domestic territorial policy. An almost two decade long debate came to an end with the fact that the Hungarian regional middle level remained the county, following historical traditions. Nevertheless, the earlier functions of the county have been transformed: averting from the field of supporting

institutions it obtained tasks in the mid-level administration and (from 2014) in the development policy system.

The role of regions has changed in European territorial policy as well. Beside the approach used for decades, which was thinking in large regions, following the aim at equalization with a certain universalism, in the last years the local scene, the communities and the emphasizing of bottom-up building gained ground as well. The study of OECD (2006) was a mile stone in this process which, instead of the earlier sectoral approaches, in line with the new rural country paradigm placed the *location* in the centre of attention and development. The *Barca report,* constructed in 2009, was of similar importance in the policy of the EU. The document defined cohesion policies as place-based policy by building on a completely new rationale. Instead of the administrative regions the *location* appeared as a territorial base unit. (Barca, 2009; Illés, 2009)

It might not seem practical to write a thesis on the question of regional self-governance with such policy phenomena nowadays. However, the area of *Lake Balaton* might be an exception, which has "defied" various eras of territorial policies in the past 100 years and the issue of self-government, territorial independence and self-organization appears again. The work of the Balaton Association in the first part of the 20th century (Marton, 2013) can be listed here; the declaration of the Balaton County in 1919 (Agg, 1991); as well as the rebirth of similar intentions from the 1990s (Oláh, 2007).

My study intents to show those social phenomena that provide the background and motivation for those political processes that can be described with the concept of regional self-governance or regionalism. Scrutinizing these topics would be interesting in itself, but it is justified by the policy processes mentioned. In the 2014-2020 time period of EU development policy the development tools organized from lower levels, the communal and integrated regional development all obtain a much larger role than before (CLLD, 2013; ITI, 2014). In the finalization of my study (autumn 2014) a decision has not been made on what kind of development policy tools the Balaton region is going to possess, but expectedly there will be a possibility for the realization of a locally organized division of resources. Undoubtedly, for the successful transaction of community based development programmes the social cohesion between the territorial participants is going to be indispensible.

Lake Balaton, situated in Transdanubia, Hungary, is the largest lake of Central Europe. It has been a tourist attraction since the end of the 19th century and continuous to develop and expand up to this day. Relying on the economic features, the fact started to be contemplated on in the beginning of the 20th century, that the region should have an individual

administration and self-government to a certain extent. The greatest hindrance appeared to be the fact that its territory is divided among three counties (Zala, Somogy and Veszprém) that form stable administrative borders. The county is a traditional mid-levelof administration in Hungary, which has always possessed a certain amount of self-government throughout history, the amount of which was different from time to time. Thus it would have caused great difficulties to create a new Balaton unit from the territory of the above mentioned counties. Nevertheless, throughout the first part of the 20th century the idea of the self-government of the Balaton region was present (Marton, 2013).

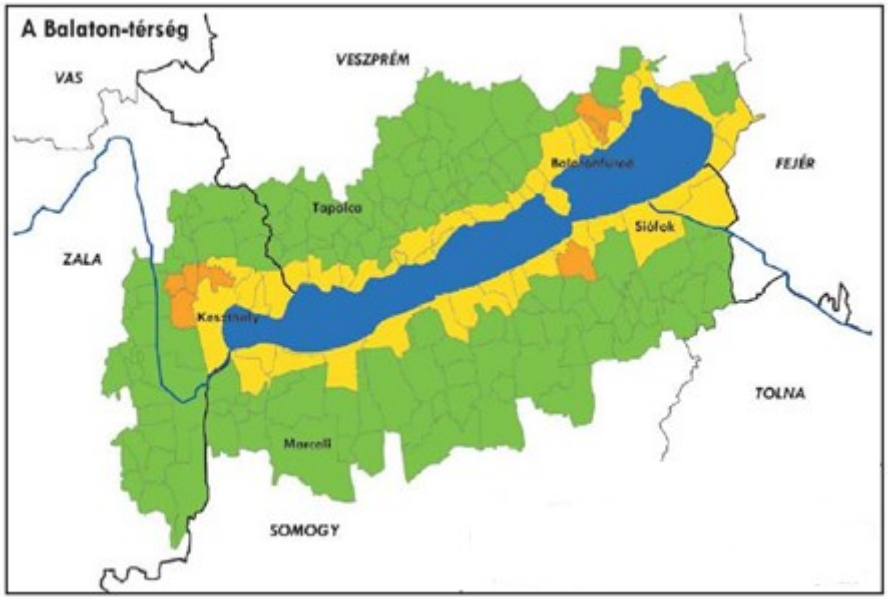
Following the change of regime in 1989/90 these thoughts were re-evoked in the direction of developing a "Balaton region" with self-government. The central government; however, did not or only partly acknowledge these wishes. The manifestation of this was primarily in the fact that following 1996 the region obtained a special development policy status (Lake Balaton Resort Area), with an individual decisive board (Lake Balaton Development Council) and organization.[4]At the beginning, to the resort area belonged 164 settlements, nowdays after expansions, it is contains 180. (See the map below.) Since 2000 an individual statute regulates the directions of the development in the Balaton region.[5]The Lake Balaton Resort Area doesn't have a normal NUTS2 status, which (with other problems) caused a lot of difficulties in the development of this territory in the past decade (Agg, 2010; Kabai, 2013).

Due to the below mentioned social connections and economic functions the wishes pointing toward a bottom-up self-government can be measured and established today as well. (Oláh, 2002; 2010)

[4]1996. évi XXI. törvény a területfejlesztésről és a területrendezésről. (Law of Regional Development and Planning)

[5]2000. évi CXII. törvény a Balaton Kiemelt Üdülőkörzet Területrendezési Tervének elfogadásáról és a Balatoni Területrendezési Szabályzat megállapításáról (Law of the Lake Balaton Recreational Area Spatial Plan and the adoption of establishing the Lake Regional Planning Policies)

Figure 1 The Lake Balaton Resort Area after the expansion in 2008 with 179 settlements.



Source: VÁTI-OTH 2010

THEORETICAL FRAMEWORK: REGIONALISM AND COHESION OF SOCIETY

The spine of the theoretical framework of my study is provided by *regionalism or self-governance*. Both Hungarian and foreign authors agree that the main characteristic of the process of *regionalism* (as opposed to *regionalization* initiated from above) is the bottom-up construction. The determination of the *top-down* and *bottom-up* processes is what makes its power and governance structure clear from point of view of the construction of the given region (Pálné, 2009). It should be noted, that there is lot of interpretation of political regionalism in Europe (Riedel, n.d.).

Thus *regionalism*is a bottom-up process, which relies on the coherent system and integration of social, economic and cultural factors (Süli-Zakar, 2003*)*, and which aims at the self-government, independence and minor or major scale of autonomy of the given region in opposition with the central government. Thus regionalism (or regional self-governance) is a political, social and ideological movement, which relies on the ethnic, cultural, lingual, religious and historical features of a given region. (Győri Szabó, 2006)

Based on *Süli-Zakar* (2005, p. 3) we accept that *"Behind the process of regional self-governance stands the comparatively permanently prevailing coherent system of natural – social – economic – cultural features."*

Bourdieu's interpretation (1980) brings us closer to the exploration of the social background of regionalism. The French sociologist identifies *regionalism* from a social perspective with identity. In his opinion the amount of this identity can manifest in numerous intentions, from

cultural autonomy to territorial autonomy, until the development of a sovereign territorial unit. *Bourdieu* connects and explains the concept of *regionalism* with the category of symbolic or actual (economic) power. *Regionalism* (in *Bourdieu*'s definition, similar with nationalism.) is only a type of the purely symbolic battles, in which the militants take part in an individual, diffused state or collectively in an organized form, its stake can be symbolic or the perseverance or change of economic advantages and balance of power; in other words the preserving or change of rules affecting the material or symbolic price formation in connection with the development of social identity. Representation in connection with identity is another key concept of *Bourdieu*'s interpretation of identity (Bourdieu 1980).

All of the concepts of *regionalism* quoted above put the emphasis on social factors, assuming that the sense of community, cohesion and identity in the given community are the main driving forces of the movements for political and social autonomy. In the following I am going to review those theoretical approaches that bring us closer to understanding the *cohesion of society*.

There is no uniform terminology used among the different disciplines in connection with the cohesion of society. It depends on approaches and the analyzed topics what the users of the term refer to.

Nemes Nagy formulates the roles of the cohesion of society during the development of regions as the following: *"For the chance of a strong internal togetherness the economic territorial contract with natural, ethnic-religious similarity, the connection system of a dense settlement network, and the connective force of historical traditions is an important factor."* (Nemes Nagy, 2009. p. 186)

The *cohesion of society* has more sociological and economic approaches. Bruhn (2009) in his theoretical framework says, that there is no universal definition for the cohesion of society, but the conclusion is: for every human group cooperation the criteria is the cohesion. According to an other opinion, because of the universal usage in social sciences, the definition of cohesion become a 'buzzword' (Jenson, 2010).

In the context of regionalism, there is an important interpretation of cohesion. In *Larsen*'s (2010) explanation the definition of cohesion is similar with trust, which is necessary for people to work together as a group: "*For modern (or post-modern) societies, the most important aspect is not that citizens believe they share the same religion, family values, attitude towards homosexuality or other ideals; for the everyday operation of highly differentiated societies, the most important aspect of social cohesion is that citizens believe they share the norm of not cheating each other*" (Larsen, 2010. p. 5.)

Regarding to my study, the social cohesion has a strong connection with two other theories. The discussion of the cohesion of society in a territorial dimension cannot be separated from the questions of *social capital* and territorial or regional *identity.*

The social capital theories primarily linked to the works of *Bourdieu*, *Coleman* and *Putnam* have several aspects.

Bourdieau (1997) emphasized the community – network aspect of social capital in his works, in which the integral connections are formed. Social capital is capable of creating its own representatives.

Coleman (1994, 1998) also interprets the concept of social capital as the relations between individuals. Social capital is a system of relationships that can be utilized and has three basic forms: duties/expectations, information channels and norms/sanctions. According to *Coleman* power relations and different organizations also form a social capital. According to *Putnam*(1993; 2000)social capital is the system of relations permeating society. It can be subjected to a strong civilian sector, collective problem solving ability, solidarity and trust. According to him, social capital is a cultural phenomenon, which can be described as a characteristic of large communities and includes a readiness for collective action and public trust.

Fukuyama's thesis (1995, 1999) about social capital is similar with Putnam's in the collective interpretation. Fukuyama's view, that the social capital is a kind of a resource, which contains the norms and values which is to facilitate cooperation between people. In this process the focus is on cooperation and mobilization, because social capital is only functional, if it can effect in social relations.

Summarizing: The existence and amount of social capital both have economic, political and social effects and functions. The most important political function of social capital is visible in the expansion and strengthening of civilian society. The existence of social capital is the prerequisite of the creation of a widespread civilian sector which has a role of counterbalancing the central power in apposition with the governmental actions. From a social point of view, the function of social capital is the creation of integration and cohesion. (Orbán – Szántó, 2005)

The question of social cohesion is integrally related to the problems of territorial/regional identity and ties. Identity is an important element of the cohesive force between members of society. On a regional level for a coherent society the sense of togetherness, the territorial ties are essential.The works of *Paasi* and*Raagmaa* had a large influence during therecognition of the theoretical system of territorial/regional identity*Paasi* (1989) interprets the region as a

social category, which he drafted as a more or less dynamically changing form. Common identity has social, territorial, historical and cultural roots, which can appear in ideas, cultural elements, a peculiar dialect and traditions, as well as a natural and built environment but even in economic success. *Paasi* (2000) emphasizes the importance of regional importance after examining the region as a socially construed space, which he attributes special importance to, in the institutionalization of regions. In his opinion the building of regions is a process which has four distinct steps:

- Establishment of the territorial structure,
- Formation of common symbols,
- Establishment of regional institutions and connections,
- Evolving of regional identity (Paasi, 2000).

Raagmaa (2002) views territorial identity as the result of a social process, which can equally appear in views, culture, landscapes and economy. In his view identity is an inseparable part of the region concept and an important element of it. Regional identity is simultaneously a conscious and emotional identification and a close link to a territory (region) which can be influenced by historical factors as well.

Palkó (2011) formulates the issue of territorial identity with a synthesizing character, based on mostly the Hungarian results and literature. According to his ascertainment: *"Territorial identity can be interpreted as an integral part of the sense of social identity, based on which the individual feels and pleads himself or herself part of a social group that is broader than the personal social network and which is a social group that can be determined based on geographical categories. The legitimacy of local, territorial, public legal and political structures depends largely on the identity of the local society, what is more, it is also the development power and source of the local sense of connectedness, thus the aspect of community cannot be disregarded. Thus regional identity is not simply a social identity type but a form that evolved based on a spatial borders, which includes two interrelated categories that are strongly linked to each other: a geographical – spatial and a cultural; through it the examination of regional development was augmented by a socio-psychological projection."*(Palkó, 2011. p. 24)

Summarizing the above it can be stated that the *cohesion of society* in a territorial/regional dimension is a complex issue, the characteristic (as well as a prerequisite) of which is strong *social capital* as well as *territorial identity* and *binding* To these are all elements (history, culture, landscape, interest, etc.) linked which stimulate the strengthening of community recognized by the individuals.

MAJOR PROCESSES EFFECTING THE COMPLEXITY OF THE SOCIETY OF LAKE BALATON FROM THE 20TH CENTURY UNTIL TODAY

Until the end of the 19th century, when modern tourism started, there was little sign of the existence of any kind of common cultural character among the people living on the shore of *Lake Balaton*. There were even less signs pointing towards a sense of community or any sort of cohesive link between the residents of the northern or southern, perchance the western or eastern basin. At the same time the economic interdependence has early on developed the communal cooperation reaching from one coast to the other.

Until the monograph of *Jankó János,* appearing in 1902, nobody tried to reveal the cultural and social differences and similarities between the northern and southern coastline of the lake. During his research Jankó drew the conclusion that *Lake Balaton* much more separates those living on its coast than connects them (Jankó, 1902).

The modern research findings; however, have made the earlier schematic picture much more nuanced. Thus the diversity causing nature of *Lake Balaton* does not always apply. Looking at the economy of the region, there were strong ties already in the 19th century in the districts of the crossings. In the winter on the ice of the frozen lake, in the summer with other transportation devices the commerce between the –different ecological and economic – regions was intensive (Schleicher, 2013).

Despite the economic co-operation several factors have inhibited the establishment of the cohesion of *Lake Balaton* society. The most determining factor thereof was the difference in the development of the settlements and the region due to economic and social opportunities. Directly on the shore of Lake Balaton the crossings, cultural centres, lordship manors, wine growing settlements, noble villages, peasant communities were simultaneously present in the 19th century as well as the since the 19th century highly determinant and culturally different towns. This often came together with religious and ethnic detachment. (Schleicher, 2013)

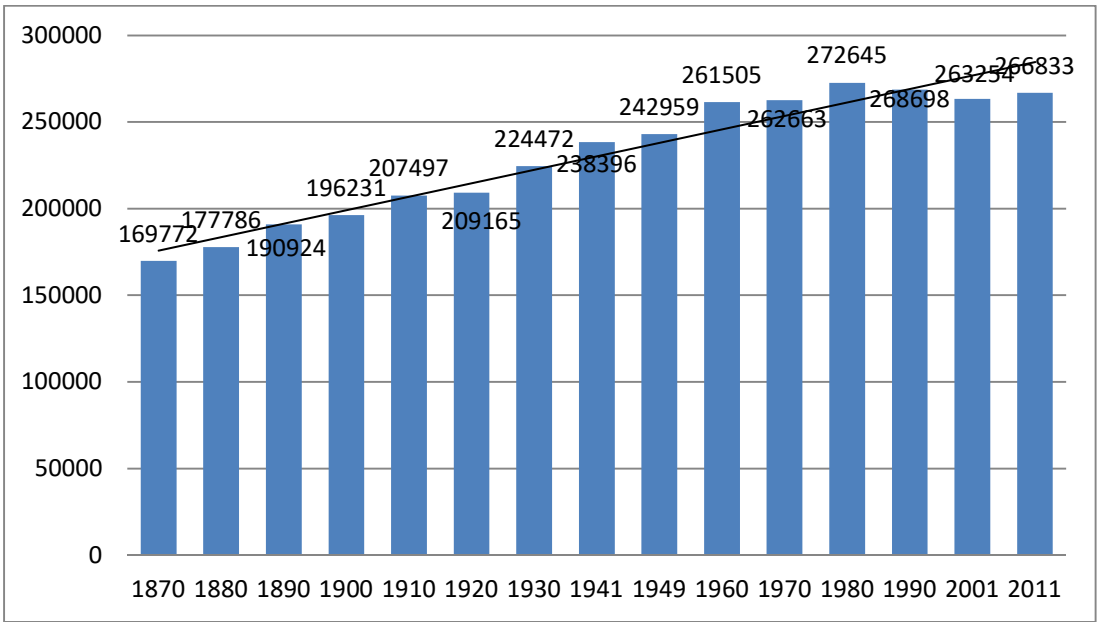
The fact that it cannot be talked about a coherent Balaton society until the turn of the 19th-20th can be derived from this diversity. Intensive economic connections had already developed between the micro-regions of different character, at the same time socio-cultural determinations and the geographically separateness hindered the evolvement of more intensive common co-operations or some kind of integration. All of this was overridden in a few decades by the appearance of tourism and the new life strategies arising from it

During the past almost one and a half decade dynamic changes have been under progress within the society of *Lake Balaton*. The demands and effects of the expanding and rapidly

developing tourism economy changed the everyday lives of those living in this region and the functions of the regions fundamentally. All of this generated numerous conflicts among the population and eventually resulted in a homogeneous society as far as territorial binding and approach is concerned. It was the economic pressure (tourism) overriding traditional culture that made the local society homogeneous from many aspects and provided the criteria for cohesion.

The most conspicuous changes can be seen in the change of the number of the population. There has been an almost 200% increase in the population of the Balaton region in 100 years' time (from the beginning of the 20th century to nowdays); the former 100 thousand has risen to 270 thousand until today[6](TEIR-KSH Census data) (Figure 2.). This rise in population was largely due to internal migration. The new society of *Lake Balaton*, overriding the previous one, was born following this largescale change of population, which is fundamentally linked to the touristic character of the region.

Figure 2 The changing of population in LBRA from 1870 to 2011.



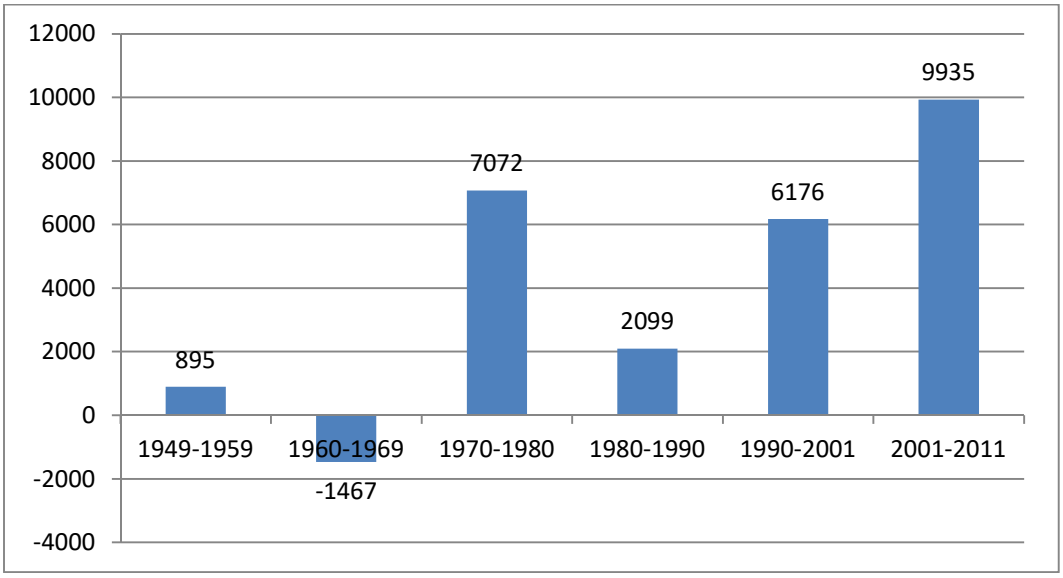
Source: KSH Census Data

We can experience large internal differences in the Balaton region in the background of these processes. Urbanization started at a large scale connected to the popular holiday resorts and the settlements directly on the waterfront. The population of those settlements that are situated on the waterfront increased in the 20th century until 1970 to its double and a half. It is an important fact that 83% of the population profit of the settlements directly on the waterfront and 98% of those on the southern coastline in 1960-1970 was due to interior migration.(Pálos,

[6] In the 179 municipalities of Lake Balaton Resort Area.

1974) At the same time a significant migration started farther away from the waterfront from the small settlements in the 1950s, often resulting in a 20-30-40% decrease in population within one decade. This migration continuous in many instances nowadays as well (Figure 3.).

Figure 3 The population result of migration beetween the census periods int he last 60 years in Balaton Region.



Source: KSH Census Data

The internal migration processes in Hungary have taken up a new direction following 1990. The central region of these interior special movements is Budapest and primarily its agglomeration area. Apart from the capital and its catchment area the target region of internal migration, apart from other urbanized regions, is the region of *Lake Balaton*. The local population in the last decades, due to a more recent wave of migration, has increased further. At the same time this came together with the large scale migration from the region on the part of young people, thus transforming the age composition of the population in the region. (LBDCA - Situation Analysis 2013)

The wave of intensive settlement in the 20th century resulted in the fact that within the population almost everybody became a new "member" or was born as first or second generation resident of the local society. The regional identity of the residents of the *Lake Balaton* could only be born in such a dynamic population movement due to the fact that the former cultural values have been preserved only by few people and on the part of the settlers factors were needed to create homogenization.

Apart from domestic migration the society of the region has been influenced by two large scale processes in the past decades.

After Budapest the surroundings of *Lake Balaton* are the most popular destination for those foreigners who wish to settle down in Hungary. Most immigrants are German citizens and mostly represent the age group above 50-60. (Kincses, 2009; 2011) Temporary residents belong to the foreign settlers as well. Starting in the 1990s it can be seen that many foreign citizens obtained real estates in the region. According to the findings of studies scrutinizing this topic it can be stated that most of the buyers are citizens of the European Union. Looking at the national borders of the member states almost three fourth of them are German and one seventh is Austrian. Their average period of residence is annually 4,6 months that is longer than that of the domestic holiday home owners. (Kovács et al., 2004)

There is no specific data about the non-Hungarian citizen population who settled or live temporarily by *Lake Balaton*. The number of real estates owned by foreign citizens can be estimated in a magnitude of tens of thousands and the number of foreigners living here for a longer period of time also exceeds 10 thousand. This can be viewed as a large proportion considering the fact that the permanent population is 275 thousand people.

The local society of the Balaton region is enriched by a high number of domestic holiday home owners. Altogether, an approximately 30% of the domestic holiday homes can be found in the region. According to the estimations the holiday home owners together with their family members form a stratum of about 166 thousand people. According to the last representative studies they spend in average 3.5 months by *Lake Balaton*.

Considering all social strata the population of the region is made up of almost 500 thousand people (LBDCA - Situation Analysis 2013).

DISCUSSION: CHARACTERISTICS OF THE COHESION OF THE LOCAL SOCIETY

Following the tendencies above it can be stated that the processes of the past decades have resulted in a complex society, in which all strata (as it will also be visible) have their own binding to *Lake Balaton*. At the same time, due to their different status, their interests linked to the region are completely different. All of the above provide sources for several social conflicts in this heterogeneous society; however, there are still uniform features, which imply a certain sense of community.

Schleicher's (2010) studies have described most recently the complexity and rootless character of the society of *Lake Balaton*. The writer pointed out that in the past almost 100 years the local society has been comprised of interest groups with different expectations

operating along steady lines of division. The most important groups of Lake Balaton society are the following: the “native” residents living here, the newcomers, the holiday home owners spending a few months or even a large part of the year by the lake and tourists spending a few days or weeks.

There are fundamental conflicts between the interest groups, as they all wish to take advantage of different possibilities offered by *Lake Balaton*. In the past there were (almost continuous) arguments between the communities for the possession of the waterfront territories in connection with animal breeding or the development of beaches. *Schleicher* described this process as the cultural battle for the carrying of Balaton identity and culture (Schleicher, 2010), which is meanly an anthropological interpretation of these phenomena.

That is true, that these conflicts of the local social interest groups are present nowadays as well and are organized very much along the lines of the problems of the past. For example, in the last years, about the biggest summer festival for youth in Lake Balaton area, there was some debate between the resident settlements and the holiday home owners, or guest. For the first group big festivals are good for the local economy, in the other part, the property owners wants to relax. These have already been discussed in an earlier study (Kabai, 2014).

Otherwise, the social and community changes in this territory can be interpreted as modernization process, in which the new citizenship became the promoter of regionalism.

Despite the observable disintegration in connection with the clashes of interest, the regional binding of the population and interest groups of the region is measurable and definitely traceable already in the past century.

Behind the institutionalization objectives stand as a motivational factor an extraordinarily strong regional binding and identity. According to *Oláh’s* research carried out in the beginning of the 2000s, a regional identity and binding is traceable practically among all social and interest groups of *Lake Balaton*.

Research has been carried out in 2001-ben in the Lake Balaton Resort Area with the involvement of the leaders of the surrounding settlements, which has supported the fact that the sense of integrity is present on the level of local politics as well. Almost 75% of those providing an answer have said that the region of *Lake Balaton* needs an independent self-government, 62% considered the establishment of a region with licences ideal (Oláh, 2002).

Surveys carried out in 2002 have pointed out the fact that according to the common opinion of the local residents at least 10 years have to pass in order for a newcomer to feel himself/herself completely a *local resident of Lake Balaton.* The everyday duties and affairs

of the majority of the residents proceeded within the Lake Balaton Resort Area, which implies strong internal interaction (Oláh, 2003).

Later studies have highlighted the fact that the thought of an independent *Lake Balaton* was supported by a significant part of those questioned; some form of self-government was supported by 82% of the adult citizens, while a completely independent administration was supported by 81% of those questioned. The otherwise determining county identity was barely traceable among the local residents, which is overridden by a *Lake Balaton* identity. Instead of the three development strategic regions concerning the *Lake Balaton* region, 65% of those providing answers placed its home town in the otherwise*de jure* non-existent Balaton region (Oláh, 2007).

In the representative researches carried out in the first half of the 2000s 41% of the holiday home owners by Lake Balaton considered himself/herself a *"Balaton person."* Among those owning a real estate by the lake for a longer period of time, respectively also spent a significant part of the year there, the sense of binding was even larger. Among the domestic social elite a definite binding to *Lake Balaton* was traceable. (LBDCA 2004; 2006)

All of this can be completed with the fact that among the foreigners living here territorial binding can also be detected. This social group still does not have a widespread lobby power but several organizations have been established in the 2000s that wished to represent foreigners residing by *Lake Balaton*. Local media designed specifically for them have appeared along with programs and catering businesses (Kovács et al. 2004).

During the quoted researches it was revealed that geographical surroundings, the specific landscape of Lake Balaton emerge as a significant identity forming power. In the survey carried out in the elite sample group 25% of those answering named the region as the generating power behind the sense of binding. Based on the inquiries carried out among the domestic citizens the natural surroundings was a decisive factor during their purchase. Similar rates were measurable among the foreign real estate owners. (LBDCA, 2002; 2004; 2006).

The character and extensiveness of the civilian sector implies a strong social cohesion and social capital within the region as well. I have referred to the fact above when discussing the theories that the local self-organizing ability originates from the power to advocate local interest in opposition with the central power. In connection with *Lake Balaton* all of this is linked to the above mentioned fact that generally the actors of regional politics wished to solve the specific problems of the region with bodies controlled from above. The dissatisfaction with the central power and the strengthening in the social power of the region had a motivational effect on the development of a collective identity.

Already in the beginning of the 20th century the self-organizing ability of the Lake Balaton Society was highly developed. In the years before 1948 approximately 700 non-governmental organizations were operated in the region (4,1/1000 person). It implies the concentration of social activity that in the particular settlement there were often more than 10 organizations. (LBDCA, 2002)

Following the change of regime the civilian sector of the *Lake Balaton* region was reorganized as well. Compared to the national average index(12.24 organizations/1000 residents) the comparable index of the whole residential area in 2012 was 13.5. In the 52 settlements close to the waterfront 16 in average, in the background settlements 10.2 non-governmental-organizations fall on 1000 people(the index of Budapest is 21.43.) Thus it is visible that in the Lake Balaton Resort Area the civilian activity and organization exceeds the national average. The differentiation within the region is traceable as well. There are 1.5 times as many non-profit organizations on the waterfront per thousand residents as in the background settlements. Similarly to the national terms the number of registered non-governmental organizations has been continuously rising in the surroundings of *Lake Balaton* and the degree of rise is similar as well. While in 2000 there were 2118 non-profit organizations in the region, by 2012 there were already 3701 (KSH-TSAR).

In the territory of the Lake Balaton Resort Area beside the civilian activity of the permanent residents, typically that of the holiday home owners bears a large emphasis as well.

The widespread civilian sector is frequently where tension among the local social interest groups is visible. At the same time only a little more than 5% of the holiday home owners represent themselves in some kind of non-profit Lake Balaton organization (LBDCA, 2006). The civilian co-operations are mostly made up of the local, permanent residents.

The fact that the tenders handed in by the non-government organizations has gradually risen in the years of the development cycles of 2004-2006 and 2007-2013 shows the strengthening of their activity. In the development period of 2007-2013 in the Lake Balaton Resort Area the non-profit organizations handed in tenders in the third largest scale (LBDCA - Situation Analysis, 2013).

Upon closing this chapter it is worth scrutinizing the issue of the cohesion of *Lake Balaton* society from the aspect of life quality. In the theoretical chapter it was mentioned that social cohesion primarily appears in a socio-political and life quality dimension on the level of European Union policies. From this aspect many differences can be measured in the Balaton region, more precisely in the Lake Balaton Resort Area.

One of the appropriate indexes of the comparative study of life quality is the Human Development Index – HDI, which can (restrictedly) be used for the description of differences concerning smaller areas. HDI is the weighted average of three development dimensions (economic performance, life span and educational performance) measured with four index numbers. (Csite – Németh 2007; Garami 2009)

The most recent calculations of 2011 reveal that compared to previous conditions, the statistical sub-regions (LAU1) near *Lake Balaton* domestically no longer belong to the highest categories, all of their performance number stayed below 0.8, while west of Budapest 0.9 and in several sub-regions of larger towns in Transdanubia (e.g. Veszprém, Székesfehérvár, Győr) results between 0,8-0,9 could be measured. On the whole the Lake Balaton Resort Area still appears among statistical sub-regions with the 30 best Human Development Indexes, but within this category the internal differences have become larger, not in favour of Lake Balaton (LBDCA - Situation Analysis 2013).

A closer scrutiny of the internal situation of Lake Balaton Resort Area makes this picture much more nuanced. There are two statistical sub-regions within the *Lake Balaton* region that have significantly worse conditions as far as life quality is concerned as the other sub-regions concerning the Lake Balaton Resort Area. The Marcali statistical sub-region (*kistérség*) still belongs to the micro-regions providing a comparatively acceptable quality of life and in connection with the Lengyeltóti statistical sub-region the measurable results are nationally negatively outstanding. (LBDCA - Situation Analysis, 2013) The difference between the sub-regions providing a high quality of life such as Balatonfüred, Hévíz, Keszthely and Siófok and the Lengyeltóti sub-region is well illustrated by the fact that it is listed among the 33 most disadvantaged regions to be supported with a complex support program. The Marcali sub-region is "only" registered as disadvantaged.[7]

Apart from the above parameters, considering almost all economic and social indexes, significant differences can be measured between the territories on the waterfront and those farther away from the water (Lőcsei – Németh 2006).In this aspect of social cohesion significant regional differences can be talked about within the *Lake Balaton* region, which show the cohesion of the territory units on the waterfront from which the other territories (farther away, disadvantaged) are largely separated.

[7] 311/2007. (XI.17.) Government regulation concerning *the categorization of beneficiary regions.*

CONCLUSION

Previously I have analysed a few aspects and characteristics of the social cohesion of the society of *Lake Balaton*, which I have primarily discussed within the framework of the procedure of region establishment. Based on the above, comprehensively the following can be concluded.

As far as cohesion is concerned several dividing lines can be identified in the local society. Partly the disagreements between the different interest groups (residents, holiday makers, owners, etc.), which have been present in the public life of *Lake Balaton* for more than 100 years. These disagreements often result in conflicts which can bar development or decision making. I have illustrated this with the help of two examples, but from the past decades until today numerous cases could have been highlighted.

Another breakpoint of the cohesion of society within the Balaton region is the field of differences in the life quality. The scale of difference between the waterfront and inland settlements as well as the individual micro region is so large that the cohesion of society from this aspect can by no means be talked about. The territorial detachment of the cohesion of society is further enhanced by the spatial division of the density of non-governmental organizations and the above only mentioned economic aspects. The cohesive factors are significantly more present in a narrow waterfront belt than in the other territories, where these are much weaker.

A sense of Balaton regional identity and belonging is traceable practically among all affected social groups.

In the theoretical part of my study I have touched upon the fact that in case of the cohesion of society we search essentially for the "*cohesive force."*

According to *Oláh'*s related definition *"the geographical environment can be the individual object of identity just as the binding to a certain activity respectively the circumstances that ensure subsistence reaching beyond social and cultural determination."* (Oláh, 1998 p. 9)

Broadening the quoted theoretical approach, from the point of the cohesion of society in the Balaton region the natural surroundings, the uniform economic and touristic function and the recognized common interests can be formulated as cohesive power for they all have motivating effects towards the cooperation of the individuals as well as the communities.

This can be complemented with one assumable cohesive power in case of *Lake Balaton*: the conflict of interest with the central power. One of the driving forces behind the expansive local organizations is the wish to solve the local (regional) issues, for which no resources,

tools and proposals arrive centrally. All of this is linked to the social and civilian capital concepts discussed within a theoretical framework.

Although the cohesion of society of *Lake Balaton* is not strong from all aspects, its effect is unquestionable in the events of the past decades pointing towards *regionalism.* The establishment of administrative regions is not a current issue nowadays, the prioritized character of the Balaton region as far as development policy is concerned is provided.[8] When planning the developments in the region and in order for their effective execution the above discussed phenomena concerning the cohesion of society is worth taking into consideration.

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AUTONÓM REPÜLŐ ROBOTOK ALKALMAZÁSA VÍZELVEZETŐ CSATORNÁK FELÜGYELETÉRE

USING AUTONOMOUS FLYING ROBOTS TO MONITOR CANALS

Anita SZABÓ[a]

[a] Subotica Tech – College of Applied Sciences, Marka Oreškovića 16, 24000, Subotica, Serbia; Faculty of Engineering, University of Pécs, e-mail: saboanita@gmail.com

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Abstract

The weather change of the recent decades caused changes that can be felt in Vojvodina, too. In this economy which mostly relies on agriculture, farmlands are afflicted with floods one year and drought in another. To balance these, canal systems are already built. Because of the size of the canal network, its periodic monitoring requires huge amount of work and recourses. Our research investigates possibility of aerial monitoring of regional irrigation and drainage canals using drones. Autonomous flying robots are becoming more and more popular in recent years. This is happening because the technology they are based on is getting less expensive, quadcopters have broken into the consumer market, so the manufacturing costs are constantly decreasing. This enables them to be used both in research and in the industry without having to pay huge amounts of money. In this research, a commercially available quadcopter has been used to monitor water canals around the city. By design, the device has a built-in camera and wireless internet capabilities. These allow to take photos, record video and upload them to the controlling device. It is also possible to stream the live video to the device in real time. The controlling device can be a personal computer, a tablet or even a mobile phone. It is planned that the client software be extended with capability to upload video and photos to the cloud for later reference. Also, other sensors can be added to the device, too.

Keywords: quadcopter, robot, water, mapping, monitoring, cloud

Kivonat

Az utóbbi évtizedek éghajlati változásai már a Vajdaság területén is érezhető változásokat okoztak. A főleg mezőgazdasági iparra támaszkodó gazdaság számára fontos termőterületeket így egyes években belvíz, míg más években aszály sújtja. Ezen hatások ellensúlyozására a már kiépült csatorna hálózat hivatott. A csatornahálózat állapotának periodikus felügyelete annak mérete miatt igen erőforrás igényes. Kutatásunk a regionális öntöző és vízelvezető csatornák drónokkal való légi felügyeletét vizsgálja. Az autonóm robotok az utóbbi időben egyre olcsóbbak lettek. Ez részben azért történik, mert a felhasznált technológia egyre olcsóbb, másrészt a drónok betörtek a fogyasztói piacra is, ezért az áruk csökken. Ez lehetővé teszi a felhasználásukat kutatásokban vagy az iparban anélkül, hogy nagyobb anyagi ráfordítás nélkül. Ebben a kutatásban egy, a piacon elérhető drónok került felhasználásra a város szerte megtalálható vízelvezető csatornák felügyeletére. A készülék gyárilag tartalmaz beépített kamerát és vezetéknélküli internethez szükséges alkatrészeket. Ezek lehetővé teszik azt, hogy képek és videofelvételek készüljenek, valamint azok feltöltését az irányító eszközre. Szintén lehetséges élő video közvetítése az eszközre valós időben. A vezérlőeszköz lehet PC, tablet, vagy akár mobiltelefon is. A jövőbeni tervek között szerepel a kliensszoftver kiegészítése úgy, hogy az elkészült videót fel tudja tölteni a felhőbe későbbi megtekintésre. Továbbá más érzékelők is hozzáadhatók az eszközhöz.

Kulcsavak: drónok, robot, víz, térképezés, monitorozás, felhő

BEVEZETÉS

Az autonóm repülő robotok - drónok megjelenése rengeteg új lehetőséget teremtett. Az elektronika fejlődésének köszönhetően a megfigyelés rögzíthető és később kielemezhető. Az adatrögzítés és megosztás lehetővé teszi, hogy az adatok akár több különböző szakemberhez is eljussanak (Blaschke, 2010; Koh, és Wich, 2012).

Mára a kereskedelmi forgalomban kapható drónok olyan fejlettségi szintet értek el, hogy ezek már felhasználhatók tudományos munkában, kutatásokban, ipari feladatokra a személyes felhasználás és szórakoztatás mellett (Watts, Ambrosia, és Hinkley, 2012). A számítástechnika fejlődésével itt is megjelentek a lehetőségek, hogy képesek lehetünk felvételt készíteni, azt később elemezni és tárolni (Turner, Lucieer, és Watson, 2012).

Ábra 1 Drón kézi vezérlése

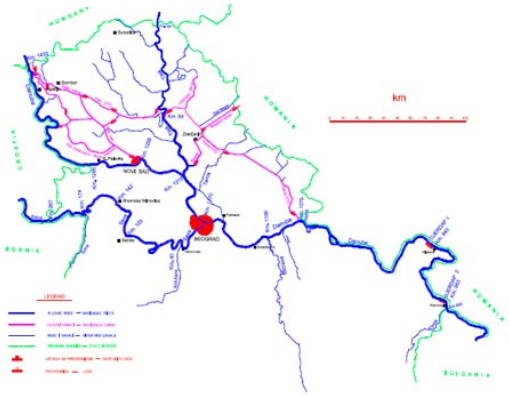
Hatalmas ugrás még az információ tároló felhő megjelenése, mely alkalmazásával a begyűjtött adatok több helyről is elérhetőek. Így azok különböző kutatók vagy intézetek számára egy időben rendelkezésre állnak (Kressler, Steinnocher, Franzen, 2005). A felhőben periodikussan tárolt adatok lehetőséget biztosítanak az időbeni változások áttekintésére. Ez magasabb szintre emelni a megoldást. Egyrészt a világ bármely részéről elemezhetők az adatok, másrészt a feldolgozáshoz szükséges számítási teljesítmény is elérhető a felhőben, míg a drón fedélzeti számítási kapacitása ehhez nem elégséges.

Az új műszaki megoldások, lehetőségek, információs technológiai fejlesztések új ötletek megjelenését segítette elő. Ezeket kihasználva kutatások indultak, mint például lagúna élővilágának (Ramachandran, Ramesh, és Krishnamoorthy, 2000), erdő (Paneque-Galvez, McCall, Napoletano, Wich, és Koh, 2014), termőföldek megfigyelése (Rango, Laliberte, Herrick, Winters, Havstad, Steele, és Browning, 2009; Rozenstein, és Karnieli, 2011), árvíz veszély és -kár felmérése (Van der Sande, De Jong, De Roo, 2003). A műszaki fejlődés eredményei több területen is elősegítették a drón technológia elterjedését, úgy mint: az akkumulátorok kapacitásának jelentős megnövekedése, súly és méretcsökkentés mellett, amely a drónok levegőben tartózkodásának idejét növelték meg; az egy nyomtatott áramköri

lapra integrált mikroszámítógépek tömeges termelése és hozzáférhető ára hozzájárult a drón irányításával megbízott központi egység méretcsökkenéséhez, az ehhez szükséges számítási igény biztosítása mellett; a digitális fényképezőgépek és a szintetikus lencsék fejlődése a kamerák méret- és súlycsökkenésével, valamint a képfelbontás és képminőség javulását hozták el (Gruen, és Beyer, 2001; Pierrot-Deseilligny, De Luca, és Remondino, 2011; Quilter, és Anderson, 2000).

A Vajdaságot átszelő két nagy folyó (Duna, Tisza) mellett árú szállítási célra mesterséges vízi út van kiépítve (Duna-Tisza-Duna csatorna). A főleg mezőgazdasági termőterületeket magába ölelő Vajdaság emellett kiépített öntözési és vízelvezetési csatorna hálózattal is rendelkezik.

Ábra 2 A Duna-Tisza-Duna vízügyi rendszere



Ezen vízügyi rendszer az utóbbi évtizedek időjárás változásai következtében még nagyobb jelentőségre tett szert, hiszen az aszályos és belvizes évek fokozottan és kiszámíthatatlanul jelentkeznek. A csatornák rendeltetésszerű működésének elengedhetetlen velejárója a rendszeres állapotfelmérés, hiszen a vízinövények elburjánzása vagy a partfal beomlása bármikor és bárhol megtörténhet.

CÉLOK ÉS ELJÁRÁSOK

A kutatás célja egy olyan drón rendszer megtervezése, megépítése és vizsgálata, amely képes önállóan, meghatározott útvonalon repülni egy vízelvezető csatorna felett, arról képet és videót készíteni. Elsődleges szempont az, hogy a mozgást a repülőgép külső vezérlés nélkül folytassa, azaz a művelet automatizálható legyen. Jelenleg a csatorna állapotfelmérése emberi megfigyeléssel történik.

A feladat megvalósításához nem lett építve drón, hanem egy kereskedelemben szabadon megvásárolható egység lett beszerezve. A kutatás célja egy vezérlő szoftver elkészítése volt. A szoftver feladatai: a drón és a földi vezérlőegység közötti vezetéknélküli kapcsolat megvalósítása, valamint a repülés paramétereinek (magasság, sebesség, gyorsulás, irány és akkumulátor állapot) telemetrikus továbbítása. A drón repülésének irányítását a fölsi személyzet végzi, vagy a telemetrikus adatok és az előre betáplált útvonal alapján a földi személyzetnél lévő vezérlőegység irányítja. A földi irányítóegység számolja ki a következő beavatkozáshoz szükséges értékeket, vagyis az elvárt mozgás irányának függvényében és a jelenlegi sebességvektorok alapján kiszámolja a drón egyes motorjainak kívánt fordulatszámát [Ullman, S. 1979], [Wolock, D.M., McCabe, G.J. 1995]. A szoftver szolgáltatásai közé tartozik a drón által rögzített álló- és mozgóképek továbbítása a földi fogadóeszközre.

A kutatáshoz a Microsoft fejlesztőrendszerei kerültek felhasználásra, valamint a cég által fejlesztett hardverplatformokra került kifejlesztésre a szoftver. A drón gyártója nyílt forráskódú SDK-t (Szoftverfejlesztési csomagot) szállít az eszközzel, így a fejlesztésnél nem kell alapszintű port- és protokoll programozással időt tölteni, hanem a könyvtári függvények kihasználásával a kívánságok szerinti vezérlőlogikát összeállítani, valamint a felhasználói felületet programozni.

A könyvtári függvények egyszerű használatát a drón egyenes vonalú repülésért felelős kódrészlet bemutatásával lehet demonstrálni.

EREDMÉNYEK

A kutatás során kifejlesztett vezérlőszoftver alkalmas a szabadon programozható drón irányítására. Ez jelenleg egy egyszerű útvonalat követését jelenti. A programozott útvonal a következő paraméterekkel bírt:

- felszállás a kezdőpontból,
- 100m egyenes vonalú repülés,
- 45 fokos jobbra történő fordulás,
- 50 méter egyenes vonalú repülés,
- 45 fokos balra történő fordulás,
- 50 méter egyenes vonalú repülés,
- visszarepülés a kezdőpontba,
- leszállás.

A tesztrepülés során a földi irányítás parancsára több állókép felvétel is készült. A rendszer fel van készítve előre programozott automatikus vagy periodikus álló- vagy mozgókép rögzítésére a repülés során.

A drón levegőben történő mozgása során megfigyelhető volt a tehetetlenség miatt megjelenő továbbsodródásra. Ez olyankor jelentkezik, amikor a drónt egyenes vonalú repülés közben fordulásra utasítjuk. Az észlelt hiba kiküszöbölésére azt a módszert alkalmaztuk, hogy a kitűzött cél elérése előtt a drón már hamarább elkezdi csökkenteni a sebességét, így a fordulási ponton már gyakorlatilag lebegési állapotban van.

TÁRGYALÁS

A felvázolt és kidolgozott megoldás több különböző helyzetben is alkalmazható. Az elsődleges cél ugyan a vízelvezető csatornák felügyelete volt, a fejlesztés közben felmerült még néhány alkalmazási mód, ami megoldható a leírt módszerekkel. Néhány lehetséges alkalmazási terület:

- Vadvédelmi parkokban az állatok, környezet és az emberi tevékenység megfigyelése. Mivel a fosszilis energiahordozókkal működő gépjárművek nagy zajt csapnak, ezzel megzavarják az állatokat (Dahdouh-Guebas, 2002; Langlois, Harvey, Fitzpatrick, Meeuwig, Shedrawi, és Watson, 2010). Megfigyelhető az állatok vonulása, az esetlegesen előforduló betegségek is nyomon követhetőek lehetnek [Pelletier, Leleu, Mallet, Mou-Tham, Herve, Boureau, és Guilpart, 2012). Követhető akár a populáció egyedeinek a száma is (Pindozzi, Faugno, Okello, és Boccia, 2013). Az állatok mellett a növények is megfigyelhetők, például amennyiben valamilyen betegség megtámadja a terület fáit, ezek megfigyelése a levegőből jelentősen leegyszerűsítheti az észlelést (Landgrebe, 1980). Az orvvadászok is jobban megfigyelhetők a levegőből, azonnal videófelvétel készíthető a cselekményről, ami később bizonyíthatja a természetkárosítást.
- Folyó és állóvizek partjának légi megfigyelése (Perry, Mohamed, El-Rahman, Bowman, Kaddoura, Watts, 2008; Ramachandran, Sundramoorthy, Krishnamoorthy, Devasenapathy, és Thanikachalam, 1998). Strandok felügyelete nyáron. Reggel, mielőtt a fürdőzők megjelennek a drón át tud repülni a strand felett, át tudja azt vizsgálni. A drón felvételét felügyelő szakember pedig ki tudja értékelni, hogy sikerült-e a takarítóknak és a karbantartóknak feltakarítani illetve a nyugágyakat és a napernyőket elhelyezni.

Ábra 3 Járőrözés útvonala a folyóparton, a kikötő és strand felett

KÖVETKEZTETÉS

A kutatás befejeztével és a kisérletek elvégzésével azt a következtetést lehet levonni, hogy a tervezett megoldás elérte a kitűzött célokat.

A megtervezett vezérlőszoftver segítségével a drón képes önállóan repülni az előre meghatározott pályán, a bejelölt fordulópontoknál az eszköz el tud fordulni a megfelelő irányba.

A kifejlesztett felhasználói szoftver alkalmas videofelvétel készítésére és mentésére, valamint állóképek rögzítésére és azok tárolására.

A kutatás folytatásaként a begyűjtött képanyagot feldolgozó algoritmusok kidolgozása implementálására és alkalmazására nyílik lehetőség.

SUMMARY

The research shows a solution for patroling over a specified area using drones, specifically quadcopters. The implemented method is capable of the following: to take off the drone, to fly into a specified direction and to turn at the given points to the direction it's told to. The itinerary can be programmed into the controlling software and can be modified until the take off of the device. Once it has happened, the itinerary cannot be changed and can be stopped only in case of emergency.

The software runs on Windows Phone and Windows 8, or newer versions of the operating system. According to the original plans, it uses the platform's capability of writing the same code for multiple architectures and multiple device form factors, with only minor if any changes. This also enables the software to store one data for multiple platforms. For example, itinerary can be done on the mobile phone and it is immediately visible on tablets or any other mobile phones used by the same user. The parts of the software where the most changes were required are the graphical elements, because the system renders elements designed for smaller screens differently compared to the elements that were designed for desktop computers with full size monitors.

The software always runs on the controlling device and never on the drone itself. The controller only sends commands towards the quadcopter every 250 miliseconds. After receiving the command, the drone

does not send any feedback about their arrival, so the solution has to constantly monitor the flight data, mostly the actual speed and the flight direction.
The drone has a 90 degrees angle of view camera, so the width of the set space is twice the altitude. Because of this, the software sets the altitude intelligently all by itself. For example if one wants to have an image which has eight meters of width on the ground, the computed height will be four meters. This also means that the height cannot be set manually, only the software can do it.
Because of the safety of the flight, perfect weather conditions must be met. This is provided by the weather module built into the software. The source of the data is Weather2Umbrella, which's API is capable to send the current weather conditions to the nearest point in case coordinates are sent.
The solution cannot be applied only to monitor irrigation canals but to any task where a graph has to be explored by the drone. Tasks like these can be monitoring wildlife parks or beaches.
It's important to note at the wildlife park monitoring system that in case the exploration is happening using a self driving robot, then the pollution from the internal combustion engines can be omitted on protected these areas. While in many cases to produce electrical power fossil fuel is burnt, it is critically important that it does not happen on areas which are turistically important. Likewise it's worth to say that the drone replaces the combined use of off road vehicles and boats in cases when only land based monitoring is insufficient. Again, parks covered by shallows can be monitored easily.

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