

UNIVERZA V MARIBORU
Fakulteta za kmetijstvo in biosistemske vede



MEDNARODNA KONFERENCA »OD SEMENA, ZELENJAVE, SADJA DO GIBANJA IN ZDRAVJA ZA ZDRAVO SRCE«

Vloga in pomen znanstveno raziskovalnega dela v trajnostnem agroživilstvu

prof. dr. Karmen Pažek, **Fakulteta za kmetijstvo in biosistemske vede**

Radenci, 10.5.2018

UVOD

- **Trajnostno kmetijstvo** obravnava multifunkcionalnost kmetijstva (hrana, krma, surovine za obrtno in industrijsko predelavo, obnovljivi viri energije, kulturna krajina, rekreacija) s poudarkom na povezavah med tlemi, podnebjem, rastlinami, živalmi in človekom kot družbenim bitjem, ki s temi viri upravlja (<http://www.bf.uni-lj.si/index.php?id=3751>).
- Programaska skupina **Trajnostno kmetijstvo** (P4-0133, nosilka doc. dr. Marjeta Čandek Potokar, KIS):
- Program je organiziran v specializiranih delovnih skupinah z dvema stebroma raziskav. Prvi se nanaša na kvantitativne in kvalitativne vidike proizvodnje hrane (živinoreja, čebelarstvo, sadjarstvo, jagodičje, vinogradništvo in vinarstvo), drugi proučuje okoljsko problematiko (optimizacija tehnologij pridelave v smeri izboljšane varstva rastlin, smotrne izrabe energije, varstva vode in tal ter preprečevanja izpustov toplogrednih plinov).

Fakulteta za kmetijstvo in biosistemske vede

- Vsebine s področja trajnostnega kmetijstva so na Fakulteti za kmetijstvo in biosistemske vede UM, del vsebin posameznih učnih enot že od začetka akreditacije posameznega študijskega programa.
- Raziskovalni projekti in programi (nacionalna raven, mednarodna raven).
- Praksa
- Diplomaska dela
- Magistrska dela
- Doktorske disertacije



Vir: Dejan Rengeo



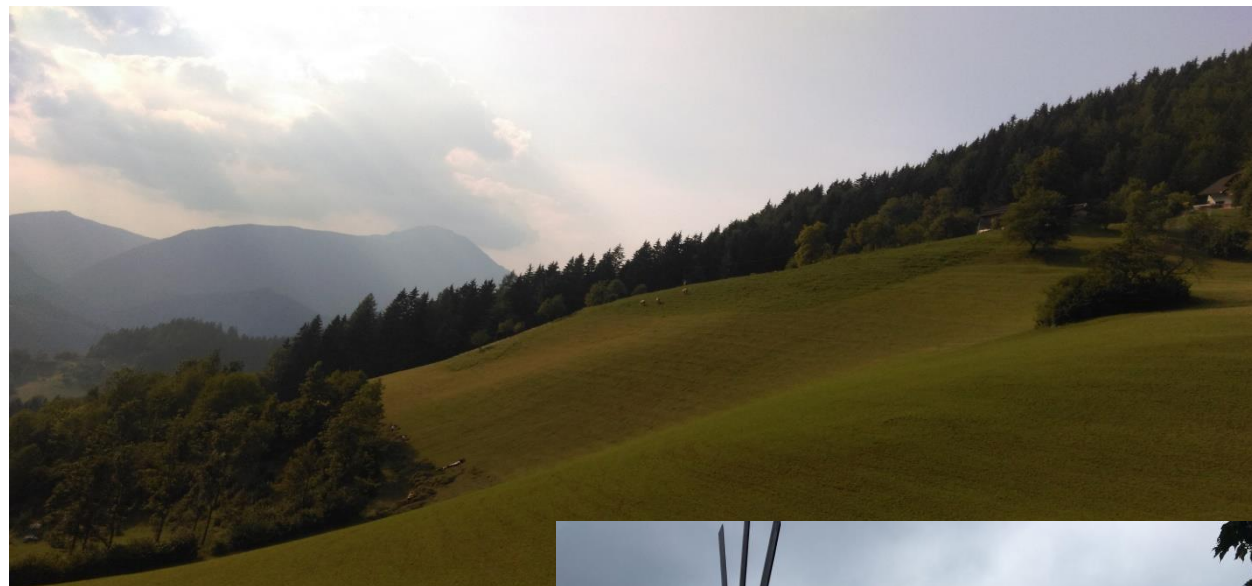
Vir: splet



Vir: www.holstein.si

Nekateri sklopi znanstveno raziskovalnega dela na FKBV

- Kmetijstvo
- Agroživilstvo
- Ekološko kmetijstvo
- Samooskrba
- Turizem na podeželju
- Okoljski management
- Agroekologija
- Varna hrana
- Tehnologija in strojništvo
-



Kmetijstvo

- Splošne teme s področja pridelave kmetijskih rastlin (polj. vrtnar, sadj., vinograd., okrasne rastl., reje živali in prireje mleka, itd,..)
- Agrotehnologija
- Prijazni načini reje in prireje
- Inovativni pristopi pridelave in metode pridelave in reje
- Surovina – pridelekproces.....output (pridelek, proizvod)
- Obnovljivi viri energije
- Ne-invazivni pristopi v kmetijskih procesih
- Optimizacija kmetijske pridelave
- Ocena ekonomičnosti
- Podjetništvo
- Krožno gospodarstvo

Original scientific paper - Izvorni znanstveni rad

UDK: 637.1

Multi-criteria and econometric evaluation of dairy products

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Abstract

This study examined the multi-criteria assessment of four dairy products: "Pomursko mlejko" (Pomurje milk), "Lejko mleko" (light milk), "Fyto mleko" (Fyto milk) and "Posneto mleko v prahu" (dried milk). The research was executed by using a multi-criteria methodology DEX, which was complement-

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Agricultural Academy

ASSESSMENT OF MULTIFUNCTIONAL AGRICULTURE: APPLICATION OF SELECTED MULTI-CRITERIA METHODS IN CASE OF SLOVENIA

K. PAZEK^{1*}, C. ROZMAN¹, D. MAJKOVIC¹, J. TURK¹, M. KLJAJIC², A. SKRABA², A. BOREC¹ and J. PRISENK¹

¹ *University of Maribor, Faculty of Agriculture and Life Sciences, 2311 Hoce, Slovenia*

² *University of Maribor, Faculty of Organizational Sciences, 4000 Kranj, Slovenia*

Abstract

PAZEK, K., C. ROZMAN, D. MAJKOVIC, J. TURK, M. KLJAJIC, A. SKRABA, A. BOREC and J. PRISENK, 2014. Assessment of multifunctional agriculture: application of selected multi-criteria methods in case of Slovenia. *Bulg. J. Agric. Sci.*, 20: 1008-1017

The aim of this paper is to employ the use of multi-criteria analysis in quantification of the multifunctional agriculture (MFA). For this purpose, two methodological approaches are used and compared: Analytical-Hierarchical Process (AHP) for group decision making and multi-attribute utility theory (MAUT), under the assumption that MFA in Slovenia exist, while its level vary through regions/farms. The results showed that organic farms yielded with the highest final priority assessment with respect to the concept of multi-functionality.

Key words: multifunctional agriculture, Analytical-Hierarchical Process (AHP), multi-attribute utility theory (MAUT)



Contents lists available at ScienceDirect

Computers and Electronics in Agriculture

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Development of DEX-HOP multi-attribute decision model for preliminary hop hybrids assessment

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ABSTRACT

Hops (*Humulus lupulus* L.) essentially contribute to the quality of the taste of beer and its flavor. Experimental hop trials were conducted in the Slovenian Institute of Hop Research and Brewing were used to create

Agroživilstvo

- Pridelava in predelava kmetijskih pridelkov na okolju in potrošniku prijazen način (00 waste, ekološko kmetijstvo, konvencionalno – integrirano kmetijstvo, ozelenitve, VVO, avtohtone sorte in pasme, ...)
- Lokalna samooskrba, Agroživilske verige (kratke in dolge), Označbe,...
- Foot print; -Trenutno aktualni projekti SRIP Hrana in EIP, PKP, EKO Gastro, Sladkorna pesa ...



A Multi-Criteria Decision Analysis Framework Tool for the Selection of Farm Business Models on Organic Mountain Farms

K. PAŽEK, Č. ROZMAN, F. BAVEC, A. BOREC, and M. BAVEC
Faculty of Agriculture and Life Sciences, University of Maribor, Hoče, Slovenia

Mountain regions are important producers of organic food. For them, reliable decision making regarding business planning necessitates different critical support methods. KARSIM 1.0 (DSM) is a methodology based on an integrated deterministic simulation system application for decision-making support, consisting of 74 deterministic production simulation models. DSM enables different types of cost and financial feasibility calculations for organic production and food processing. KARSIM 1.0 was used to simulate three specific business alternatives for mountain organic farms. (Alternative 1: spelt grain, fruit cider, wine and brandy, plum brandy, calves meat and sheep–soft cheese production, Alternative 2: spelt flour, pear and apple juice, plum brandy, veal and sheep's milk, Alternative 3: spelt grain, dried fruit, calves, soft and hard sheep cheese). Simulation model results were compared using two multi-objective analysis methods: the analytical hierarchical process (Expert Choice Decision Support System software)

A multi-criteria assessment of the production and marketing systems of local mountain food

Jernej Prišenk*, Črtomir Rozman, Karmen Pažek, Jernej Turk, Zarja Bohak[†] and Andreja Borec

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Research paper

Abstract

A multi-criteria model for a qualitative assessment of the production and marketing of local food products (LFP)

Full Length Research Paper

Assessment of potato processing investments by real options approach: Case study

Karmen Pažek*, Matej Kolenko, Jernej Turk, Jernej Prišenk, Andreja Borec, Martin Pavlovič and Črtomir Rozman

Faculty of Agriculture and Life Sciences, University of Maribor, Pivola 10, 2311 Hoče, Slovenia.

Accepted 31 October, 2013

The paper presents the integrated technological-economic deterministic simulation system for decision-making support in agric-food production. An emphasis was made on the use of standard financial indicator net present value (NPV_t) by incorporating the real options approach for potato processing as a supplementary activity on a mixed farm. The application of real options (RO) was presented using the Black-Scholes and binomial model. Different potato processing alternatives were assessed. The processed potato in cubes was shown as the alternative with the higher NPV_t . For the potatoes processed into cubes, the option value (OV) is the highest value (105,860.90 € in Black-Scholes model and 105,324.42 € in the binomial model). Real options have an important value in decision management where standard methods of investment analysis are upgraded and taken into consideration with the stochastic elements as well.

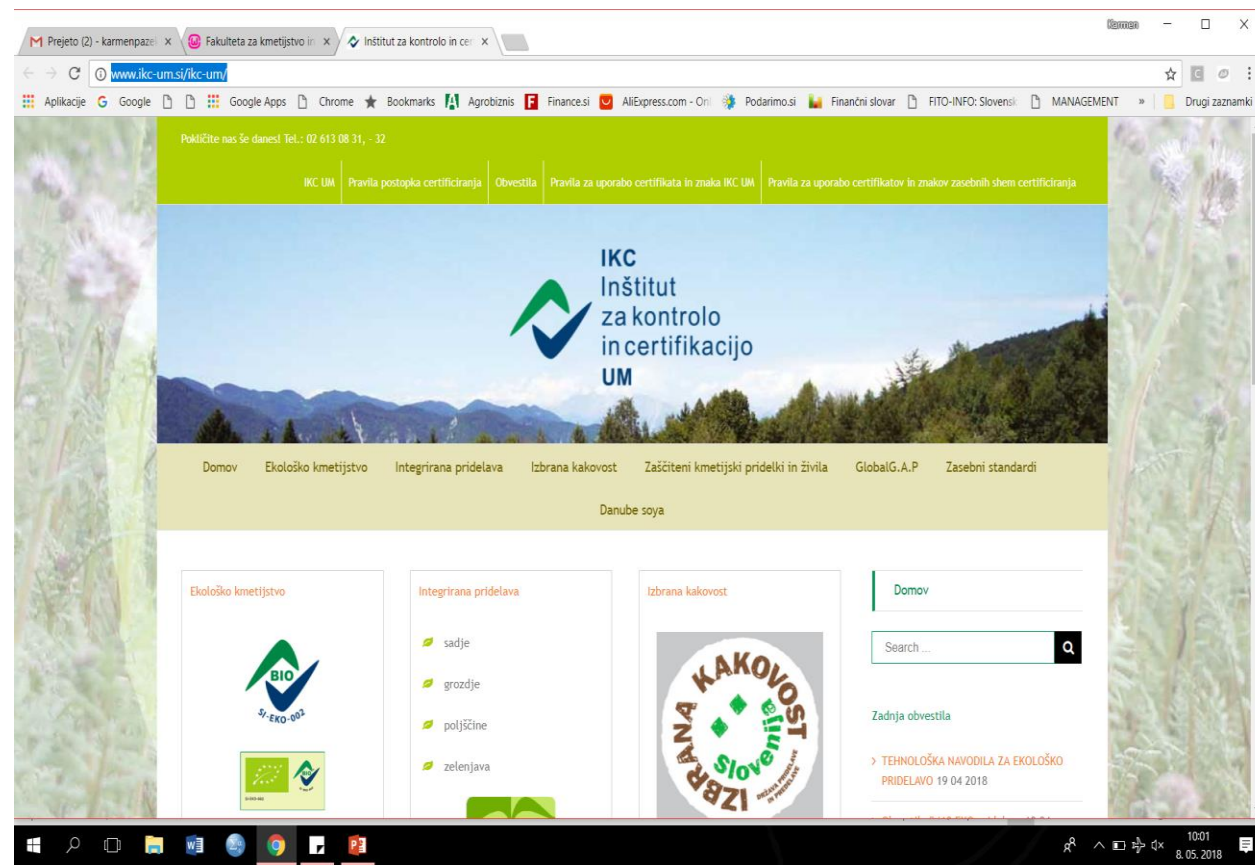
Key words: Potato processing, simulation, standard net present value, option models.

Ekološko kmetijstvo

- Zakonodaja
- Preusmeritveni načrti za posamezno kmetijo (strokovni del + poslovni načrt)– management + eko stroka
- Praksa + eko kmetje +kadri za IKC (<http://www.ikc-um.si/ikc-um/>)



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Business opportunity assessment in Slovene organic spelt processing: application of real options model

Karmen Pažek and Črtomir Rozman

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Ein Simulationsmodell für die Investitionsanalyse der Nahrungsmittelverarbeitung auf ökologischen Betrieben in Slowenien

K. Pažek, Č. Rozman, J. Turk, M. Bavec und M. Pavlovič

The simulation model for investment analysis of food processing on organic farms in Slovenia

1 Einleitung

Die Ökologische Landwirtschaft in Slowenien gewinnt bei den Bauern, Kunden und Experten immer mehr an Bedeutung. Es handelt sich hierbei um ein nachhaltiges Landwirtschaftssystem, bei dem der Nahrungsmittelanbau auf einem Gleichgewicht im System „Boden – Pflanzen – Tiere – Mensch“ und einem geschlossenen Kreislauf der verschiedenen Nährstoffe im System basiert. Die Anfänge des

ökologischen Landbaus in Slowenien gehen auf das Ende der achtziger Jahre des vorherigen Jahrhunderts zurück. Damals fanden sich einige begeisterte Bauern und organisierten sich in verschiedenen Gruppen organisiert. Im Jahr 1998 wurden bereits die ersten 24 Ökobauernhöfe von einer akkreditierten Institution kontrolliert. Drei Jahre später waren bereits 1.150 Ökobetriebe (15.404 ha) in die Ökokontrolle eingeschlossen. Die durchschnittliche Größe eines Ökobetriebes im Jahr 2002 betrug 13,4 ha. Parallel

Summary

In this paper the computer simulation model "EKOSIM 1.0" is developed for cost benefit analysis of food processing on organic farms in Slovenia. The model enables quick and effective analysis of different investment strategies in food processing on organic farms. The model was tested on three different organic farms. In most cases the planned food processing investments yielded positive net present values (NPV). In the case of investments that appear to be financially not feasible, the model was used in order to find better technical solutions, which subsequently improves simulation results. The computer model can be applied for investment planning and decision support on organic farms and has thus a good practical value.

Key words: Organic farming, processing, simulation, investment analysis.

Zusammenfassung

In diesem Beitrag wird das Computersimulationsmodell „EKOSIM 1.0“ zur Investitionsanalyse in der Nahrungsmittelsverarbeitung auf Ökobetrieben in Slowenien dargestellt. Das Modell ermöglicht eine schnelle und effektive Analyse der verschiedenen Planungsalternativen bei Investitionen in die Weiterverarbeitung von Bioprodukten auf ausgewählten Betrieben in Slowenien. Das Modell wurde für die Investitionsanalyse auf drei ausgewählten Modell-Betrieben angewendet. Die Mehrzahl der analysierten Investitionsalternativen in den ausgewählten Modell-Betrieben war wirtschaftlich. Im Fall eines negativen Resultats könnte mit dem Modell eine passende Lösung gefunden werden. Die Computerversion des Modells kann für Investitionsplanung und Entscheidungsunterstützung auf realen Betrieben angewendet werden und hat damit einen praktischen Wert in der ökologischen Landwirtschaft in Slowenien.

Schlagworte: Ökologische Landwirtschaft, Verarbeitung, Simulation, Investitionsanalyse.

Samooskrba

- Specifičnost kmetije in razpoložljivih virov
- Študije primerov
- Pomen varne hrane



[Contents](#) > The Use of Multi Criteria Models for Decision Support on Organic Farms

Biological Agriculture & Horticulture: An International
Journal for Sustainable Production Systems

Volume 24, Issue 1, 2006



[Translator disclaimer](#)



Original Articles

The Use of Multi Criteria Models for Decision Support on Organic Farms

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K. Pažek^a, Č Rozman^a, A. Borec^a, J. Turk^a, D. Majkovič^a, Martina
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ABSTRACT

The need for reliable information in the organic farm planning process dictates the use of

Journal news

2015 Impact Factor: 0.765

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Views: 41

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Črtomir Rozman, et al.
Volume 28, Issue 2, 2006

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- Turizem na podeželju kot samostojna dejavnost
- Turizem na podeželju v kombinaciji s primarno kmetijsko dejavnostjo
- Trajnostni razvoj turizma





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Tourism Management

journal homepage: www.elsevier.com/locate/tourman



A multi-criteria assessment of tourist farm service quality

Črtomir Rozman^{a,*}, Majda Potočnik^{b,1}, Karmen Pažek^{a,2}, Andreja Borec^{a,3}, Darja Majkovič^{a,2},
Marko Bohanec^{c,d,4}

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Keywords:

Rural tourism

Tourist farm

Service quality

Multi-criteria modeling

DEXi

ABSTRACT

Farm tourism is a significant means of supplementing farmers' incomes. This paper presents a methodology for ranking tourist farms by using a multi-criteria model based on the qualitative multi-criteria modeling methodology, DEX, to assess service quality. The software tool DEXi was used to achieve this end. The model was then applied to seven tourist farms with data derived from questionnaires completed by tourist farm operators and guests. The results are shown as service quality assessments for individual farms. The potential of the model for assessing the farms is demonstrated with the aim of providing a comprehensive explanation and justification of the assessment technique. It also indicates potential improvements that farms can make through "what-if" analysis and visualization. Despite limitations, such as use of qualitative data only, the approach is proposed as being both appropriate and

Okoljski management

- Mrežno planiranje projektov
- Investicijske ocene
- Namakanje, Ravnanje z odpadki
- VVO območja in območja v okviru drugih okoljskih ukrepov ali shem
- Upravljanje z neobnovljivimi naravnimi viri



UNIVERZA V MARIBORU
FAKULTETA ZA KMETIJSTVO IN BIOSISTEMSKE VEDE

Simon BUKOVSKI

VPLIV KAKOVOSTI SORTIRANJA KOMUNALNIH
ODPADKOV V SLOVENIJI NA RECIKLIRANJE

MAGISTRSKO DELO

Maribor, 2018

UNIVERZA V MARIBORU
FAKULTETA ZA KMETIJSTVO IN BIOSISTEMSKE VEDE

Danijela GOMBOC

MREŽNO PLANIRANJE NA PRIMERU IZGRADNJE
KOMUNALNE KANALIZACIJE S ČISTILNO
NAPRAVO

DIPLOMSKO DELO

Rakičan, 2012

Agroekologija

- Kot interdisciplinarni okvir za kmetijstvo
- Zelo široko raziskovalno področje
- Pomen naravnih dejavnikov v kmetijstvu, itd,...
- V Sloveniji deluje več kot 200 nevladnih organizacij s področja varstva okolja in narave, od tega 66 v javnem interesu (<https://www.dnevnik.si/1042821005>)



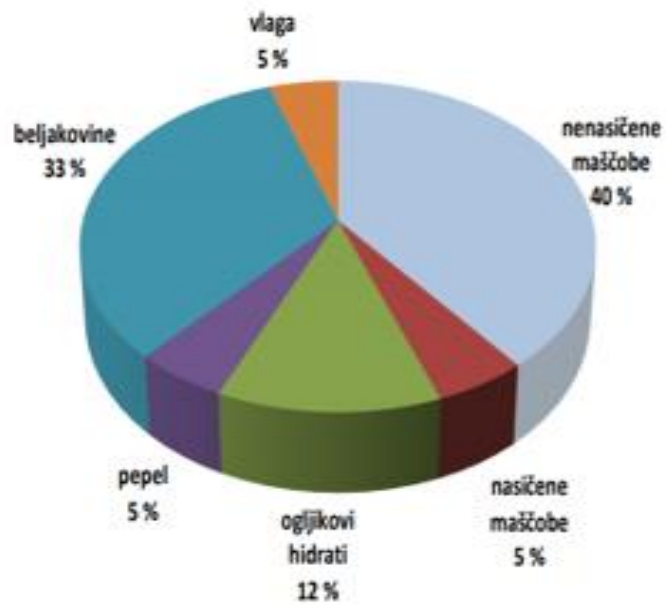
MULTI-CRITERIA ASSESSMENT OF LESS FAVOURED AREAS: A STATE LEVEL

Karmen Pažek, Aleš Irgolič, Jernej Turk, Andreja Borec, Jernej Prišenk,
Matej Kolenko, Črtomir Rozman



KARMEV PAZEK

Less Favoured Areas (LFAs) where production conditions are difficult.



Grafikon 1: Grafični prikaz sestave semena



Izolacijski material
(vir: splet)



Konopljin beton pred
vgradnjo (vir: konopko.si)



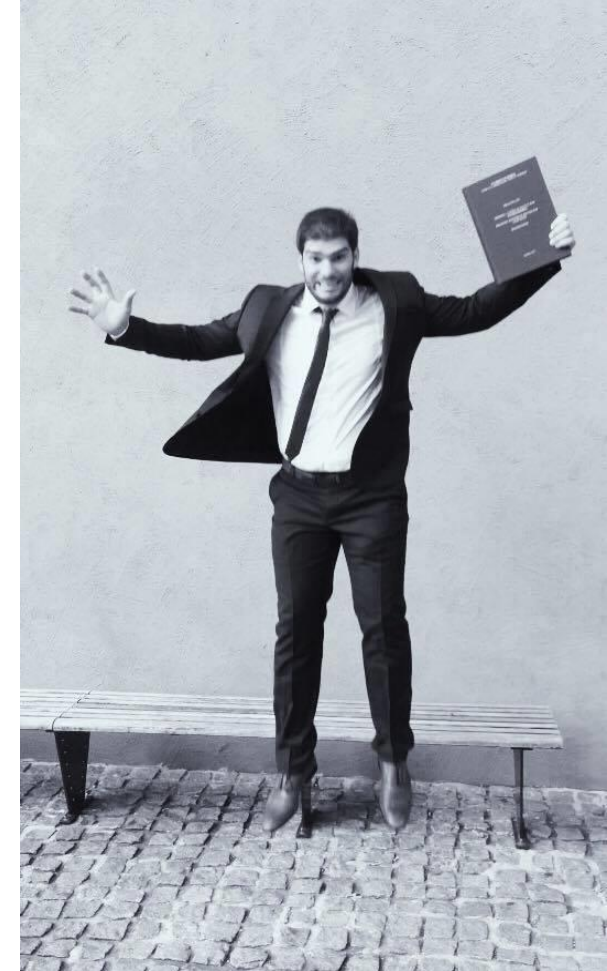
Sušen in nasekljan pezdir (vir:
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Sociologija podeželja

- Ravnovesje med horizontalno (posameznik napreduje znotraj določene družbene skupine) in vertikalno (napreduje v višjo/nnižjo vrednoteno družbeno skupino) družbeno mobilnostjo omogoča trajnostni razvoj podeželja.
- Prehitro napredovanje po vertikalni družbeni mobilnosti zavira tekmovalnost/konkurenčnost znotraj družbene skupine.
- Primer agro-živilskih verig: Množično napredovanje primarnih akterjev v agro-živilskih verigah v lastniško strukturo predelovalne komponente lahko povzroči omejenost razvoja idej in novih produktov/izdelkov. Zakaj: prevelika osredotočenost na upravljanje prvega dela agro-živilske verige.

Skupne točke

- Mladi prevzemniki – izobrazba – točke pri razpisih
- Osveščенost nosilca dejavnosti in potrošnika
- Odnos do slovenske hrane
- Odnos do okolja
- Odnos do potrošnikov
- Samooskrba
- Eksistenca oz. ustvarjanje in zagotavljanje delovnega mesta na kmetiji
- Kmetijska politika in njeni ukrepi za vzpodbujanje trajnostnega kmetijstva



*HVALA ZA POZORNOST IN USPEŠNO DELO VAM
ŽELIM!*



Vir: splet