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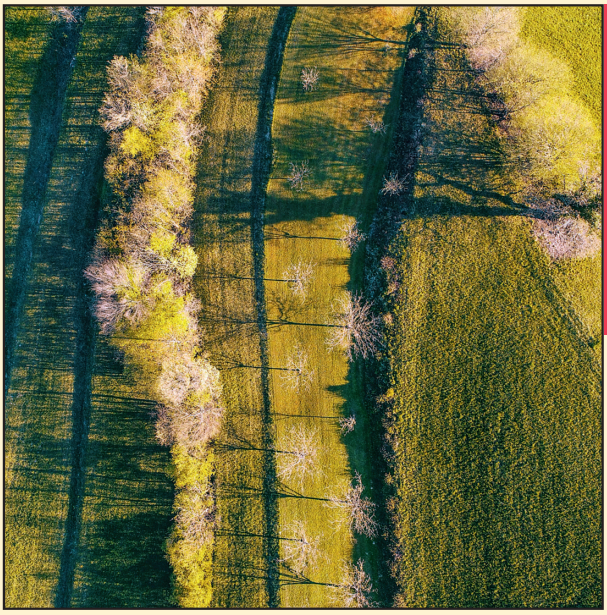

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THE CHANGE IN EDUCATIONAL ASSORTATIVE MATING IN SERBIA AND SLOVENIA, 1970–2020

Damjan Bakić, Vera Gligorijević

VERA GLIGORIJEVIĆ

Rectorate of the University of Belgrade, Serbia.

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Damjan Bakić[1], Vera Gligorijević[1]

The change in educational assortative mating in Serbia and Slovenia, 1970–2020

ABSTRACT: This paper explores marital matching patterns from the perspective of the partners' educational attainment, focusing on the link between gender asymmetry in education and educational hypergamy. In order to assess to what extent the tendency for women to marry men of higher educational status is related to the educational gender gap in Serbia and Slovenia, we calculate an index for women's educational advantage, and an index for the prevalence of educational hypergamy. Our results confirm the following: the growth of education is associated with an increase in female educational advantage; the relationship between female educational advantage and educational hypergamy is strongly negative; and there are no significant differences in assortative mating patterns between Serbia and Slovenia.

KEYWORDS: educational assortative mating, education, marriage, Serbia, Slovenia

Sprememba v sklepanju partnerskih zvez z vidika izobrazbe v Srbiji in Sloveniji med leti 1970 in 2020

Ta članek raziskuje vzorce sklepanja partnerskih zvez vidika izobrazbe partnerjev. Osredotoča se na povezavo med spolno asimetrijo v izobraževanju in izobraževalno hipergamijo. Da bi ocenili, v kolikšni meri je težnja žensk po poroki z moškimi z višjo izobrazbo povezana z izobrazbeno razliko med spoloma v Srbiji in Sloveniji, smo izračunali indeks izobrazbene prednosti žensk in indeks razširjenosti izobraževalne hipergamije. Naši rezultati potrjujejo, da je rast izobrazbe povezana s povečanjem izobrazbene prednosti žensk, da je razmerje med izobrazbeno prednostjo žensk in izobrazbeno hipergamijo močno negativno in da med Srbijo in Slovenijo ni bistvenih razlik v selektivnih vzorcih sklepanja partnerskih zvez.

KLJUČNE BESEDE: izobrazbeno pogojeno sklepanje partnerskih zvez, izobrazba, poroka, Srbija, Slovenija

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1 Introduction

Even though Serbia and Slovenia differ in socio-economic aspects, both countries are facing similar demographical issues, and just like many other Eastern European countries they are experiencing a postponement of marriage and childbearing to higher ages and decline of fertility towards very low levels (Josipovič 2003; Penev 2010; Nikitović 2015; Josipovič 2016; Graovac Matassi and Talan 2021). Marriage rates, which are still considered to be an important demographical reproduction factors (Devedžić 2004; Lerch 2017; Rašević and Vasić 2017), are greatly influenced by the composition of the marriage market. This composition is heavily misbalanced in both countries due to the insufficient supply of the partners with desired socio-economic characteristics. One of the mostly desired characteristics is partner's education, which determines social status. An »ideal« partner should be equally well or better educated, which is a requirement that cannot be fulfilled that easily today, due to the unequal educational coverage between men and women. Partner's education is a key both for individual economic behaviour and for the behaviour of the unions, because the marriage stability depends on the suitable partner combination. The marriage stability further influences marriage outcomes, such as parenthood or divorce (Esping-Andersen and Billari 2015; Goldscheider, Bernhardt and Lappegård 2015). The stability is more pronounced if the partners share common values which are today formed mostly through education, given that the influence of other institutions (e.g. family or religion) has declined over the time. This is the reason why the research of »educational assortative mating« can contribute to a better understanding of the effect the social changes have on the marital level. Moreover, understanding marital level leads to a better understanding of the changes in the fertility level.

Since the emergence of surpluses of educated women (Vincent-Lancrin 2008; KC et al. 2010), more marriages where the woman is more educated than the man have been observed (Esteve, García-Román and Permanyer 2012; Van Bavel 2012). Therefore, this work focuses firstly on the educational misbalance between the genders, and afterwards tries to answer the question if this misbalance can be connected to the pattern changes in educational assortative meeting. In the end, the question whether differences in educational assortative mating between Serbia and Slovenia exist is tackled, and to what extent those differences can be explained by (post) Yugoslavian socio-economic context.

2 Theoretical frameworks

Assortative mating is based on the partner search theory which assumes that individuals have preferences for partners with certain socio-economic characteristics and that there exists a market where those preferences can be realized (Lewis and Oppenheimer 2000). Socio-economic attributes such as income, wealth, occupation, and education are the most cited ones, because they influence the status of an individual and of the couple (Kalmijn 1994), also from of all socio-economic features, education is an attribute being explored pretty often, because it represents one of the main components of the social stratification (Petrović 2011; Bobić 2017) and it is an important part of an individual's lifecycle (Mare 1991).

Partner search theory accounts for differences in the preferences of men and women, and those differences were addressed for the first time in the model of household specialization and division of labour introduced by Becker (1973). According to this model, when forming households, couples will exploit the gains from trade by having one spouse specialized in market work while the other specialized in household work. Household specialisation enhanced the emergence of educational hypergamy, i.e. marriages where a husband would be more educated than a wife (Blossfeld 2009; Schwartz and Han 2014). Women's ability to earn caused a change in men's preferences, who now began favouring the economic characteristics of their partners (Oppenheimer 1994; Lichter et al. 1995; Torr 2011). This resulted in an ever-increasing number of marriages with equally educated partners (Sweeney 2002; Schwartz and Mare 2005). Once education became gender-neutral, and once educated women outnumbered educated men, a new pattern was born – husbands marrying up. This pattern emerged as an answer to, i.e. acknowledgment of, the new demographic reality among younger cohorts, especially of the highly educated populations of both genders (Grow and Van Bavel 2015).

This composition of marriage market is influenced by social macrostructures (Blau 1977), i.e. by the relative group size entering the marriage market (De Hauw, Grow and Van Bavel 2017; Chiappori 2020).

It also explains the process of so-called »squeezing out« of less competitive individuals from the marriage market (marriage squeeze), which occurs in case of a significant misbalance towards a certain gender or socio-economic attribute (Schoen 1983; Van Bavel 2012). Individuals experiencing difficulties in finding a suitable partner (equally or better educated) due to a lack of candidates with their preferred attributes generally resort to one of two strategies. The first is the strategy of extended search, where individuals continue searching for a partner with their preferred attributes for longer than they normally would, at the risk of weakening their own attributes and increased costs that can arise over time. In the second case, they resort to the criterion of selection. Falling back on the first strategy leads to an increased number of single people among the young population, whereas adopting the second strategy increases the number of marriages which are not aligned in terms of individual preferences (Schoen 1983; Oppenheimer 1988).

Two groups are specifically prone to the education-specific mating squeeze: highly educated women and non-educated men. From the perspective of highly educated women, the supply of suitable, highly educated men are limited by the bounded number of university graduates. From the perspective of uneducated men, the fact that there are more female graduates at every level of education implies that they are facing a decreasing number of potential partners, as women tend to choose a partner that is at least as educated as they are.

However, a more educated wife is not an obstacle to marriage, as demonstrated by Esteve et al.'s (2016) results from 120 countries with differing socio-economic contexts – the marriage market accepts an increasing number of highly educated women thanks to suitably flexible gender norms, though the second phase is taking place very slowly (England 2010; Esping-Andersen and Billari 2015). While Second demographic transition has a negative narrative regarding the changes within the families, gender revolution foresees positive changes in the families (greater number of marriages, greater marriage stability, smaller number of divorces and higher fertility). Those positive changes shall happen due to the changes in the currently existing structures and the prevalence of the structural factors over the ideological ones (Goldscheider, Bernhardt, and Lappegård 2015). Other authors agree that the dominance of the gender roles reflects the chances from the social environment and that they change under the influences of structural misbalances (West and Zimmerman 1987; Blossfeld 2009; Šobot 2012; Bobić 2017). Speaking of the big structural changes, such as globalization or very strong increase of education level, gender attitudes formed under the old structures can survive »if people are not well prepared by education or experience to function comfortably and successfully in the new gender structure« (Goldscheider, Bernhardt and Lappegård 2015, 218). Taking educational assortative mating as an example, studies have shown that in a western-oriented context, non-traditional educational hypogamy couple have a lower divorce risk compared to educational homogamy ones, given that they are represented with an abundancy greater than 50%, i.e. given that the norms are accepted within a broader local community (Theunis et al. 2018).

Starting with theoretical background and previous results, we postulate the following hypotheses:

1. Development of the education leads to the creation of a gender-based misbalance in favour of educated women.

1a. This misbalance is mostly pronounced when talking about highly educated people.

2. The prevalence of women within the population with tertiary and secondary education leads to a decline in educational hypergamy and a rise in educational hypogamy.

2a. Highly educated women are the ones that are mostly susceptible to hypogamous marriages.

3. Patterns in educational assortative mating are different in Serbia and Slovenia.

3a. Educational hypergamy declines more rapidly in Slovenia.

Even though the education is highly relevant to fertility and mortality (Rašević and Vasić 2017; Marinković 2018; Mirić 2019), not many papers investigating the consequences on partner selection patterns have been published. To our best knowledge, this is the first paper of that kind concerning Serbia and Slovenia and it will make its contribution to the knowledge fond in the area of educational assortative mating, whereas the results specific to Serbia and Slovenia will be joined to the ones (De Hauw, Grow and Van Bavel 2017) referring to the other European countries.

2.1 Former Yugoslavia context

Even though a very intense rise in education could be noticed throughout the whole Yugoslavia after WW2 (Breznik 1991), this process commenced a little bit earlier in Slovenia, it was faster compared to central

Serbia, but also mainly focused on mid-school education. This can be corroborated by the fact that the differences regarding the mid-school education levels between those two countries in the second half of 20th century were very much noticeable (in 1981. 34.5% of the Slovenian population had finished mid-school, whereas this number was only 25% in central Serbia), in contrast to the dynamics of higher education (higher education percentages from 1981: Serbia 6.5%, Slovenia 6.2%). However, Slovenia has gained a significant advantage over the last decades: in 2020, Slovenia had 47% of population with higher education, compared to Serbia which had 33%. During the last three decades, the variations in the population growth rates and therewith connected structures showed an uneven speed of modernization between those two countries, as well as cultural differences and particulars of the socio-economic development and political system (Sardon 2001; Kuhar and Reiter 2010; Penev and Predojević-Despić 2019; Istenič, Ograjenšek and Sambt 2017). Those particulars are reflected today through differences in the gender structure of the educated people. Expansion of the higher education, and the ever-increasing number of women attending universities (a trend that started at the beginning of the 1980's in Slovenia and in the 1990's in Serbia) (Šircelj 2007; Jovanović-Gavrilovic and Radivojević 2017), lead to an increase in percentage of women within highly educated population. This misbalanced was observed earlier in Slovenia, probably due to the Second Demographic Transition (Sobotka 2008; Bobić and Vukelić 2011) and the proximity of the European labour market (Kuhar and Reiter 2010; Josipovič 2018; Dobrotić and Stropnik 2020).

A comparative analysis of the changes in educational assortative mating in Serbia and Slovenia is justified by several arguments: looking at the similarities in partner selection patterns in two countries that used to be on opposing sides throughout the history when it came to the socioeconomic and demographical development is rather interesting. Furthermore, would be intriguing to see if Serbian society changes as a consequence of a dynamic development of the education, regardless of the of the slow economic development and low life standard (this change can be measured through the acceptance level of atypical marriage forms, where women are more educated than men). Lastly, it is compelling to understand the extent to which Serbia is lagging behind Slovenia, where economic prerequisites for social changes are fulfilled to a greater degree.

3 Data and methods

The main source of data regarding the gender-educational structure on the marriage market were censuses of the Socialist Federal Republic of Yugoslavia, censuses of the Republic of Serbia and censuses of the Republic of Slovenia, as well as the Labour Force Survey data that are available on the website of Eurostat. They were used to show the change in gender and educational structure of the marriage market.

Educational attainment is divided into three categories: primary (low) education (ISCED 1-2), secondary (medium) education (ISCED 3), and tertiary (highly) education (ISCED 5-8).

Our main data source for investigation educational assortative mating is the »Demographic Statistics« publication which was published on a yearly basis by the Federal Office for Statistics until 1990, and since 1990 by the Office for Statistics of Republic of Serbia. The publication provides data about gender distributions and educational attainments of a bride and a groom, which we used to classify all marriages from a given year into three groups: a) marriages where partners possess the same level of education (educational homogamy); b) marriages where the husband is more educated than the wife (educational hypergamy); c) marriages where the wife is more educated than the husband (educational hypogamy). This data is used to create the 50-year time series for Serbia, together with the data from the European Social Survey for the years 2010 and 2018 (only for Slovenia).

Further on, based on those data we were able to collect information about which marriage types are the most common ones for women, for men, for mid-school educated population, for highly educated people and for population without education.

The data of educational assortative mating are limited only to legally registered marriages, as there is no data regarding the educational structure of the people living in cohabitations. It is known that the cohabitations make up to 5.5% of the total number of families in Serbia, and that approximately 6% of the population older than 15 live in cohabitations. The frequency of cohabitations is the same for all types of educational profiles (5.5% when it comes to the highly educated population and 7.5% among the people with primary school only).

According to the results of the previous papers, there are no clear evidences which could prove that the patterns of the marriage section differ than the cohabitation patterns. Only in couple of cases, a slightly lower level of educational homogamy within the cohabitations has been recorded (Blackwel and Lichter 2000; Hamplova 2008; Schwartz 2010; Esteve, McCaa and 2013).

Analytical strategy was as follows: comparing two countries, we have shown the dynamics of the education development of the population by showing the increase in the share of highly educated people, and we have shown the differences in number of women and men studing at the universities. The prevalence of women at all educational levels in Serbia and Slovenia was analysed using the Index of female educational advantage (F-index), which is defined by Esteve, García-Román and Permanyer (2012) as follows:

$$F = \frac{\text{pf3}*(\text{pm1}+\text{pm2})+(\text{pf2}*\text{pm1})}{1-((\text{pf1}*\text{pm1})+(\text{pf2}*\text{pm2})+(\text{pf3}*\text{pm3}))} \quad (1)$$

where pf and pm stand for the share of women and men within a certain educational category, and the indices 1,2 and 3 denote different educational categories. F-index shows the probability that when randomly choosing a woman and a man (with different degrees of education), the woman would be the more educated one. This index takes all education levels into consideration, from the primary to the tertiary education, and lies between 0 and 1. If $F = 0$, there is no woman whose educational attainment is higher than or equal to that of any man, and if $F = 1$, the reverse is true. If the gender distribution is symmetric, the F-index equals 0.5. If F-index is between 0.5 and 1, it follows that the women are more educated within the considered group (Esteve, Garcia-Roman and Permanyer 2012).

Based on the same source, we were able to calculate the prevalence index of the educational hypergamy (H-index), in order to understand, which type of heterogamous marriages is more common. The equation is as follows:

$$H = lnA/B \quad (2)$$

where A and B are the numbers of educational hypergamic and educational hypogamic couples, respectively, and the operator is the natural logarithm. If the H-index equals 0, it follows that the number of educational hypergamy and educational hypogamy couples is the same (A = B). If the H-index is higher than 0, the number of hypergamous marriages prevails (A > B). In the case of educational hypogamy prevalence, the H-index is negative. In the end, the Pearsons's correlation coefficient between the F- and H- indices has been calculated, in order to show the nature of the dependency between the prevalence of women in education and prevalence of the educational hypergamy.

4 Results

The results are presented in three sections. The first one shows the development of the education and the greater reach of education within the female population, compared to the male population. In the second part we examine which patterns of educational assortative mating are prevalent in Serbia and Slovenia, and we track its change over time. The third part describes the correlation between the female majority in education and changes in the educational assortative mating.

4.1 The development of the education and female education advantage

Over the last 20 years, education in Serbia and Slovenia expanded significantly. The extent of this expansion can be seen from Table 1. The dynamics of this process was largely similar in Serbia and Slovenia, even though Serbia shows a slower trend, which is a direct consequence of Slovenia's faster economic growth shortly after joining the EU.

The expansion of higher education as measured by the share of highly educated individuals within the age group 25–34, occurred in the 2000s, as this parameter increased by 14 percentage points in Slovenia between 2002 and 2011. In Serbia, this phenomenon was much slower and is visibly lagging behind Slovenia, but the share of highly educated individuals within the age group 25–34 showed a reasonable increase during the last decade.

The increase in share of the highly educated among the 25–34 population was accompanied by an ever-increasing number of female students. Female majority in higher education occurred in 1980 in Slovenia, and in 1990 in Serbia. The biggest surplus of women within the student population was recorded in 2010 in Slovenia (63% of students were women), whereas the peak in Serbia occurred in 2005 (Figure 1). In the last decade, the share of women in higher education has been nearly constant around 60%. This implies that, in recent years, there are more highly educated women reaching the optimal reproductive age than there are men.

Apart from the share of women in the higher education, there are some indicators of the changes in the educational composition, which could provide a more complete picture of a given country. One such indicator is the measure of female educational advantage (F-index). Figure 2 shows the F-index trend, i.e. the increase of F-index during the time period 1970–2019. The increasing tendency of the F-index corresponds to the increase in the level of higher education, especially in Slovenia. In that context, one can claim

Table 1: Share of individuals with primary, secondary and tertiary education in 25–34 population.

Country	Year	Education		
		Primary	Secondary	Tertiary
Serbia	2002	22.8	63.3	13.9
	2011	14.1	62.7	23.2
	2019	10.5	56.4	33.1
Slovenia	2002	15.1	65.5	19.4
	2011	5.4	61.2	33.4
	2019	4.1	48.9	47.0

Source: Statistical office of the republic of Serbia – The population and households of Serbia according to the 2002 census; Eurostat databases – Population by sex, age and educational attainment level

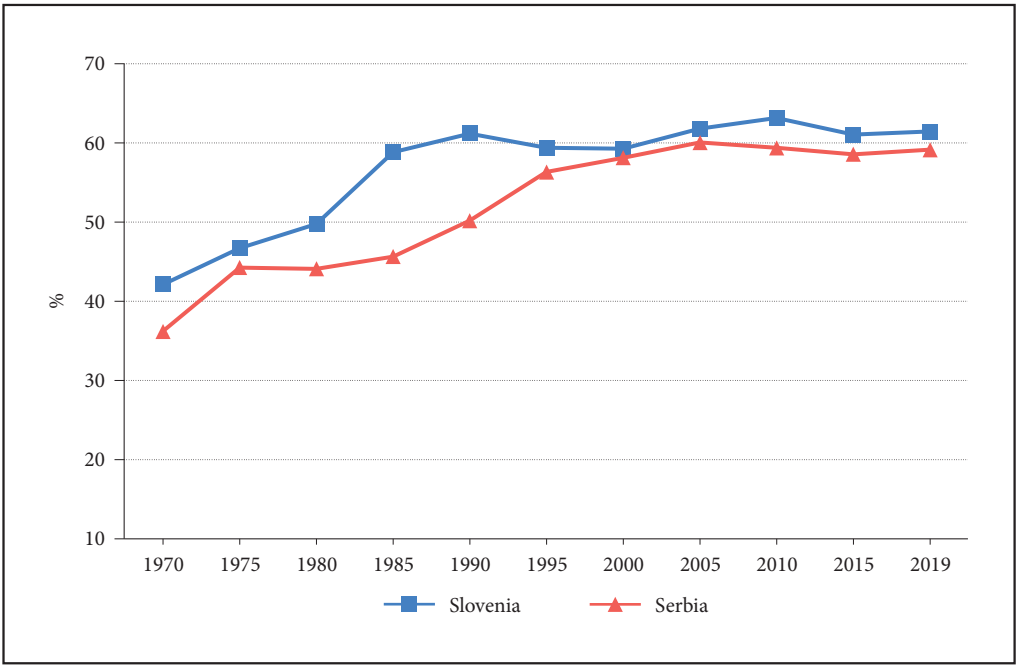


Figure 1: Female students enrolled in tertiary education as the share of all those in tertiary education, 1970–2019.

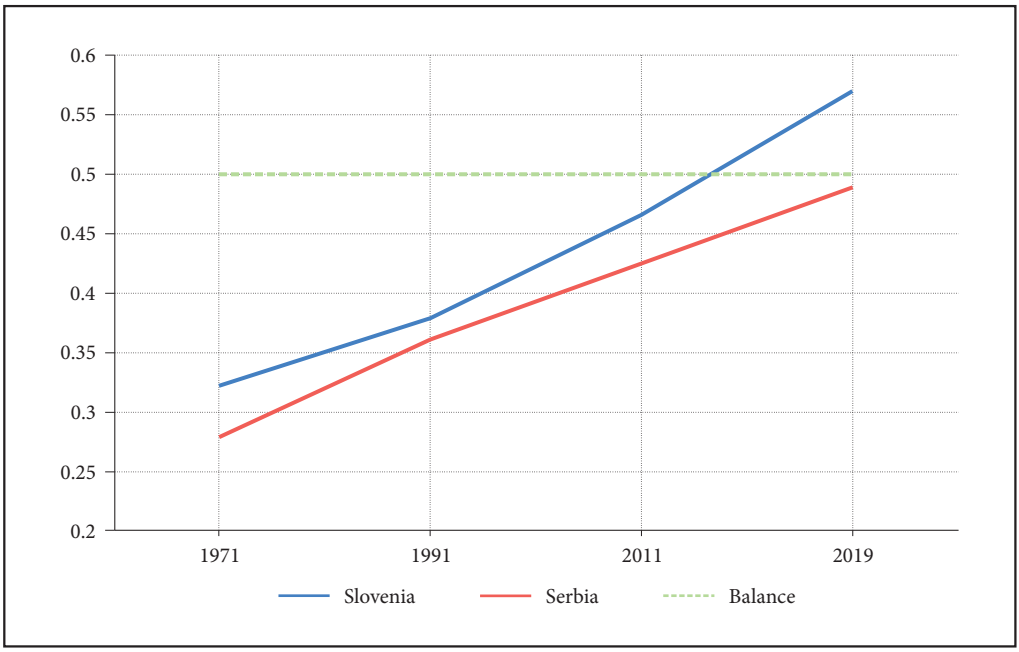


Figure 2: Index of female educational advantage (F index).

that the changes in the higher education are the main factor that influenced the educational structure of the population (and not changes in other levels of education). Even though the higher education was rising rapidly in Serbia as well, its effect was not completely the same in Serbia and Slovenia.

Figure 2 clearly shows that the probability of female advantage in education is lower in Serbia, as the overall educational structure is still under the influence of middle-school education, where female domination is lacking. In the recent times, the probability that a randomly chose woman compared is more educated to that of a randomly chosen man, is approximately the same in Serbia (0.5:0.5), whereas this number is around 0.57 in Slovenia. This implies that women gained an educational advantage over men even when taking all educational levels into consideration.

4.2 The surplus of highly educated women and educational assortative mating

The female majority in education influenced the gender distribution of the educated population within the optimal marital age (25–34 years of age). Figure 3 illustrates this phenomenon. This is especially noticeable when it comes to the highly educated population, where the share of highly educated women tops the share of highly educated men by approximately 7–14 percentage points within this age group.

Female majority in education induced changes in educational assortative mating patterns, as well. Those changes are reflected through an educational hypergamy decrease and an educational hypogamy increase, and a constant share of homogamous marriages compared to 1970 (Table 2). Educational homogamous marriages have always been dominant compared to all other types of marriages, both in Serbia and in Slovenia. In 1970, their share in Serbia was 72% and in Slovenia it was 66%. In Serbia, this value has not changed in 2019, but in Slovenia it increased slightly, to 73%, in 2018. With respect to educational heterogamy, the share of marriages where men are more highly educated than women have significantly declined (i.e. educational hypergamy decreased), from 24% to 10% in Serbia, and from 26% to 8% in Slovenia. At the same time, the number of marriages where women are better educated than men went up (educational hypogamy) – from 3% to 16% in Serbia, and from 7% to 18% in Slovenia. The time frame when those changes took place differs though – the intense decrease in educational hypergamy in Slovenia was recorded during the 1990s,

whereas in Serbia it happened with a delay of one decade, which corresponds to the delay in the higher education gender gap reversal relative to Slovenia.

A powerful indicator of the changes in educational assortative mating is the prevalence of educational hypergamy, which can be seen based on the behaviour of the H-index. Figure 4 shows a decline in H-index values in Serbia and Slovenia from 1970 to 2018/19. Declining values of educational hypergamy overlap (temporally) with the increasing trend of female majority in education. It follows that the tendency of women to marry an equally well or better educated partner is temporarily stalling. That tendency has been replaced by educational hypogamy. In Slovenia, educational hypogamy exceeded educational hypergamy more quickly than in Serbia, which is in line with the faster dynamics of female majority in education.

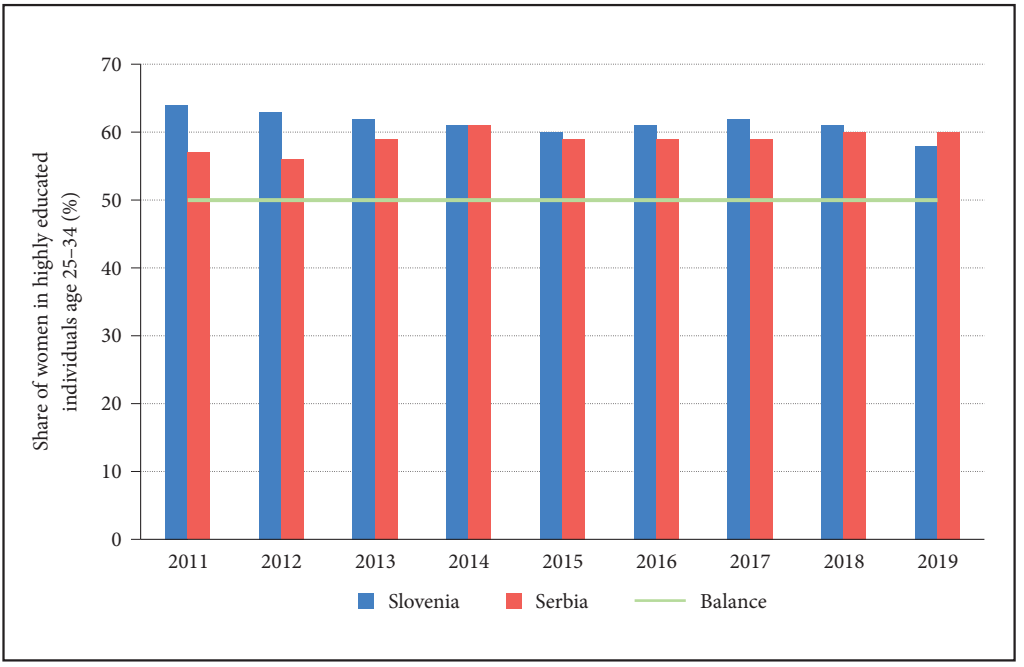


Figure 3: Surplus female in optimal marriage age (25–34).

Table 2: Share of educational homogamous, hypergamous, and hypogamous marriages, 1970–2018/19.

Year	Serbia			Slovenia		
	Educational homogamy	Educational hypergamy	Educational hypogamy	Educational homogamy	Educational hypergamy	Educational hypogamy
1970	72.5	24.1	3.4	66.6	26.2	7.2
1980	68	25	7	64.4	21.8	13.8
1990	65.8	24.7	9.5	65.9	18.5	15.6
2000	69	19.2	11.8	–*	–	–
2010	71.6	12.9	15.5	71.8	11.2	17.0
2018/19**	72.7	10.6	16.7	73.3	8.6	18.1

*missing data ** due to the limitations of different types of sources, data for Serbia from 2019, and for Slovenia from 2018
Sources: Federal Statistical Office of Yugoslavia- Yearbook of Demographic Statistics (1970, 1980 and 1990; Statistical office of the Republic of Serbia – Yearbook of Demographic Statistics (2000, 2010 and 2019); European Social Survey – databases for a Round 5 (2010) and 9 (2018)

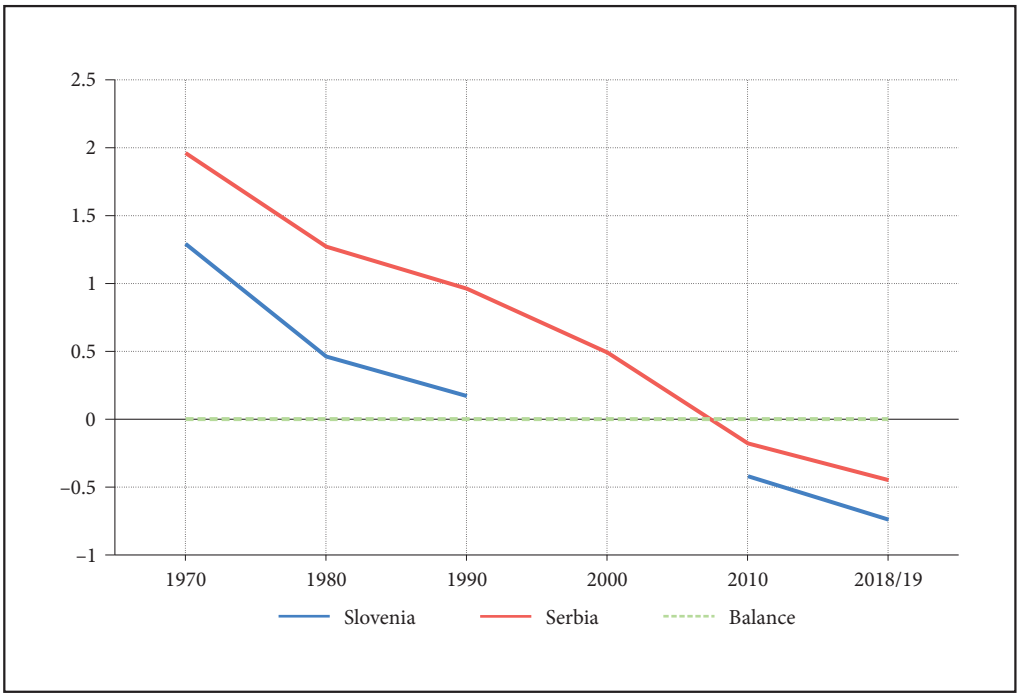


Figure 4: The prevalence of hypergamy (H index), by countries.

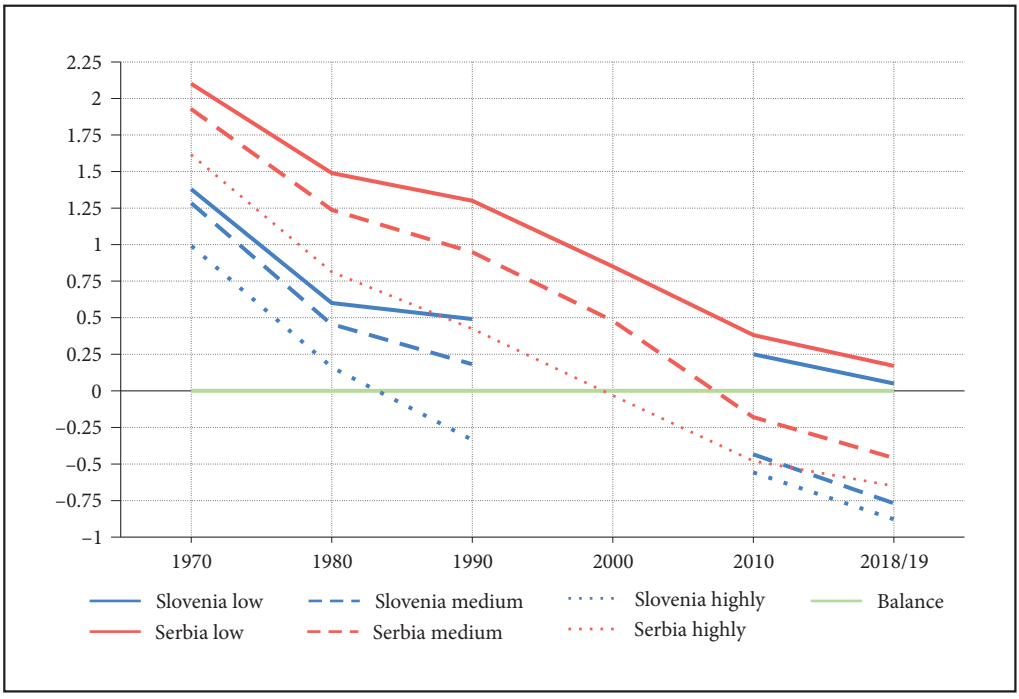
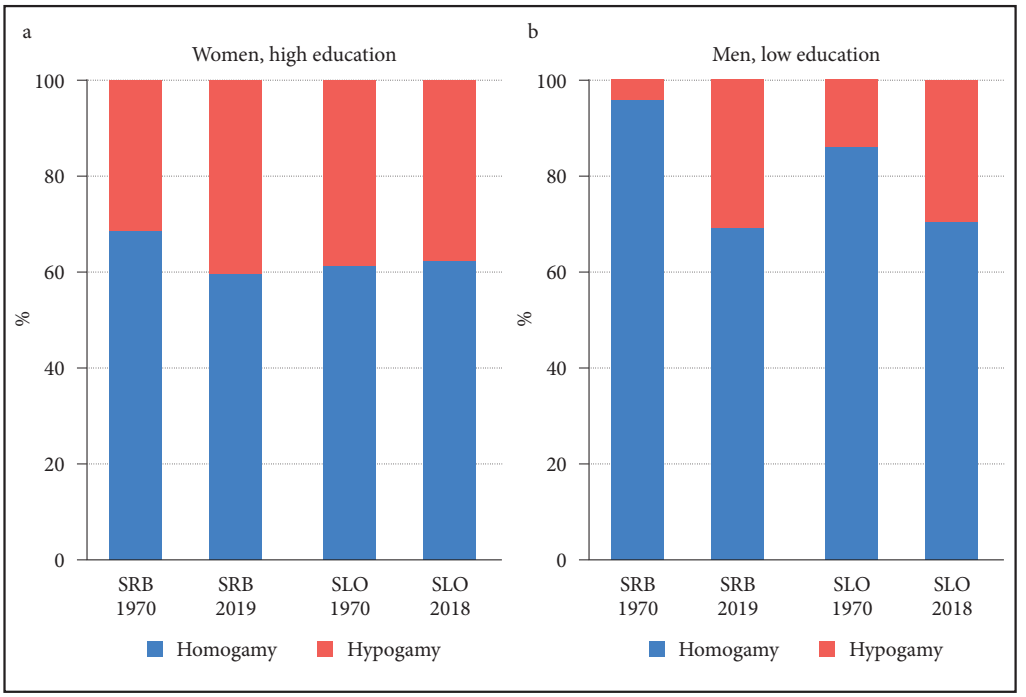


Figure 5: The prevalence of hypergamy (H index), by education level and country.



Figures 6a and 6b: Education assortative meting for tertiary educated women and low educated men.

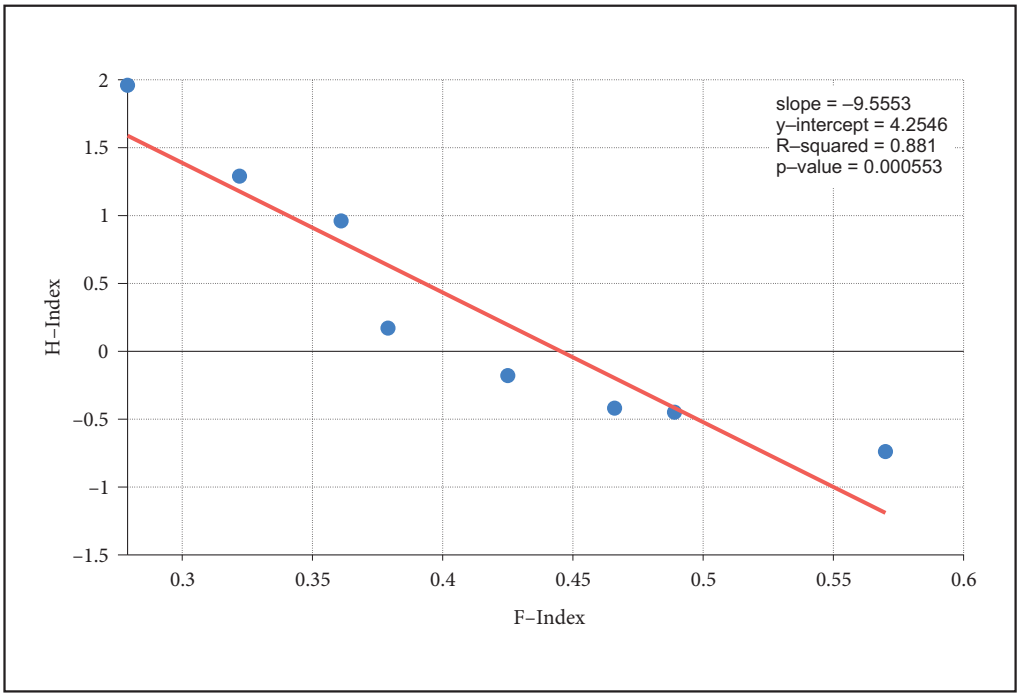


Figure 7: Correlation between female educational advantage (F-index) and prevalence of hypergamy (H-index).

Figure 5 shows the prevalence of educational hypergamy for different categories of people (low, medium and high educated population). The H-index of those individual groups follows the trend seen with the total population: it declines. Educational hypogamy exceeded education hypergamy when we speak about highly and medium educated people. In the case of low educated population, this event has not occurred yet, i.e. the number of hypergamous marriages prevails. In Slovenia, the H-index became negative almost 20 years earlier that in Serbia, even in the category of highly educated people, which is plausible given the dynamics of female majority in education.

Figure 6a and 6b reports change of the patterns of educational assortative mating for the high educated women and for the low-educated men. Both groups show similar trends: educational homogamy decreases in both countries, while educational hypogamy increases, which corresponds to the surplus of women. Highly educated women and low educated men are the ones who are mostly affected by the new gender composition of the educated population. Highly educated men benefit from an abundance of women with tertiary educational attainment. For them, an excess of highly educated women is associated with stronger educational homogamy in Serbia and Slovenia (in 80% of cases). Educational hypergamy maintained its status as an educational assortative mating pattern only when it comes to women with primary education only. Today, approximately 30–35% of women with primary education marry more highly educated men.

In Figure 7 the negative linear relationship between female educational advantage and the prevalence of educational hypergamy is clearly visible, as higher values of the F-index are associated with lower values of the H-index. The correlation measure also confirms this (R-squared = 0.881, p = 0.0005), even with the 95% confidence intervals considered. This suggests that the two index are indeed negatively connected.

5 Discussion

In looking for an answer to the question »who marries whom« in Serbia and Slovenia, the main focus shifted to education, as increased participation in education, for both men and women, was the most important social trend of the 20th century. The dramatic expansion in educational opportunities in Serbia and Slovenia was accompanied by a significant gender gap in higher education, while in the last decade, the share of women in higher education has been nearly constant around 60%. Greater numbers of highly educated women have led to changes in the conditions governing the marriage market (Hypothesis 1). This implies that, in recent years, there are more highly educated women reaching the optimal reproductive age than there are men. Today, the ratio of highly educated women to highly educated men in the 25–34 age group, is 57:43 in Slovenia, and 59:41 in Serbia (Hypothesis 1a).

Our analysis suggests that increases in women's education are closely followed by increasing numbers of couples in which the woman's educational attainment exceeds man's (the increase of the F-index above 0.5 led to a decrease in H-index below 0) (Hypothesis 2) and this finding also corroborates the results of De Hauw, Grow and Van Bavel's (2017) and (Erat 2021). Consequences of the gender gap in education differ between women and men with different educational attainment (Hypothesis 2a). In Serbia and Slovenia, highly educated women face a shrinking number of equally educated men, so a high female advantage in tertiary education is associated with lower educational homogamy among highly educated women. Across different contexts (e.g. Serbia and Slovenia), the norms governing marriage markets have proven flexible enough to accommodate the increasing numbers of highly educated women and, as consequence, the numbers of women marrying down has grown steadily. This is demonstrated by the fact that, on average, up to 40% of highly educated women in Serbia and Slovenia accept to »marry down«, which is in accordance with the trends observed in other countries (Esteve et al. 2016; De Hauw, Grow and Van Bavel 2017; Erat 2021).

The higher education also affected the educational assortative mating in the case of less educated women, because it is more difficult for a less educated woman to »marry up« given that she has to »compete« with highly educated women. While highly educated women are indeed ready to »marry down«, moderately educated women are not. Moderately educated women rarely decide to marry a less educated partner: this has happened in only 2.5% of cases in Slovenia and 5% of cases in Serbia. Such results corroborate the theory of preferences where a desirable partner is one with a higher or equal socio-economic status, as »marrying down« is not a viable option for moderately educated women in lower-paying jobs. On the other hand, we have uneducated men, whose position is the most complicated. For less educated men, the fact that women now often have more advanced degrees than men imply that they may face a shrinking number of potential mates, given

that women tend to prefer a partner with at least the same educational attainment. In Serbia and Slovenia, there is a general tendency among uneducated men to partner less often with uneducated women (the share of homogamous marriages declines and the share of hypogamous marriages increases, up to ten times in Serbia). This might be the result of a general decline in the number of uneducated women in the marriage market, but it might also be caused by an increase in men's preferences for more highly educated women.

Comparative analysis between Serbia and Slovenia has not shown any significant changes in the educational assortative mating patterns. Even though both countries were developing within the same economic and political area, and belonged to the same country, certain differences in demographic, economic and social changes have started forming pretty early on. Upon the breakup of Yugoslavia, their development paths started completely diverging, with Slovenia joining the EU rather quickly, while Serbia has not finished the process of economic and social transition even after two decades. Social differences between Serbia and Slovenia, whose root cause is different historical and cultural influence of Austro-Hungarian and Ottoman Empire, persisted in the times of SFR Yugoslavia, even though the ideas about equality, equity and uniform development were present. Socioeconomic differences became more noticeable upon the breakup of Yugoslavia and after Slovenia experienced faster Second Demographic Transition. Consequently, it was expected to see a great difference in assortative mating patterns in the two countries (Hypothesis 3). However, the comparative analysis has shown that the differences in the magnitudes of those changes are very low. The main cause – higher education – and the corresponding trends are nevertheless the same. It should be noted though, that the start of the changes in educational assortative mating differs in Serbia and in Slovenia, with Serbia lagging behind Slovenia by almost two decades (Hypothesis 3a).

6 Conclusion

This paper analyses the changes in educational assortative mating patterns in Slovenia and Serbia. The changes in educational assortative mating patterns have been analysed in the context of the female advantages in higher education, which affected the marriage market in those two countries in a very similar manner. The results of our research on the changes in educational assortative mating patterns in Serbia and Slovenia show that young people have adapted to new demographic realities by increasingly forming unions in which women have the educational advantage, leading to substantial declines in historical hypergamic patterns.

For demographers, the fact that educational hypergamy is declining has a twofold importance. Firstly, it can be linked with greater gender equality (McDonald 2000; Dorius and Firebaugh 2010; Low 2019), because greater gender equality has in some cases been linked to a recovery in the fertility rate in low fertility countries (Esping-Andersen and Billari 2015), and Serbia and Slovenia are indeed both low fertility countries. Secondly, declining traditional patterns of hypergamy suggest an increased prevalence of educational hypogamy (assuming constant prevalence of homogamy), which may affect the survival of marital unions where the wife is more educated than the husband (Theunis et al. 2016; Međumurec and Čipin 2019), especially in environments where educational hypogamy is the second most prevalent type of partnership, as it is the case in Serbia and Slovenia. The observed trends and the extent of the changes in assortative mating patterns, which emerged due to female dominance in the highly educated population, were nearly identical in Serbia and in Slovenia – the only difference was the timeframe when those changes occurred. The general impression is that these changes occurred with a certain delay in Serbia compared to Slovenia, but there seems to be convergence between the two countries in recent years.

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SPATIOTEMPORAL EVOLUTION OF DROUGHTS AND THEIR TELECONNECTIONS WITH LARGE-SCALE CLIMATIC INDICES IN THE LOWER SEBOU BASIN IN NORTHWESTERN MOROCCO

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Effects of drought on soils and rainfed crops (cereals).

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Spatiotemporal evolution of droughts and their teleconnections with large-scale climatic indices in the Lower Sebou Basin in northwestern Morocco

ABSTRACT: The Lower Sebou Basin, placed in a Mediterranean climate, has the particularity of being exposed to the influence of disturbances from the Atlantic Ocean, making periods of drought and climatic phenomena variable in space and time. Applying the world's most recognized drought indices, shows that the duration, frequency and severity of droughts have increased since the start of the 21st century. These results revealed and placed in the even wider regional climatic context, including the two dominant atmospheric oscillations such as the North Atlantic Oscillation (NAO) and the Mediterranean Oscillation (MO), suggest that the significant drought trends determined are correlated with the relative facts of the two oscillations.

KEY WORDS: drought, teleconnection, Lower Sebou Basin, Morocco

Prostorsko–časovni razvoj suš in njihove povezave z obsežnimi podnebnimi indeksi v porečju Lower Sebou v severozahodnem Maroku

POVZETEK: Kotlina spodnjega Sebouja, kjer je sredozemsko podnebje, ima posebnost, da je izpostavljena vplivom motenj, ki prihajajo iznad Atlantskega oceana. Zaradi tega so obdobja suše in podnebnih pojavov spremenljiva v prostoru in času. Uporaba uveljavljenih svetovnih indeksov suše kaže, da so se trajanje, pogostost in intenzivnost suš od začetka 21. stoletja povečala. Doseženi rezultati, postavljeni tudi v širši regionalni podnebni kontekst, vključno z dvema prevladujočima atmosferskima nihanjema, kot sta severnoatlantsko nihanje (NAO) in sredozemsko nihanje (MO), kažejo, da so ugotovljeni pomembni trendi suše povezani z relativnimi dejstvi obeh nihanj.

KLJUČNE BESEDE: suša, klimatske povezave na daljavo, kotlina spodnjega Sebouja, Maroko

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1 Introduction

Drought is a climatic phenomenon considered to be one of the most loss–making natural disasters in the world and affects a large number of people each year. An estimated 55 million people globally are affected by droughts every year (Vatter, Wagnitz and Hernandez 2019; United Nations Office for Disaster Risk Reduction 2021). It occurs when there is less rainfall in an area for a long period or when there is a poor distribution of rainfall over some time. The American Meteorological Society has classified droughts into four types: meteorological drought, hydrological drought, agricultural drought and socio–economic drought (Yihdego, Vaheddoost and Al-Weshah 2019). They may not occur simultaneously, but meteorological drought remains the driving force behind the others (Wilhite 2006). This drought can take the form of permanent droughts, like what is occurring in arid and semi–arid or Mediterranean climates during the summer season or in subtropical regions in winter. As well as it may turn out to be a natural disaster when it becomes high frequency with longer duration. Therefore, the assessment and characterization of meteorological drought are most important to understand these risks. However, the assessment of drought characteristics and its spatial variability is still very difficult (Vicente-Serrano et al. 2020). For this purpose, many indices have been developed to identify and quantitatively characterize drought events, in order to monitor and predict the onset, termination and impacts of drought (Bayissa et al. 2018). On the other hand, no single index can represent all aspects of meteorological drought (Yihdego, Vaheddoost and Al-Weshah 2019). To overcome this constraint, a multi–index approach was adopted for the characterization of drought in the Lower Sebou Basin (LSB). As a result, two drought indices can be used as a basis for characterizing meteorological drought in the LSB, the Standardized Precipitation Index (SPI) (McKee, Doesken and Kleist 1993) and the Standardized Precipitation–Evapotranspiration Index (SPEI) (Vicente-Serrano, Beguería and López-Moreno 2010). Widely used in the world (Vicente-Serrano et al. 2012; Beguería et al. 2014; Šebenik, Brilly and Šraj 2017) and recommended by the World Meteorological Organization (World Meteorological Organization 2012), these indices have been recently applied in the LSB due to their performance and regional applicability compared to other drought indices (Hakam et al. 2022a). The SPI and SPEI approaches are similar, but there are obvious differences between the input parameters for the calculation. The SPI calculation requires rainfall data, and is well suited in time and space, but the SPEI uses the difference between rainfall and potential evapotranspiration (PET), which can account for the possible effects of temperature variability and temperature extremes beyond the context of global warming.

In Morocco, as the Mediterranean semi–arid areas, drought is one of the most frequent and widespread natural disasters and has become a structural element of the country's climate in recent decades, as shown by Stigter, Nunes and Pisani (2014) for case studies in south Portugal, Spain and Morocco. According to a recent study by Woillez (2019), rainfall in Morocco has generally decreased significantly over the period 1951–2010, between -10 and -25 mm per year in the north of the country, with temperature increases in the order of +1 °C to +2 °C on average annually between 1901 and 2012. Over the last 30 years, the trend is clearly higher than the global average, with + 0.42 °C per decade on average since 1990, compared to + 0.28 °C per decade on average on all continents (Woillez 2019), resulting in an increase in the frequency and intensity of extreme events such as drought and flooding. The LSB was not spared in recent decades and experienced heatwaves in 1995 and 2001 and floods in 1996, 2002 and 2009 (Agence du Bassin Hydraulique de Sebou 2010).

The spatio-temporal evolution of droughts in the LSB is controlled by landscape heterogeneity and specific climatic events such as extreme weather anomalies and large-scale atmospheric circulations (Lamb and Peppler 1987; Zamrane, Mahé and Laftouhi 2021; Hakam et al. 2022b). Some studies have demonstrated an anti–correlation of rainfall in Morocco, especially in the northwestern part, and the North Atlantic Oscillation (NAO) (Marchane et al. 2016; Driouech et al. 2021). Knowing that the calculation of this oscillation, which makes its effects felt in winter, is based on the difference in atmospheric pressure between the Icelandic low and the Azores high, neglecting the Mediterranean Oscillation (MO) despite the proximity of the Mediterranean Sea. Indeed, it has been shown that the MO index influences the seasonal variability of rainfall in the Mediterranean basin, especially in winter (Criado-Aldeanueva and Soto-Navarro 2020). Currently, drought studies in the LSB are scarce, most of them being based on simple statistical approaches (El Jihad, Peyrusaubes and El Bouzidi 2014; Acharki et al. 2019).

More vulnerable than other basins, facing numerous droughts (Ajlal and Agoutime 2021; Hakam et al. 2022a) and subject to a drought warning by the Regional Observatory of the Environment and Sustainable Development in Morocco (2014), the climatic study of the LSB has become paramount. As no regional

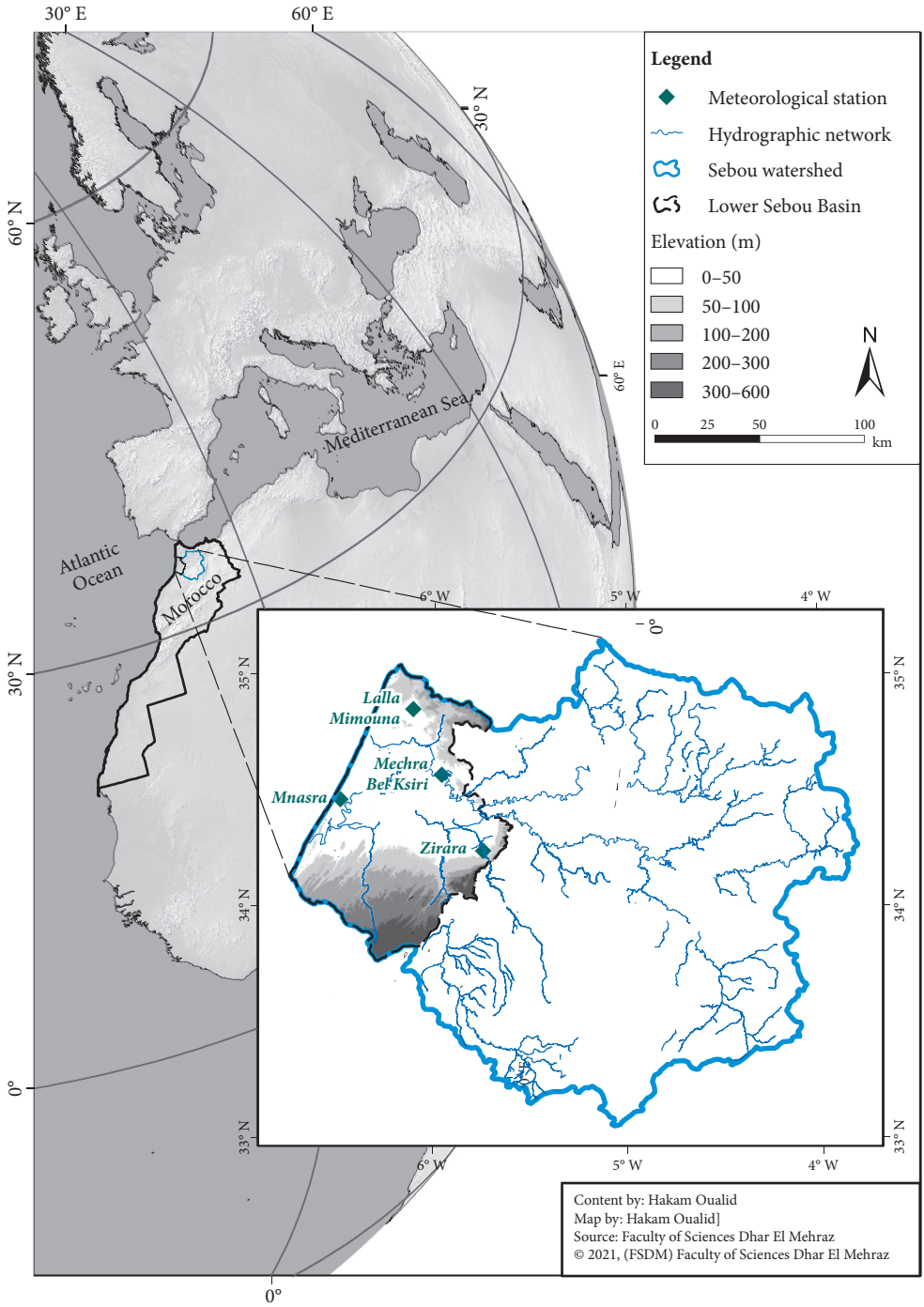
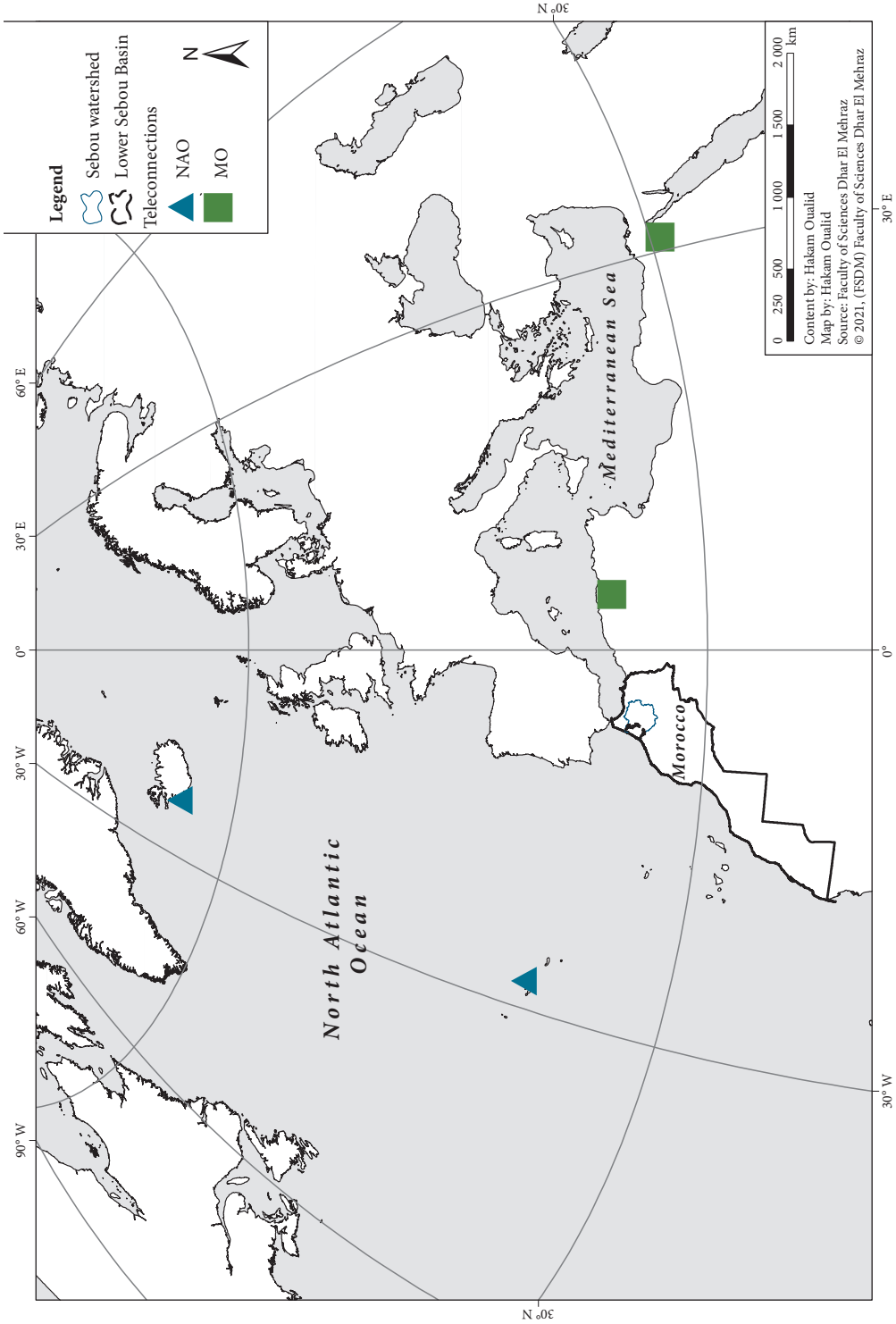


Figure 1: Geographical location of the LSB and location of the typical meteorological stations.

Figure 2: Main climatic teleconnections dominating in the LSB. ►


Legend
Sebou watershed
Lower Sebou Basin
Teleconnections
NAO
MO
N
30° N
60° E
30° E
0°
30° W
60° W
90° W
North Atlantic Ocean
Mediterranean Sea
Morocco
0 250 500 1 000 1 500 2 000 km
Content by: Hakam Oualid
Map by: Hakam Oualid
Source: Faculty of Sciences Dhar El Mehraz
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study has targeted the meteorological characteristics of the drought and its relationship with large-scale atmospheric dynamics, such a study in the LSB as a large agricultural plain would help to put into perspective the investments under the Morocco-Green Plan strategy (38.6 billion dirhams) and the threatened infrastructure (Ministry of Agriculture and Maritime Fisheries 2020). This strategy aims to develop a modern and efficient agriculture that meets the requirements of national and international markets (22% of Morocco's total exports, i.e. approximately 5.57 billion dollars) (Harbouze et al. 2019). This study also opens doors for the development of drought early warning systems in North Africa as the dissemination of this data will allow proactive decisions on water use and agricultural practices.

2 Data used and methodology

2.1 Study area

The Sebou watershed, downstream of which the LSB is located in the North West of Morocco and covers an area of 40,000 km^2. It flows from the Middle Atlas Mountain and ranges over a length of 500 km to its outlet in the Atlantic Ocean (Figures 1, 2). Indeed, the LSB takes benefits from a sub–humid Mediterranean climate with an oceanic influence, particularly in its western part. Rainfall exceeds 500 mm per year in most of the basin and average temperatures oscillate around 19 °C (Table 1). Consequently, the abundance of rainfall and the importance of the basin's water and biophysical resources expose the basin to overexploitation of resources and vulnerability to the effects of drought in the future.

2.2 Data used

Meteorological data provided by the Regional Office for Agricultural Development (ROAD) from the four weather stations cover the period from 1984 to 2016. The distribution and characteristics of these stations are presented in Figure 1 and Table 1.

Two important large-scale climate anomalies were selected to analyse the main drivers of drought in the LSB: NAO (North Atlantic Oscillation) and MO (Mediterranean Oscillation) (Zamrane, Mahé and Laftouhi 2021). The NAO is called a meridional dipole of atmospheric pressure with centres of action near the Azores (37 °N, -25 °E) and Iceland (65 °N, -18 °E) (Figure 2). The Mediterranean Oscillation (MO) is defined as a dipolar behaviour of the atmosphere between the East–West sub–basins of the Mediterranean. This index measuring the intensity of the dipole was defined as the normalized 500 hPa height anomalies between Alger (36.4 °N, 3.1 °E) and Cairo (30.1 °N, 31.4 °E) (Figure 2) (Conte, Giuffrida and Tedesco 1989). The monthly NAO and MO data were extracted from the National Oceanic and Atmospheric Administration (NOAA).

2.3 Drought indices (DIs)

Drought indices (DIs) help converting the indicator variables such as temperature and rainfall into a numerical value to represent the extent of the water deficit in a way that is easy to understand. DIs used in this study, namely the Standardized Precipitation Index and the Standardized Precipitation–Evapotranspiration Index mainly characterize meteorological drought (Table 2).

Table 1: Characteristics of the meteorological stations of the LSB.

Stations	rainfall (mm per year)	Average temperature (°C per year)	PET (mm per year)	Geographical coordinates		
				Long (°W)	Lat (°N)	Z (m)
Lalla Mimouna	574.7	17.15	1157.5	6.11	34.85	15
Mechra Bel Ksiri	515	19.35	1441.4	5.96	34.57	24
Mnasra	567	16.65	1239.5	6.48	34.46	10
Zirara	387	19.05	1480	5.74	34.24	55

Note. PET: potential evapotranspiration calculated based on the Thornthwaite equation; Long: longitude; Lat: latitude; Z: elevation in meter.

Table 2: Characteristics of drought indices (DIs).

Drought indices (DIs)	Name	Variables	Probability distribution	Reference
SPI	Standardized Precipitation Index	P	Gamma	McKee, Doesken and Kleist (1993)
SPEI	Standardized Precipitation–Evapotranspiration Index	P and PET	Log–Logistic (3 parameters)	Vicente-Serrano, Beguería and López-Moreno (2010)

Note. P: Monthly–accumulated precipitation; PET: Potential Evapotranspiration.

Standardized Precipitation Index (SPI) is based on historical rainfall records at a given location to calculate the probability of rainfall at any time-scale between 1 and 48 months.

$$SPI = \frac{Pi - Pm}{S} \tag{1}$$

With *Pi*: the rainfall of month or year *i*; *Pm*: the average rainfall of the month or year *i* in the entire period; *S:* the standard deviation of the series over the considered time-scale. Data were normalized using the gamma distribution method to overcome the constraint of rainfall that is not normally distributed over the year (Stagge et al. 2015).

Standardized Precipitation–Evapotranspiration Index (SPEI) is an index developed by Vicente-Serrano, Beguería and López-Moreno (2010). The procedure for calculating the SPEI is also similar to that of the SPI, except that it uses the difference between rainfall and potential evapotranspiration (PET) calculated according to the method of Thornthwaite (1984). In the SPEI calculation, we need the monthly water balance (D_i), which is based on the difference between rainfall and potential evapotranspiration (PET). This represents a simple climatic water balance calculated at different time-scales (1-, 3-, 6- and 12-months).

The difference between accumulated monthly rainfall and potential evapotranspiration was calculated as follows:

$$D_i = P_i - PET_i \tag{2}$$

Subsequently, the monthly D_i values are aggregated over different time-scales as is the case for rainfall in SPI calculations. A three–parameter Log–logistic distribution of D_i values was used to fit the data series of accumulated monthly difference values (Vicente-Serrano and Beguería 2016). Therefore, negative SPEI values indicate a dry condition due to lack of rainfall and/or higher PET compared to the historical average recorded.

The D_i values were summarized on different time-scales:

$$D_n^k = \sum_{i=0}^{k=1} (P_{n-i} - PET_{n-1}), n \geq k \tag{3}$$

where k is the monthly time-scale and n is the number of calculations. D_i values are aggregated depending on the time-scale before being standardized using the Log–logistic distribution with the following probability density function (Vicente-Serrano, Beguería and López-Moreno 2010; Pyarali et al. 2022):

$$\mathrm{f(x)} = \frac{\beta}{\alpha} \left(\frac{x-\gamma}{\alpha}\right)^{\beta-1} \left[1 + \left(\frac{x-\gamma}{\alpha}\right)^{\beta}\right]^{-2} \tag{4}$$

where α, β, and γ are scale, shape, and origin parameters, respectively. The probability distribution function of D_i according to the Log–logistic distribution is then given by:

$$\mathrm{F(x)} = \left[1 + \left(\frac{\alpha}{x-\gamma}\right)^{\beta}\right]^{-1} \tag{5}$$

The SPEI can easily be obtained as the standardized values of F(x). For example, following the classical approximation of Abramowitz and Stegun (1965):

$$SPEI = \omega - \frac{c_0+c_1\omega+c_2\omega^2}{1+d_1\omega+d_2\omega^2+d_3\omega^3} \quad (6)$$

Where

$$\omega = \sqrt{-2\ln(p)}$$
$$c_0 = 2.515517, c_1 = 0.802853, c_2 = 0.010328$$
$$d_1 = 1.432788, d_2 = 0.189269, d_3 = 0.001308 \quad (7)$$

p is the probability of exceeding a determined D_i value, p= 1–F(x). If $p > 0.5$, then p is replaced by $1 - p$ and the sign of the resultant SPEI is reversed. The category of SPI and SPEI varies from ≥ 2.0 (extremely wet) to ≤ -2.0 (extremely dry) (Table 3).

Table 3: Wet/Dry classification of SPI and SPEI. The colour scale indicates the drought classes in figure 6.

SPI/SPEI	Values	Class
	≥ 2	Extremely wet
	1.5 to 1.99	Very wet
	1 to 1.49	Moderately wet
	–0.99 to 0.99	Near normal
	–1 to –1.49	Moderately dry
	–1.5 to –1.99	Severely dry
	≤ –2	Extremely dry

2.4 Identification and characterization of drought events

The »runs« theory proposed by Yevjevich (1967) has been applied to identify and characterize meteorological drought events based on DIs. A drought event is defined as a consecutive sequence of months (t) with a drought index value (Xt) below a chosen threshold (X0); hence each drought event is characterized by the following parameters (Figure 3):

- drought duration (D) is defined as the time interval between the beginning and the end of a drought event;
- drought intensity (Is) is defined as the number of months during which the DIs values are lower than –1;
- drought severity (S) is defined as the sum of the monthly DIs values when they are lower than –1 (X0) during the period considered;
- peak intensity indicates the lowest DIs value during a drought event.

2.5 Trend analysis (Mann–Kendall test)

The Mann Kendall (M–K) trend test helps to find the presence of a monotonic trend in a time series of hydro–climatic variables (Acharki et al. 2019). In the case of the LSB, the M–K test is applied to analyse the temporal characteristics of the SPI and SPEI indices.

The test is based on the (*S*) statistic defined as follows:

$$S = \sum_{k=1}^{N-1}\sum_{j=k+1}^{N} sng(x_j - x_k) \quad (8)$$

Where S is the number of positive differences minus the number of negative differences, N is the number of data points, x_j and x_k are monthly values of months j and k with $(j > k)$.

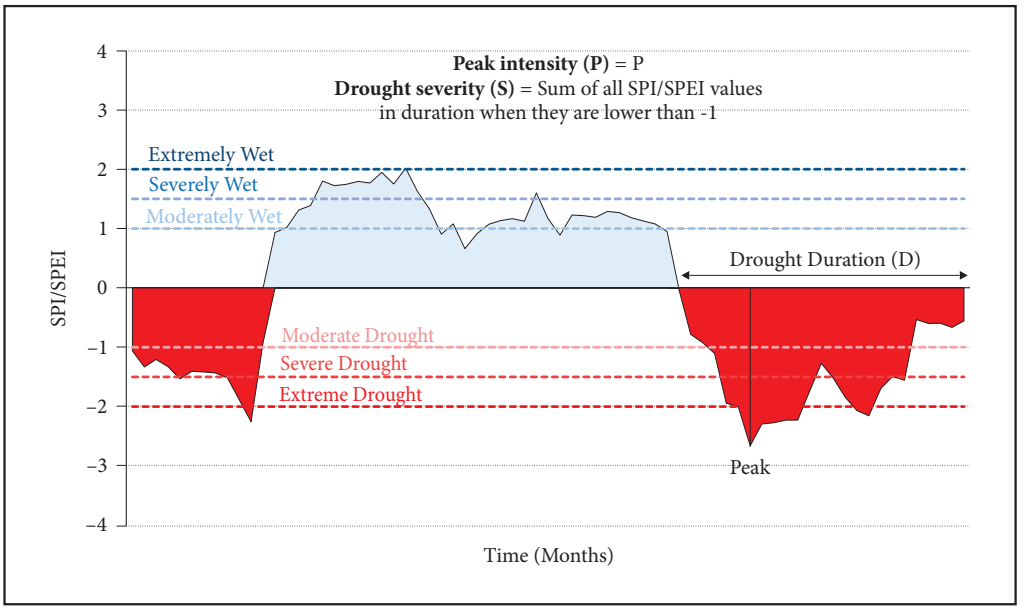


Figure 3: Drought characteristics for DIs following the »Run« theory.

Noting $\varepsilon = (x_j - x_k)$

$$sng(\varepsilon) = \begin{cases} 1 \; if \; \varepsilon > 0 \\ 0 \; if \; \varepsilon = 0 \\ -1 \; if \; \varepsilon < 0 \end{cases} \tag{9}$$

When $N > 10$, the distribution of S is assumed to be normally distributed with mean $E(S) = 0$ and variance ($var(S)$) given by:

$$var\,(S) = \frac{N(N-1)(2N+5) - \sum_{k=1}^{n} t_k(t_k-1)(2t_k+5)}{18} \tag{10}$$

where N is the number of tied (zero difference between compared values) groups and t_k the number of data points in the k^{th} tied group. Then the values of S and $var(S)$ are used to calculate the standardized statistical test Z under the following formula:

$$Z = \begin{cases} \frac{S-1}{\sqrt{var(S)}} & if \; S>0 \\ 0 & if \; S=0 \\ \frac{S+1}{\sqrt{var(S)}} & if \; S<0 \end{cases} \tag{11}$$

A positive (negative) value of Z indicates an ascending (descending) trend and its significance is compared to the critical value α or significance level of the test. Absolute values of $Z \geq 1.65$, 1.96 and 2.58 are adopted, respectively, indicating significant levels of (α) 0.1, 0.05 and 0.01.

In order to find a monotonic trend in the time series used, it is necessary to identify the period of the beginning of the trends. Therefore, the Sequential Mann–Kendall (SQMK) test statistic is particularly useful for such change detection analysis (Gerstengarbe and Werner 1999). The SQMK test procedure is different from the Z test and consists of the following steps:

- Values of the series x are replaced by their ranks r_i, ranked in ascending order;
- Quantities r_i ($i = 1, 2, \ldots, n$) are compared with r_j ($j = 1, 2, \ldots, i - 1$);

- Statistic t_i is defined as follows:

$$t_i = \sum_{k=1}^{i} n_k \tag{12}$$

- Variance of the statistic var (t_i) and the mean E (t_i) of the test is calculated as follows:

$$E(t_i) = \frac{i(i-1)}{4} \tag{13}$$

and

$$var(t_i) = \frac{i(i-1)(2i+5)}{72} \tag{14}$$

- Values of $u(t_i)$ statistic can then be calculated as:

$$u(t_i) = \frac{[t_i - E(t_i)]}{\sqrt{var(t_i)}} \tag{15}$$

While the forward sequential statistic, $u(t_i)$ is estimated using the original time series $x_1, x_2 \ldots x_n$, values of the backward sequential statistic, $u'(t_i)$ are estimated in the same manner but starting from end of the series. In estimating $u'(t_i)$ the time series is resorted so that last value of the original time series comes first $x_n, x_{n-1} \ldots 1$. The sequential version of Mann–Kendall test statistic allows detection of approximate beginning of a developing trend. When $u(t_i)$ and $u'(t_i)$ curves are plotted, the intersection of the curves $u(t_i)$ and $u'(t_i)$ locates approximate potential trend turning point. If the intersection of $u(t_i)$ and $u'(t_i)$ occur within ± 1.96 (95% confidence level) of the standardized statistic Z, a detectable change at that point in the time series can be inferred. Moreover, if at least one value of the reduced variable is greater than a chosen level of significance of Gaussian distribution the null hypothesis (H_0: Sample under investigation shows no beginning of a new trend) is rejected.

2.6 Drought events and large-scale climate anomalies

To search for possible relationships, wavelet coherence analysis was applied to DIs (SPI and SPEI) and large-scale climate anomaly indices, such as NAO and MO. Wavelet coherence is an approach used for analysing the degree of coherence of cross wavelet transform in time-frequency space. It has been widely used to analyse the periodicity of drought and the relationships between hydrological variability and possible teleconnections (Zamrane, Mahé and Laftouhi 2021).

Following Torrence and Webster (1999), the wavelet coherence coefficient can be defined as follows (Chang et al. 2019):

$$R^2(\alpha,\tau) = \frac{|S(\alpha^{-1}W_{xv}(\alpha,\tau))|^2}{S(\alpha^{-1}|W_x(\alpha,\tau)|^2) * S(\alpha^{-1}|W_y(\alpha,\tau)|^2)} \tag{16}$$

where $R^2(\alpha, \tau)$ takes values between 0 (no coherency) and 1 (perfect coherency), α is the scale expansion parameter, τ is the dimensionless time–shift parameter, $W_{xy}(\alpha, \tau)$ is the cross wavelet transform of the two time series, W_x and W_y are the sums of ranks of observations in samples x_t and y_t, respectively, and S represents a smoothing operator, which is defined as:

$$S(W) = S_{scale}(S_{time}(W(\alpha,\tau))) \tag{17}$$

where S_{scale} and S_{time} represent smoothing along the wavelet scale axis and in time, respectively.

3 Results

3.1 Temporal evolution of the SPI and SPEI

The monthly SPI and SPEI values that have been calculated on four time scales (1-, 3-, 6- and 12-months) can be used for the monitoring and evaluation of different types of droughts and their full application can allow a comprehensive detection and evaluation of droughts and floods. They were first calculated using the two monthly climate data observed from four weather stations over the period from 1984 to 2016 (Figure 4). Then, the time series of SPI and SPEI were averaged over the four stations to characterize the dry or wet conditions in the LSB. Figure 4 shows the process of SPI and SPEI changes at different time-scales (1-, 3-, 6- and 12-months) during the period 1984–2016. Both indices indicated an extreme severity of drought after the beginning of the 21st century where the frequency and intensity of drought periods are increased. Noting that longer the time-scale, the more obvious the severity and duration of the drought. Typical drought periods or years occurred in 1992–1995, 1999–2002, 2005–2006, 2012 and 2015–2016 by applying SPI–12 and SPEI–12. However, the indices fluctuated frequently, with a wide range, on time scales of 1- and 3-months, which suggests the impact of short–term climate change. In addition, the range of positive and negative fluctuations of SPI was larger than that of SPEI. However, on longer time-scales (6- and 12-months), SPI and SPEI values had a smooth trend, the volatility has decreased and the characteristics of inter-annual and inter-decadal changes were evident, hence the duration of the drought increased. The temporal trend of SPI and SPEI showed a relatively stable evolution and a smaller amplitude difference at different time-scales, but there are slight differences in the fluctuation value and continuity, explaining different drought intensities and frequencies. The difference between SPI and SPEI decreased with the increase of the time-scale, where the values fluctuated between -4 and 4 at short time-scales (1-month) and between –1 and 1 at long time-scales (12-months). Furthermore, it should also be noted that this difference has increased in recent years (Figure 5).

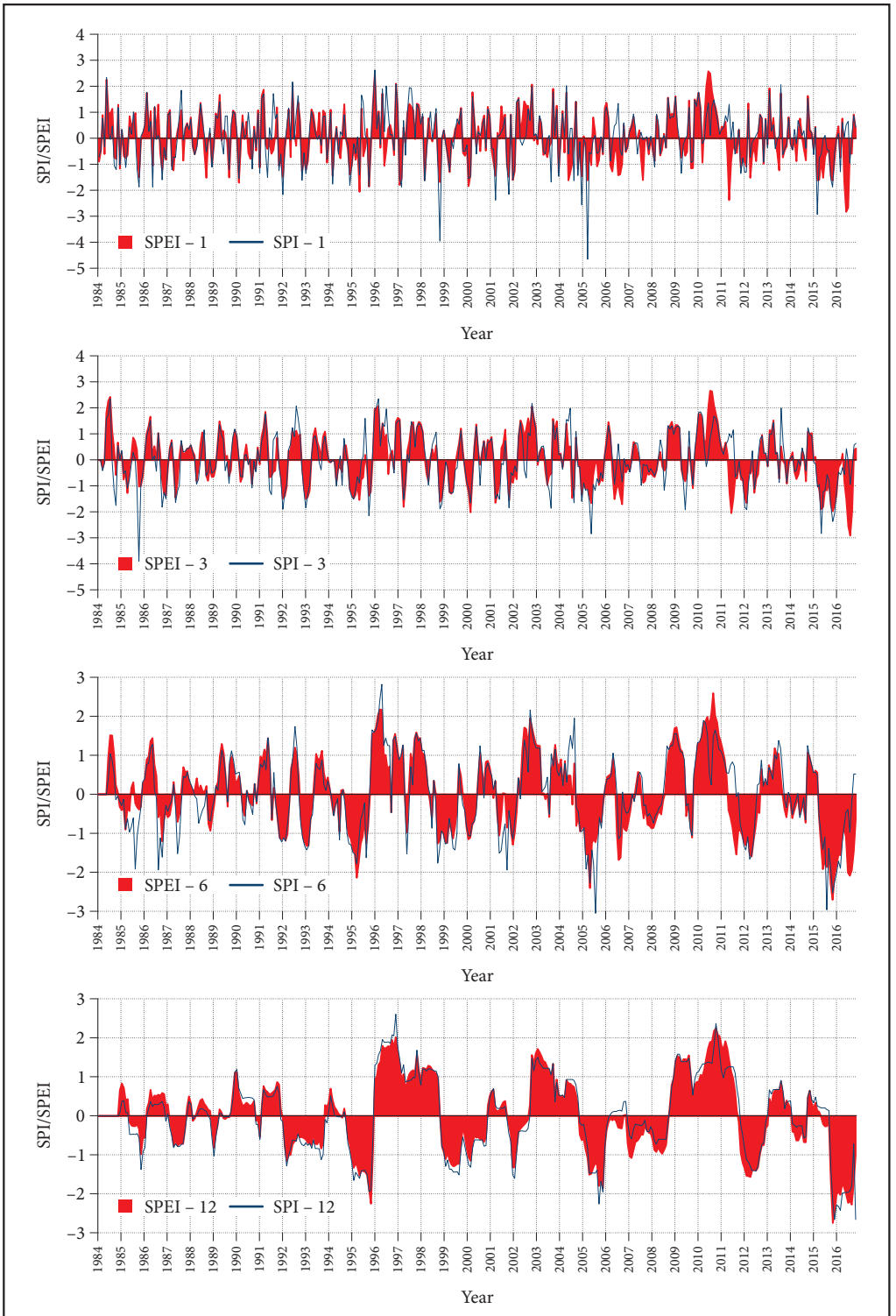
3.2 Monthly variations of the SPI and the SPEI

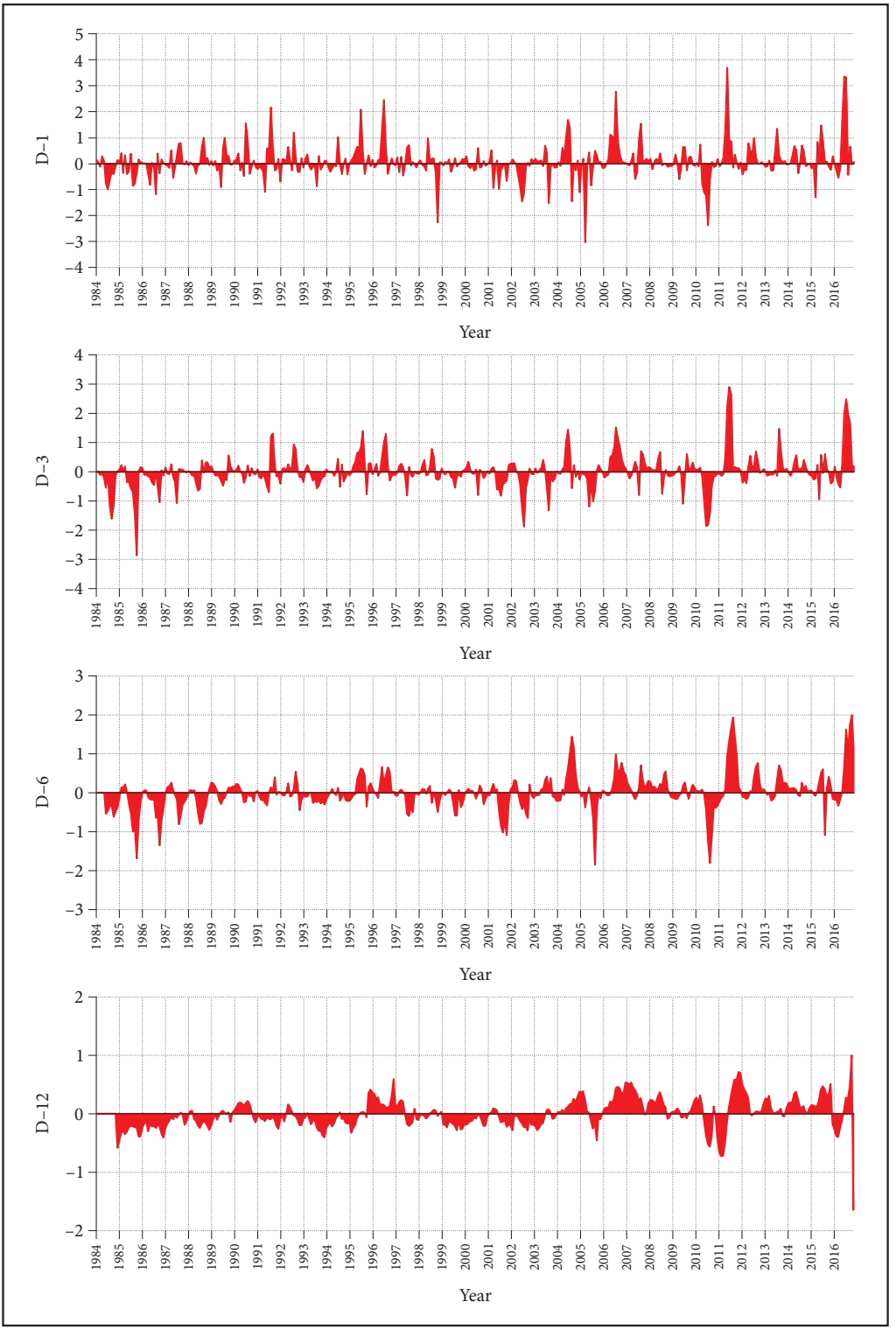
The SPI and SPEI monthly distribution values were quite clear at different time-scales, which can reflect the variation of dry and wet conditions for each month in the LSB (Figure 6). It was clear that the duration and intensity of drought in some months has increased considerably and the effect of time-scales on drought duration and intensity was evident, particularly after the beginning of the 21st century. It is also observed that the droughts reflected by SPI and SPEI were slightly different in each month and at different time-scales, especially on the 1– and 3-months scales. Thus Figure 6 shows that the distribution of drought expressed by the SPI was random on short scales (1-month and 3-months), especially in the winter season. The dry months reflected by SPEI–1 and SPEI–3 were concentrated in the winter months before 2004, and after this year the dry months start to shift towards the summer and into the end of the year (December). Furthermore, droughts reflected by SPEI were more frequent on short time-scales, especially 1-month, while droughts reflected by SPI were common on 6-months and 12-months scales; which reflects the effect of the evapotranspiration parameter included in the SPEI calculation on the variation in drought conditions in the LSB.

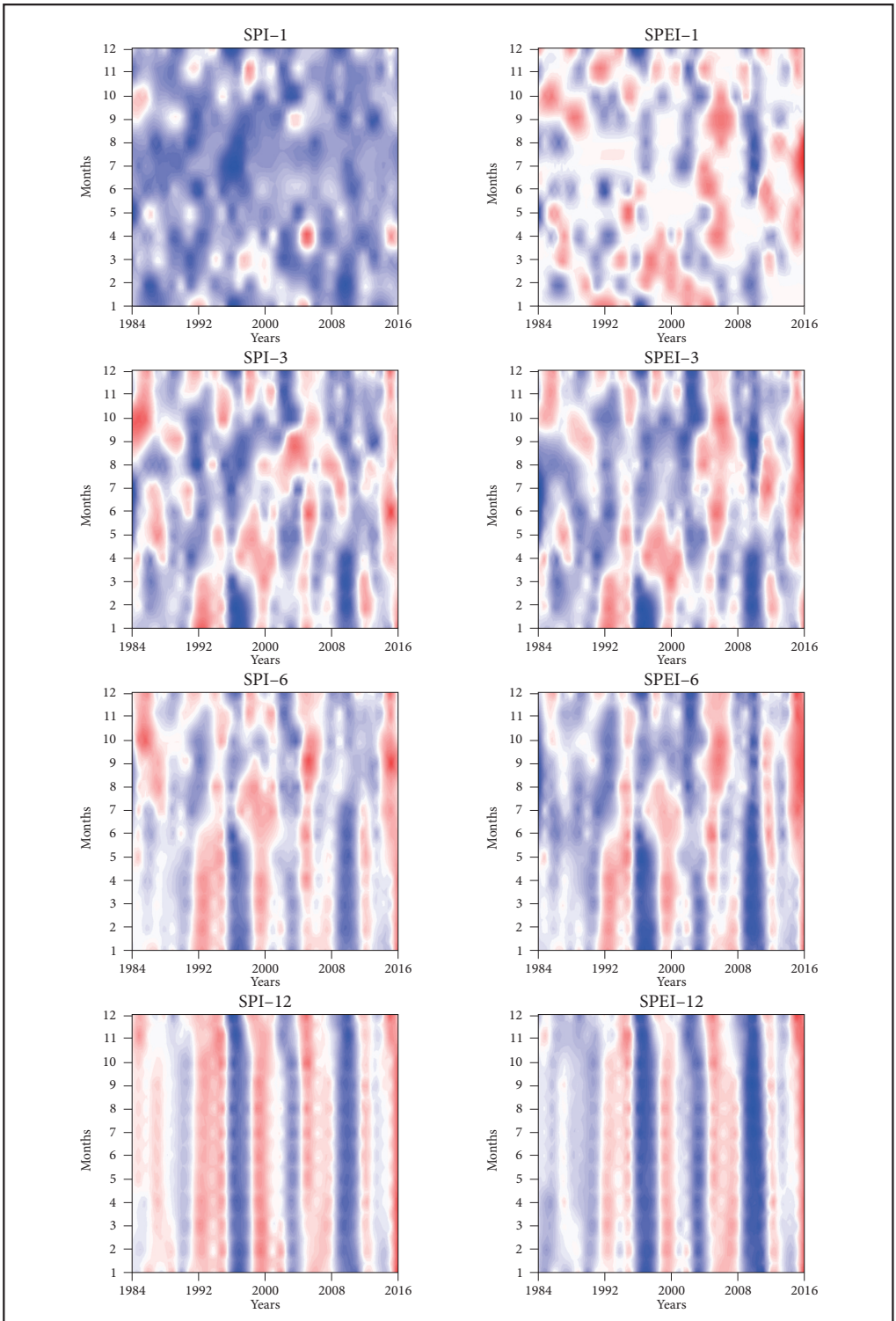
3.3 Temporal variability

The evolution of SPEI and SPI values and the annual and seasonal trends, as well as the graphical results of the SQMK test identified the year when the turning point and the magnitude of the change occurred in the LSB. Knowing that the identified turning point and the magnitude of change year for each period represent the beginning of a negative or positive trend (Figure 7).

Figure 4: Temporal evolution of SPI and SPEI at time-scales of 1-, 3-, 6- and 12-months in the LSB during 1984–2016. ► p. 34
Figure 5: Difference (D) between the SPI and SPEI indices in the different time-scales (1-, 3-, 6- and 12-months) in LSB during 1984–2016. ► p. 35
Figure 6: Heat monthly variation in the SPI and SPEI at 1-, 3-, 6- and 12-months' time-scales during 1984–2016 in the LSB, colour legend indications are obtained in Table 3. ► p. 36


SPI/SPEI
SPEI – 1
SPI – 1
Year
SPI/SPEI
SPEI – 3
SPI – 3
Year
SPI/SPEI
SPEI – 6
SPI – 6
Year
SPI/SPEI
SPEI – 12
SPI – 12
Year


D–1
D–3
D–6
D–12
Year


SPI–1
SPEI–1
SPI–3
SPEI–3
SPI–6
SPEI–6
SPI–12
SPEI–12
Months
Years
1
2
3
4
5
6
7
8
9
10
11
12
1984
1992
2000
2008
2016

The annual and seasonal (winter, spring, summer and autumn) Z_{SPEI} values were –0.85, –0.50, –0.26, –3.51 and 0.54 respectively, and showed a decreasing trend, except for the autumn season (Z_{SPEI} = 0.54). While the annual and seasonal Z_{SPI} values were 0.39, –0.60, –0.23, –2.25 and 1.07 respectively, in contrast to SPEI, Z_{SPI-12} showed an increasing trend (Figure 7). According to the SPI and SPEI drought indices, extreme drought events on an annual scale were observed in 2006 and 2016 (Figures 7). For seasonal droughts, winter was the most affected by drought followed by spring, however the SPEI considered autumn as the least drought–prone season. It is worth noting that u(t) and u'(t) curves of SPI at the annual and autumn scales were in very good agreement with each other, which might suggest that annual rainfall is mainly impacted by autumn rainfall (Figure 7). In general, the SPI and SPEI series showed high variability, with no significant trends over the study period, except for the summer when the most severe droughts were recorded only from the year 2000 onwards. As shown in Figure 7, the downward trends in summer were highly significant from 2004 to 2016 at 95% significance level, hence the intersection of the u(t) and u'(t) curves of SPI–3 and SPEI–3 during the summer season occurred in 1998 and 2003, respectively, and exceeded the confidence limit in 2004 (Fig. 7). This is clearly indicated in the monthly variation of SPEI–3 and SPI–3 in Figure 6.

3.4 Spatial and inter-annual variability

At the annual scale, the spatial distribution of the drought duration trends of SPI and SPEI was interpolated by the Inverse Distance Weight interpolation method (IDW method) (Figure 8a). The drought duration reflected by SPI–12 and SPEI–12 was identical with an opposite spatial distribution. In terms of trends, all stations showed non–significant increasing trends; however, the SPI–12 suggested that the two stations (Lalla Mimouna and Mnasra) showed a decreasing trend (tendency to be wet). Whereas, the other stations showed an increasing trend, mainly located in the interior of LSB. The duration of droughts in the LSB increased from West to East. The SPEI–12 showed that the duration of drought is longer in the western regions and shorter in the north-eastern part of the basin.

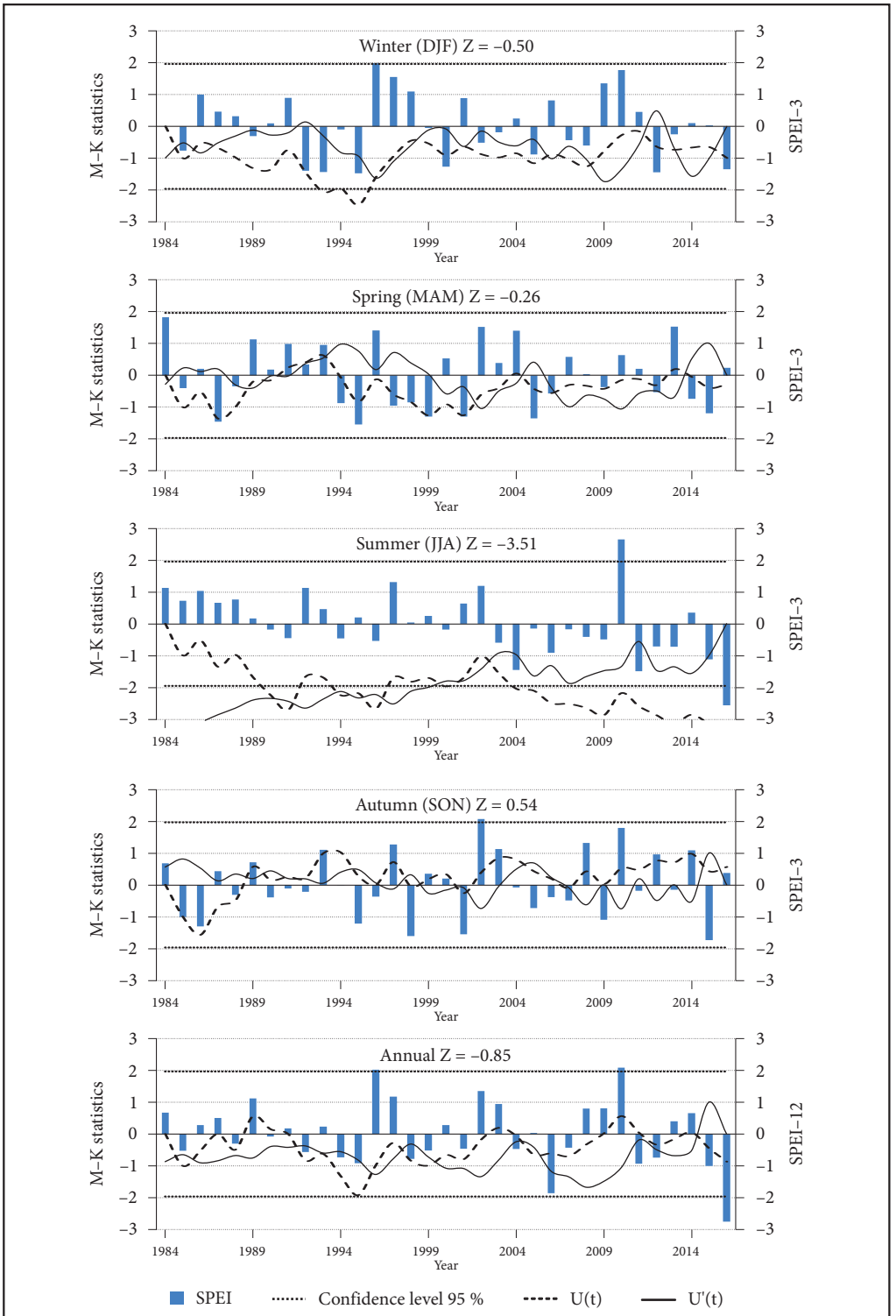
The spatial distribution of drought severity trends in the LSB was different from that of drought duration, where the Mnasra station recorded the longest period and the least severe at the same time (Figure 8b). However, the SPI–12 and SPEI–12 indices showed a similar overall behaviour of the drought severity distribution except for the Zirara station. Droughts were more frequent in the Northeast of the basin, especially in the Mechra Bel Ksiri station. In terms of trend, all stations showed increasing trends, only Lalla Mimouna and Mechra Bel Ksiri stations recorded a significant increasing trend for SPEI and SPI respectively, mainly in the North West and Northeast of the LSB. In general, droughts occur within the basin showing significant upward trends.

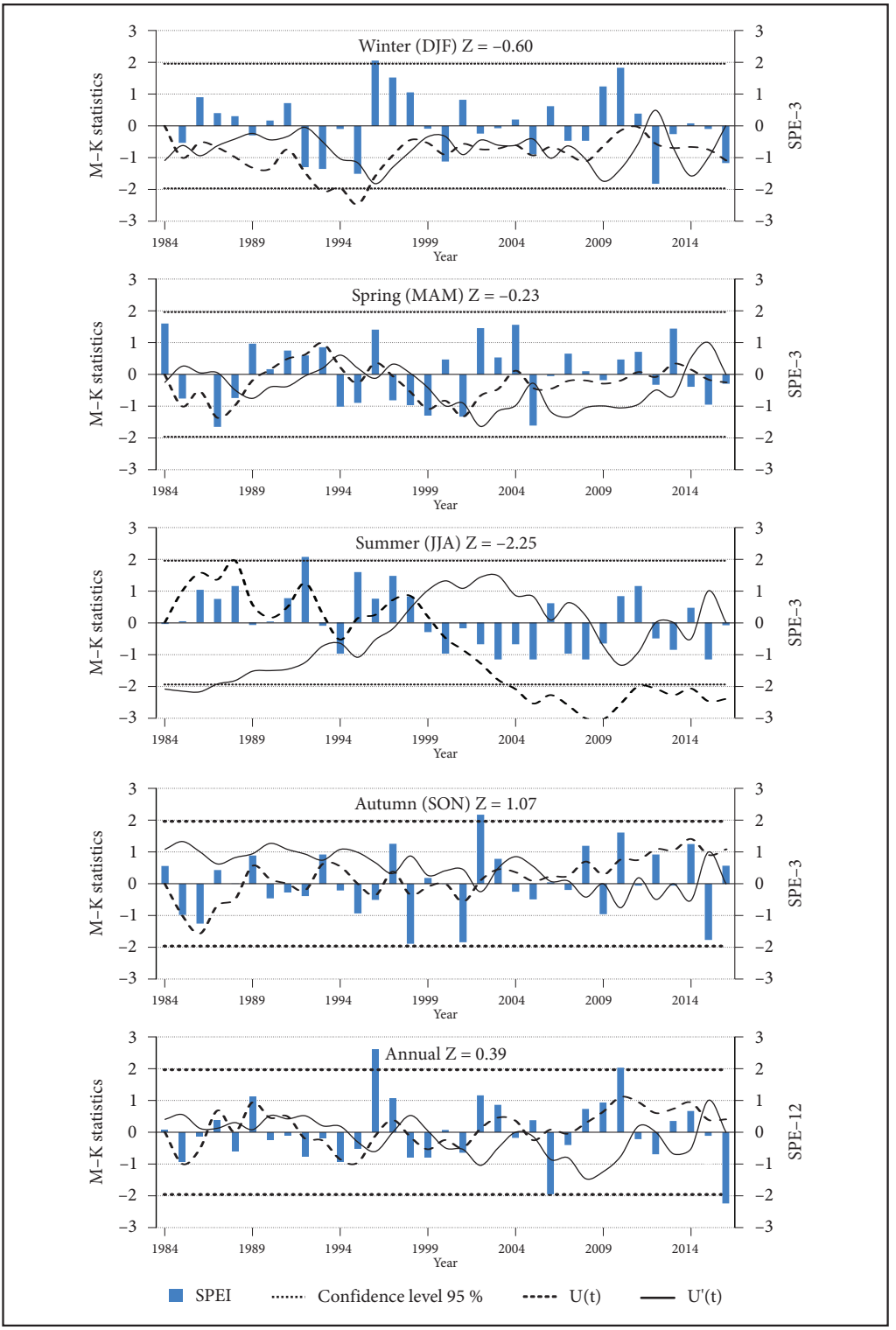
3.5 Correlations between SPI and SPEI

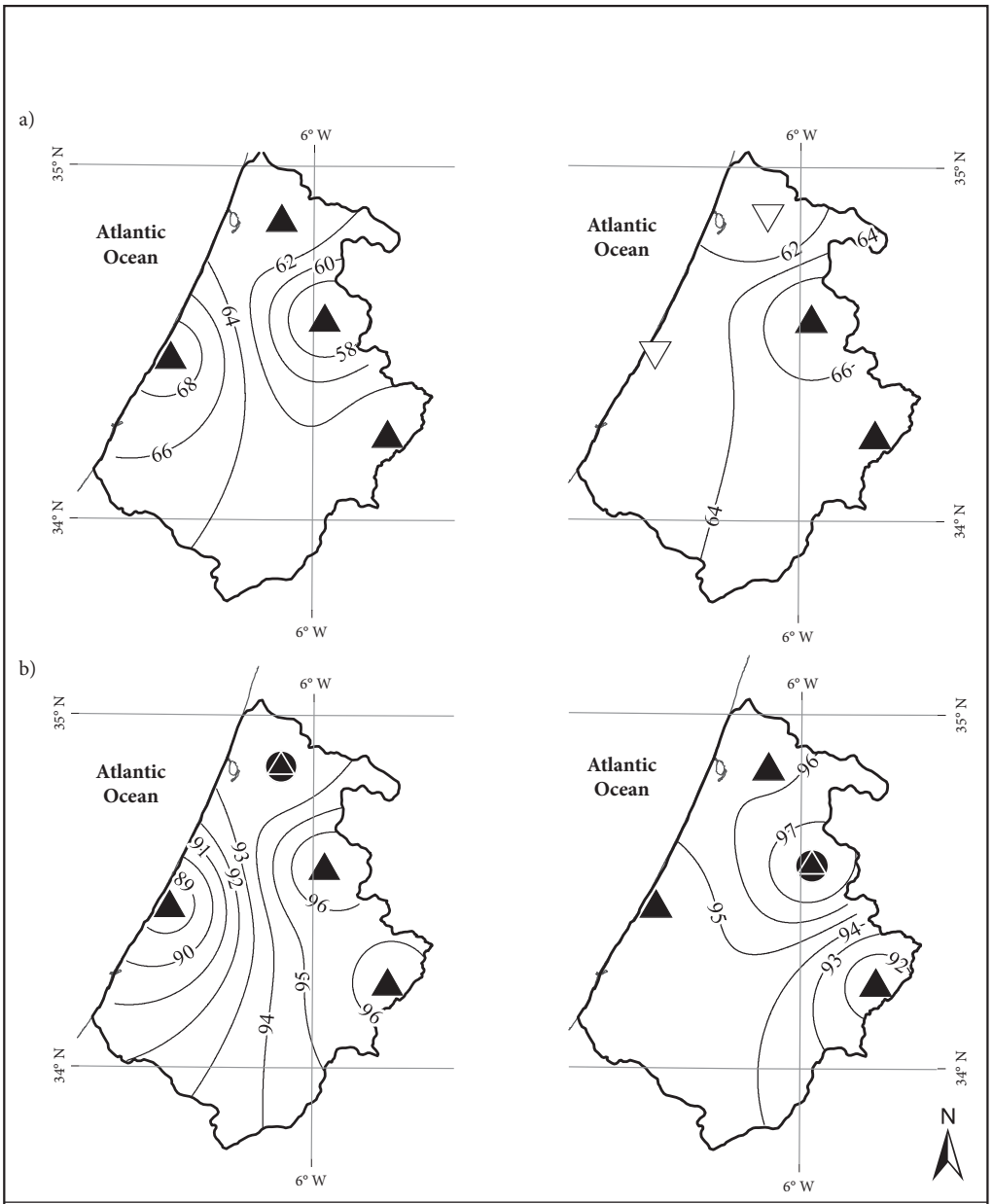
Pearson correlation plots between SPI and SPEI series were made at different time-scales for each station (Figure 9). The relationships between this DIs at different time-scales had relatively high correlation coefficients (r). However, there was a marked difference in the correlation coefficient (r) of each station at different time-scales, especially at the 1-month time-scale. On the short time-scales (1- and 3-months), the correlation coefficients (r) between SPI and SPEI were relatively low in the summer period ($r < 0.5$). As the time-scale increased, the low correlation coefficients shifted towards the autumn season on a 6-months' time-scale. On an annual scale of 12-months, in all stations there were very strong correlations ($0.7 < r < 0.95$) except the Zirara station ($0.4 < r < 0.6$). The correlation between SPI and SPEI in the western part of the LSB was generally higher than in the eastern part (Zirara station) since SPI neglected the temperature variation in the calculation and PET is high at this station (Table 1).

Therefore, the droughts identified by SPI and SPEI may be different in the East of the LSB (Figure 9).

Figure 7: Seasonal and annual variations of M–K trend test and abrupt changes in SPEI (left) and SPI (right) in the LSB during 1984–2016. ➤ p. 38–39
Figure 8: Distribution of trends in drought duration (a) and drought severity (b) for SPEI (left) and SPI (right). Significant positive trend ($Z > 1.96$), insignificant trend ($-1.95 < Z > 1.96$) and significant negative trend ($Z < -1.95$). ➤ p. 40
Figure 9: The correlations between the SPI and SPEI of typical meteorological stations in the LSB at scales of 1-, 3-, 6- and 12-months. Correlations significant at the 95% confidence level are indicated by triangles. ➤ p. 41


Winter (DJF) Z = –0.50
Spring (MAM) Z = –0.26
Summer (JJA) Z = –3.51
Autumn (SON) Z = 0.54
Annual Z = –0.85
M–K statistics
SPEI–3
SPEI–12
Year
1984
1989
1994
1999
2004
2009
2014
SPEI
Confidence level 95 %
U(t)
U'(t)


Winter (DJF) Z = –0.60
Spring (MAM) Z = –0.23
Summer (JJA) Z = –2.25
Autumn (SON) Z = 1.07
Annual Z = 0.39
M–K statistics
SPE–3
SPE–12
Year
1984
1989
1994
1999
2004
2009
2014
SPEI
Confidence level 95 %
U(t)
U'(t)


a)
b)
6° W
35° N
34° N
Atlantic Ocean
62
60
64
58
68
66
64
62
64
66
64
91
89
92
90
96
95
94
96
96
97
95
94
93
92
N
Legend
Z value
−2.96 to −1.96
−1.96 to 0
0.01 to 1.95
1.96 to 2.96
0 10 20 40
km
Content by: Hakam Oualid
Map by: Hakam Oualid
Source: Faculty of Sciences Dhar El Mehraz
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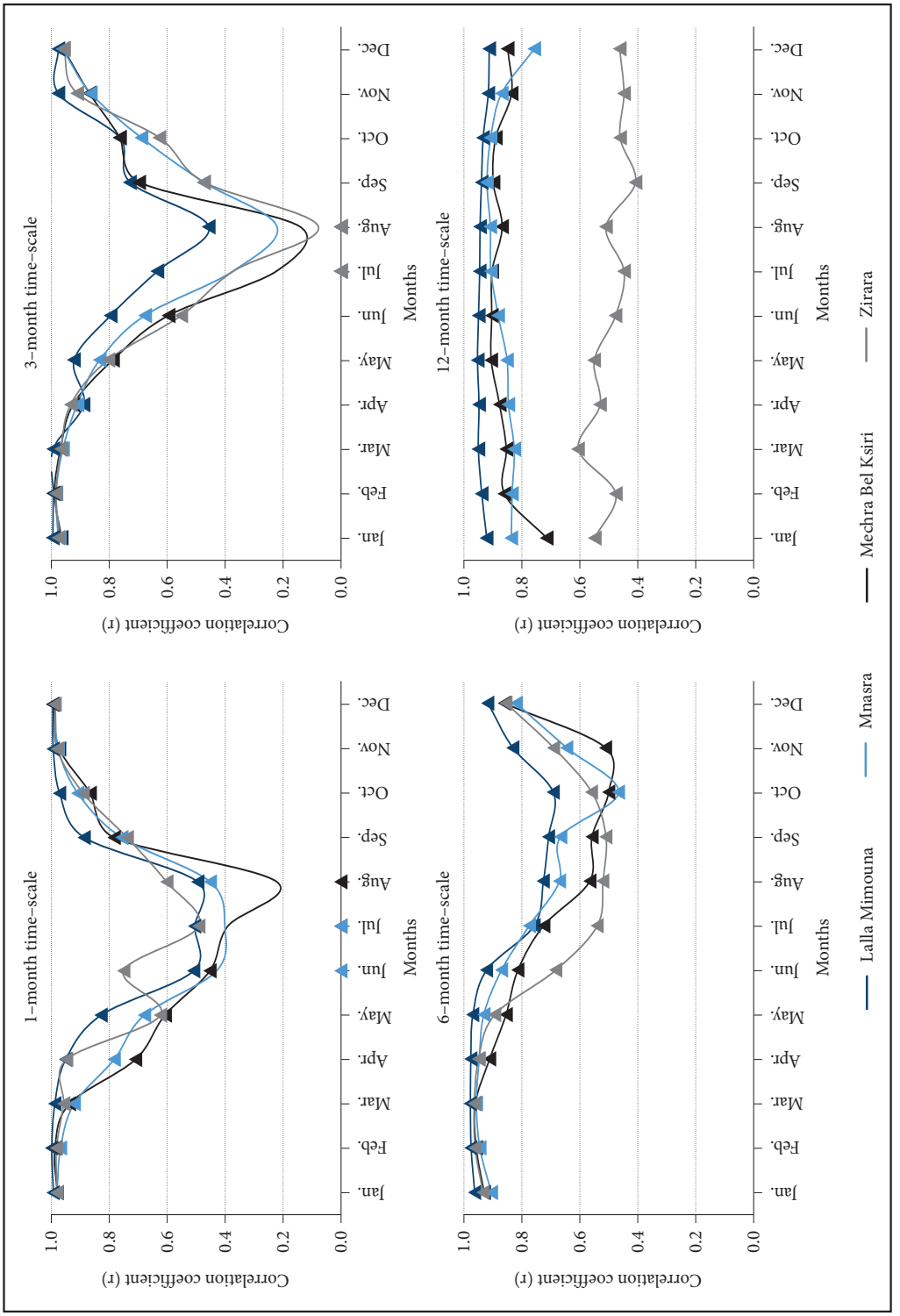
1–month time–scale
3–month time–scale
6–month time–scale
12–month time–scale
Correlation coefficient (r)
1.0
0.8
0.6
0.4
0.2
0.0
Jan.
Feb.
Mar.
Apr.
May.
Jun.
Jul.
Aug.
Sep.
Oct.
Nov.
Dec.
Months
Lalla Mimouna
Mnasra
Mechra Bel Ksiri
Zirara

3.6 Coherence between drought indices (DIs) and large-scale climate indices

Wavelet coherence (WC) identifies both the frequency bands and time intervals of co–variations between SPI/SPEI and large-scale climate indices (i.e. NAO and MO) in the LSB (Figures 10, 11). The WC, which varies in value from 0 to 1, measures the cross–correlation between the drought and climate indices as

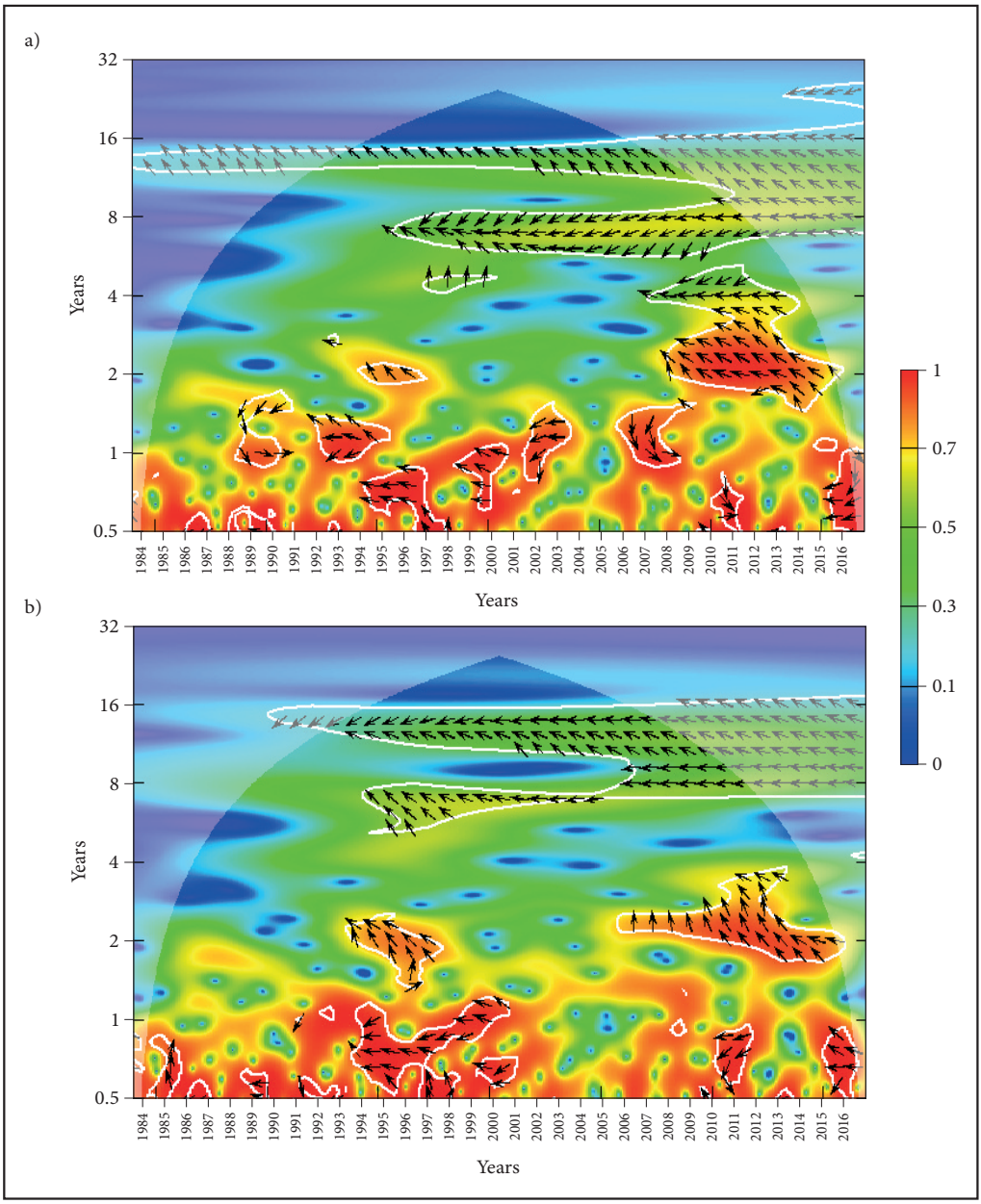

Figure 10: Wavelet coherence spectrum between the large-scale climate indices (NAO) and the SPEI (a) and SPI (b) series of the LSB. The colours from blue to red indicate increasing coherence. The 95% significance level with respect to the red noise is represented by a white outline.

a function of frequency. The coloured shading represents the magnitude of the coherence, as indicated in the colour bar, indicating the time-scale variability in the correlation between the two-time series. The white contours represent the significant sections that have a significance level of 95%. Arrows represent consistency (right–oriented: positive correlation, left–oriented: negative correlation). As shown in Figures 10 and 11, for a shorter periodicity of less than one year, significant coherence between the DIs (SPI and

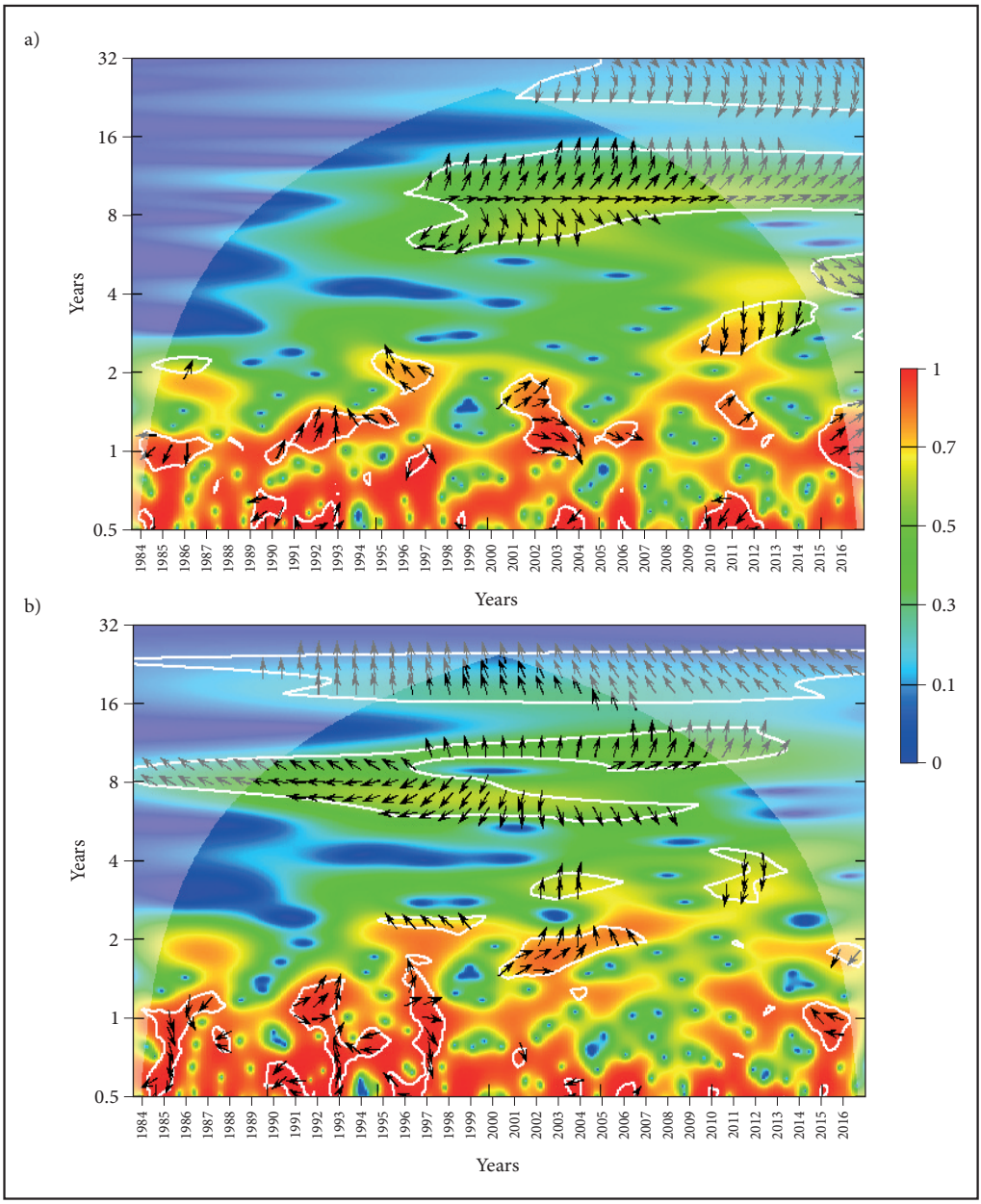

Figure 11: Wavelet coherence spectrum between the large-scale climate indices (MO) and the SPEI (a) and SPI (b) series of the LSB. The colours from blue to red indicate increasing coherence. The 95% significance level with respect to the red noise is represented by a white outline.

SPEI) and the climate indices (NAO and MO) was observed intermittently from year to year. Strong negative consistency is detected around 8–16 years (multi–annual) throughout the period considered (1984–2016). The NAO had the first–order relationship with drought variation over an 8–16 years' period, appearing since 1990 for SPI and during the whole period considered (1984–2016) for SPEI. Considerable energy is observed during a short period in the mid–1990s and from 2006 to 2015 for the 2–4 years' group (Figure 10). In the case of the MO, the coherence with the DIs (SPI and SPEI) was almost similar to that of the NAO but with low energy. The same energies are detected during the same periods of NAO (Figure 11). NAO has mostly strong negative coherence, while in MO the coherence is partly positive and partly negative.

4 Discussion and conclusion

The results reveal some differences between DIs in drought monitoring, found in most studies (Liu et al. 2021; Hakam et al. 2022a), which are due to the variation in climatic conditions at the different LSB stations and especially at the Zirara station (Figure 9). The fact that the calculation of DIs is based on rainfall and that the variability of rainfall is much higher than that of PET, considered stationary (without temporal trend), the importance of the latter would be negligible and drought conditions are almost controlled by the temporal variability of rainfall. However, some authors have cautioned against systematically neglecting the importance of the effect of temperature on drought conditions, and numerous empirical studies have shown that increasing temperature significantly affects drought severity (McGuire et al. 2010; Linares and Camarero 2012). Due to the consideration of temperature by SPEI, the evolution of annual drought showed a decreasing trend, while the drought reflected by SPI–12 showed an increasing trend, so the performance of SPI might be insufficient in reinforcing the conclusions on the warming trend of the climate in Morocco (Figure 7).

At the seasonal scale, both SPI–3 and SPEI–3 showed decreasing trends, except for autumn where SPI–3 recorded a positive value (Z_{SPI-3} = 1.07). This indicates that the fall season would be marked by a slight increase in rainfall and a shift in the wettest season of the year, as rainfall is relatively more abundant in the fall and less abundant in the winter (Z_{SPI-3} = –0.60). Consequently, the autumn drought that started in September was increasingly less severe in the LSB and when rains started early with high intensity, a winter drought would be expected (Figure 6). These results further confirm the findings of Acharki et al. (2019) and Diani et al. (2019). In addition, SPI–3 and SPEI–3 showed that the summer season was the most drought–prone with a significant downward trend at the 0.05 level, triggered in 2004 (Figures 6, 7). This triggering of dry months can explain the increase in average temperatures from the year 2004 (Driouech 2010). Thus, the intensification of drought episodes in summer was also related to the nature of the winds that prevail in this season, namely the warm continental winds from the southeast (Chergui and Sirocco). These winds led to high evapotranspiration marked by the trend of SPEI–3 to the lowest value of Z (Z_{SPEI-3} = –3.52) and the small amounts of rainfall received are mainly of stormy origin (Z_{SPEI-3} = –2.25). Concerning the winter season, no month escaped the drought either by SPI–3 or by SPEI–3 and even on different time-scales. The abnormal dryness of the rainy season months was due to a relative frequency of random anticyclonic situations. This winter drought seemed to change from month to month, and was shorter than in the summer season (Figure 6). The reason for this is that winter anticyclonic situations, generating dry and cold weather, are less persistent than stable and hot summer weather (summer anticyclones), therefore more quickly degraded by rainfall disturbances.

The climate in LSB is subject to the contrasts of the Mediterranean climate concomitant with oceanic influences which give it particular climatic rhythms on the one hand, and on the other hand the north–west winds, meeting the Iberian chains (Spain) arriving dry in the north–west of Morocco. In addition, there is a simple succession of two climatic environments (cyclonic and anticyclonic), which have a remarkable influence on the inter-annual variability of the climate in Morocco (Driouech et al. 2021) and in particular in the LSB (Hakam et al. 2022b).

The dominant influence of large-scale climate indices on the evolution of drought was slightly manifested in the LSB. Consistency analysis indicates a significant influence of climate indices (NAO and MO) on drought variability at the annual to multi-year (5-year) scale, particularly during years with drought conditions (Figure 5). Both NAO and MO were strongly influenced by the North–East Atlantic cyclonic

systems that force Mediterranean cyclogenesis (Zeroual, Assani and Meddi 2017), inducing a strong correlation between them (Criado-Aldeanueva, Soto-Navarro and García-Lafuente 2014). The OM can be defined as an oscillation of sea level pressure anomalies (SLP) in the central and western Mediterranean, an important source of cyclogenesis. As the occurrence of these cyclones is partly related to the activity of NAO–governed North Atlantic fronts, a strong correlation can be expected (Criado-Aldeanueva and Soto-Navarro 2020). For example, Angulo-Martínez and Beguería (2012) found that the erosive force of precipitation in the Ebro Basin (NE Spain) is strongest during negative phases of the NAO and OM. It is weaker during positive phases.

The statistical analysis is highly dependent on the observational (in–situ) data, such as the duration of observation, authentic source, spatial density and critical criteria used for the analysis, trends and periodicity. In addition, the analysis of global and regional climate models could provide physical dynamics of climate change and improve the reliability of the analysis results.

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BRANDING, LABELLING AND CERTIFICATION: GEOGRAPHICAL AND ANTHROPOLOGICAL INSIGHTS

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Labels, certificates and brands on the food products from the Soča Valley.

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Branding, labelling and certification: Geographical and anthropological insights

ABSTRACT: This article presents a theoretical and conceptual introduction to the special issue dedicated to branding, labelling and certification. The authors present the connections of these qualification instruments with regional development, multiscalarity, and actor networks from a geographical and anthropological perspective. The special issue contributes to a better understanding of the interferences and interconnections of various accompanying processes associated with branding, labelling, and certification, such as actors' practises and relationships, social power relations, alternative marketing strategies, long-term impacts on ethical values, and emotional concern.

KEY WORDS: geography, anthropology, branding, labelling, certification, regional development

Znamčenje, označevanje in certificiranje – geografski in antropološki (v)pogledi

ABSTRACT: Članek je teoretski in konceptualni uvod v posebno številko, posvečeno znamčenju, označevanju in certificiranju. Avtorici predstavita povezanost omenjenih kvalifikacijskih instrumentov s teritorialnim razvojem, multiskalarnostjo in mrežami akterjev, in to z geografskega in antropološkega vidika. Posebna izdaja prispeva k boljšemu razumevanju interferenc med različnimi procesi, povezanimi z znamčenjem, označevanjem in certificiranjem, kot so različne prakse in povezave med akterji ter razmerja družbene moči. Izpostavljene so tudi alternativne trženjske strategije, dolgoročni vplivi na etične vrednote in čustvena vpletenost.

KLJUČNE BESEDE: geografija, antropologija, znamčenje, označevanje, certificiranje, regionalni razvoj

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1 Introduction

The focus of this special issue is on branding, labelling, and certification, particularly in the areas of agri-food, forestry, tourism, and regional development. Branding of food products and regions, labelling with different designations and awards, and certification under different schemes – such as EU schemes for geographical indications and traditional specialties, national, and regional certificates – are qualification tools for marketing purposes (Bardone and Kannike 2022; Fialová and Chromý 2022; Grasseni 2022; May 2022).

There are various definitions of branding and labelling in literature, such as marketing tool, governance method, assurance of the quality of products and services, etc. (see Razpotnik Visković and Logar 2022). These tools revolve around economic, social and symbolic values, that come from the interplay of work, knowledge and affect. At the same time, they generate connections between producers and consumers, as well as broader networks of actors, places, and things that (may) impact on place, heritage-making, territorial development and everyday life. For this reason, branding, labelling, and certification are getting attention also contemporary geographical and anthropological research.

In this special issue we present six contributions from geographical and anthropological perspectives that shape articles' methodology and epistemology. Methodologically, they range from qualitative ethnography, its thick description and »studying through« (Wright and Reinhold 2011) as applied by Christina Grasseni (2022) and Sarah May (2022), to participant observation by Ester Bardone and Anu Kannike (2022), to more quantitative and statistical geographical methods, such as structured interviews by Erik Logar (2022), Magdalena Fialová and Pavel Chromý (2022), and literature analyses by Nika Razpotnik Visković and Erik Logar (2022). The methods used enable an understanding of the interferences and interconnections of various processes related to branding, labelling and certifications, the practises and relationships of actors, social power relations, key economic logics and alternative marketing strategies, long-term effects on ethical values, and emotional involvement. Articles highlight factors that influence the success of initiatives and the potential to promote regional development, as well as challenges from the perspective of local producers, and provide an overview of research related to certification, labelling and branding.

In the first article »**The use of European Union instruments for branding and labelling regional food products in Estonia**« Ester Bardone and Anu Kannike examine how EU rural development measures and food quality schemes are used for creating added value to regional food products in Estonia. In order to understand these processes, national food and heritage policies are analysed to highlight a lack of national instruments that would protect and promote regional specialities.

Christina Grasseni presents article »**From branding to solidarity: The COVID-19 impact on marketing Strachítunt cheese from Val Taleggio, Italy**« in which she reveals the alternative marketing strategy of the cooperative of cheese producers who appealed directly to consumers and connected digitally with solidarity economy networks. The article shows how this appeal brought to the surface a shared understanding of proximity and solidarity, which are usually not employed in the language of certification and labelling.

Sarah May publishes article »**Labelling local wood: On the valorisation of regionality and sustainability in timber trade**« where she presents the implementation of an international programme of forest certification and deconstructs how the actors involved establish a link between ethical and economic concerns. By describing their everyday perspectives on the micro level, the article reveals shared aims, ideals and also contradictions.

In the article »**(In)visible agents in regional development: Active individuals and their networks as a driver of regional product labelling initiatives**« Magdalena Fialová and Pavel Chromý take the regional studies approach to examine labelling schemes on the example of the Association of Regional Brands in Czechia and identify positive and negative factors affecting the initiatives' success and potential for enhancing regional development.

Erik Logar focuses on the oldest territorial brand in Slovenia. In the article »**Place branding as an approach to the development of rural areas: A case study of the brand »Babica in Dedek« from the Škofja Loka Hills, Slovenia**« he analyses its socioeconomic conditions, impacts, and challenges from the perspective of local producers and demonstrates that the empirical findings are only partly aligned with the theoretical implications.

The last contribution in this volume is »**Certification, labelling and branding in tourism research: systematic review**« by Nika Razpotnik Visković and Erik Logar. Authors outline the spatial and temporal distribution of research linked to certification, labelling and branding, extract the theoretical definitions and characteristics of these three processes in tourism and analyse hierarchical and non-hierarchical relations among them.

2 General overview

The distinctions between branding, certification, and labelling are sometimes difficult to grasp because of the many overlapping in practice and inconsistent usage in the literature (Razpotnik Visković and Logar 2022). Yet based on the literature review and articles in the special issue, we assume that:

- branding is primarily a value-added process through which a destination or a company seeks to distinguish itself and its products from competitors in the market (e.g., with private and collective trademarks);
- certification is a process by which an independent organisation verifies that a product, process, or service meets certain standards regarding origin or territoriality (e.g., the EU quality scheme's Protected Designation of Origin and Protected Geographical Indication), and/or technology (e.g., EU quality scheme's Traditional Specialty Guaranteed).

Some qualifications meet the requirements of various references, e.g. Slow Food presidia are location-bound, emphasising traditional skills and production technologies at the same time. Brands might even be protected by intellectual property rights (e.g. (collective) trademarks). The process of labelling follows certification and branding and is a method of providing information about a product and a means of communicating with end users or visitors (Matus 2009; Tišler and Šuligoj 2020; Razpotnik Visković and Logar 2022).

The complexity of the (non)hierarchical, complementary and contested relationships between certification, branding and labelling is evident in the article by Razpotnik Visković and Logar (2022). The authors identify four relationships between certification, labelling and branding. First, certification is recognised as an important element of building a branding strategy for improving »green« image, emphasising excellence and reinforcing credibility. Second, certification and branding are seen as two incompatible or even opposite processes, one based on standardisation and unification criteria, while the other based on the uniqueness and speciality. Third, certification or label can be perceived as a brand on its own with different elements of branding, such as visual identity, logos and websites. Finally, certification, labelling and branding are also used as synonyms or as hierarchically equivalent but not competitive nor interlinked concepts.

The relations between the above-mentioned qualification tools can be viewed from different perspectives, united in the interdisciplinary research field on certification and valuation (Helgesson and Muniesa 2013). While most social sciences (business and economics, environmental sciences and ecology, sociology) focus on the financial, technical, and legal aspects of these instruments and their implications for distribution and consumption systems in globalised post-industrial society (Razpotnik Visković and Logar 2022), geography sheds light on their territorial implications and depletion of local economies, and regional development. Anthropology draws on ethnographic material and cultural analyses and focuses on the perspectives of actors, their participation, inclusion and exclusion from »global hierarchies of values«, and interferences with other social practices and processes, such as heritage-making (Bendix, Eggert and Peselmann 2013; Adell et al. 2015).

Expectations from branding, certification, and labelling of different actors involved vary and there are many discrepancies between written goals, expected outcomes, and recorded impacts (Razpotnik Visković and Logar 2022). The goals include interlinked environmental, economic, social, cultural and ethical aspects. From an economic perspective, they are intended to support production, by adding the value to products and keeping it within the region (Barham 2003; Fonte 2010; Kvam 2010; Parasecoli 2017; Tschofen 2017), enable better market opportunities for micro-producers (Bardone and Kannike 2022), support employment (Tregear 2003) and promote tourism. From a social perspective, labelling schemes can facilitate the creation of contacts and networks among participants in the certification process (Wiskerke 2009) and strengthen social capital. They enable communication as they can (re)establish, (re)discover, and raise awareness of predominantly local, and sometimes also regional and national place-based values associated with the environment, landscape, traditions, and sustainability, thus enabling territorial identifications and place-making processes (Barham 2003; Fonte 2010; May et al. 2017; Tschofen 2017; Ledinek Lozej 2020; Fialová and Chromý 2022). Actually, labelling schemes are means to convey not just different levels of protection (e.g., intellectual property, see Bordone and Kannike (2022)) but also, if not predominantly, different values (May 2022). Magdalena Fialová and Pavel Chromý (2022) define four success criteria for regional brands: first, viability and long-term sustainability (or, in words of Grasseni (2022), adaptability); second, increase of the number of products; third, active promotion; and, fourth, socio-cultural impacts.

Nevertheless, researchers admit that certification, branding and labelling can have a positive impact on territorial development, their potential is often overestimated (Coombe, Ives and Huizenga 2014; Ledinek

Lozej 2020; Logar 2022). Several critiques expose their deficiencies and weaknesses; the authors of this volume, Fialová and Chromý (2022) list the overuse, high diversity and inconsistency; May (2022) exposes unsuitability, redundancy, and unrecognizability of the majority of labels; Bardone and Kannike (2022) point out standardisation of production methods and ephemerality of some brands, due to their connection to short-term project founding; Logar (2022) lists non-inclusivity, predominance of top-down approaches, and absence of monitoring, evaluating and analysing of branding process. Grasseni's critique (2022) focuses predominantly on the shortcomings, evidenced in the emergency circumstances during the COVID-19 pandemic, furthermore she points out also the neoliberal governance behind the instruments – claims to distinction, yet based on tradition or terroir (Jamšek Rupnik, Čuš and Šmuc 2016), are actually imbricated in global industrial production and distribution.

Despite all expressed critics, and sometimes also general unacceptance and unrecognition of brands, certificates, and labels, the geographical research shows the undeniable importance and potentials of branding for regional development.

3 Regional development

Regional development is transforming from predominantly economic progress (Brozzi et al. 2015; Knific and Bojnec 2015; Kozina and Clifton 2019) towards the more complex sustainable concept (Vintar Mally 2018; Kozina, Poljak Istenič and Komac 2019; Poljak Istenič 2019), taking into regard social, ecological and cultural dimensions (Šmid Hribar and Ledinek Lozej 2013). This is achieved mainly by activating endogenous capital of the regions and encouraging soft factors, that Fialova and Chromý (2022, 103) define as »socially determined and hardly measurable capacities and settings such as informal institutions and norms, trust, relationships, identities or knowledge«. The prevalent method to achieve this is bottom-up approach, assuring stable cooperation between actors involved in development, such as administrative authorities, the media, educational and research institutes, businesses, non-profit organisations, NGOs and individuals (Amin 1999; Komárek and Chromý 2020; Fialova and Chromý 2022).

Regional products are one of the important endogenous sources that are often included in regional development strategies. Labelling schemes are primarily used for promotion of these products, but their impact on regional development is manifold (Almeida and Cardoso 2022; Fialova and Chromý 2022). Labels can support production and add value, also through tourism, indirectly contribute to employment and maintain social stability (Stojanović et al. 2021; Jurinčič 2022). Creating and implementing regional labels means creation of stakeholder networks, organisation of training, consulting and exchanging the experiences. Regional labels help protect (or create) regional resources linked to landscape, environment, heritage and culture (Opačić et al. 2022).

Regional labels, territorial brands, European quality schemes or other certification initiatives are in line with the concept of new rural paradigm (Ploeg et al. 2000), promoting a multi-level, multi-actor and multi-faceted rural development (Ledinek Lozej 2021) where agriculture collaborates closely with other sectors in the territory, e.g. tourism. The EU plays an important role; besides its own quality schemes supporting regional production operating on top-down principle, the LEADER programme (EU's rural development policy tool) offers financial foundation for establishing bottom-up territorial product labelling schemes (Fialova and Chromý 2022).

Articles in this special issue point out various aspects of contribution to regional development. In German case study, May (2022) emphasises the direct monetary value of certified wood, increased visibility of regions beyond their borders and positive effect on other sectors (tourism, agriculture). The environmental aspect is pointed out by the author's interlocutor who mentions the importance of the regional processing of the product as well as the shortening of supply chains.

Grasseni (2022) adds another point of view – the evidence of solidarity economy, which was demonstrated in the case of certified local cheese near Bergamo. Direct marketing activities via social media during COVID-19 lock-down period immediately mobilised customers from the region, wanting to help local producers in time of extreme hardship.

The Estonian case study (Bardone and Kannike 2022), dedicated to Protected Geographical Indications (PGI) labelled cheese *sõir*, is an example of re-regionalisation of a food product, which was re-claimed to

be regional and not national speciality. Label has served as a communication tool mainly for domestic (not foreign!) consumers, reminding them about the importance of protecting their regional culinary heritage.

Logar (2022, 121) demonstrates the role of a territorial brand in improving image of the region from being closed, self-sufficient and inhospitable to more »attractive, entrepreneurial, and well-connected one«, but his study reveals also critical aspect of territorial branding on regional development: the lack of participation process can lead to the lock-in effect and to limited access to branding opportunities for some groups of producers. This decreases the economic and social cohesion in the area and raises internal development discrepancies.

4 Scalarity

Scale is an essential geographical concept (Leitner and Miller 2007) perceived not only through traditional fixed and bordered Euclidean or Cartesian definitions (Brenner 2001) but also as a social construction, focusing on process, evolution, and dynamism (Giovanardi 2015). Marston et al. (2005, 420) define scale as »the result of marking territories through boundaries and enclosures, documents and rules, enforcing agents and their authoritative resources«.

In certification, labelling and branding research, the concept of scale is relevant because it explains the particularities of these processes, actors involved, their relationships and the impact of their collaboration (Giovanardi 2015). It also helps to explain the conceptual frame of governance and three governance principles: inclusiveness, flexibility and multi-scalarity (Heslinga, Groote and Vanclay 2017). Heslinga, Groote and Vanclay (2019) illustrate the multi-scalarity on the example of tourism development and landscape, showing that governance processes in these fields are not taking place at only one level, but are influenced and often orchestrated from several scales. Nature protection for example is regulated by international and national laws, but concrete actions are implemented at local level (Paloniemi and Tikka 2008; Stojanović et al. 2014; Smrekar, Šmid Hribar and Erhartič 2016), affected by social positions and cultural activities of local community members (Heslinga, Groote and Vanclay 2019). This inevitably leads to discrepancies between the regulations and desired socio-economic activities of tourism entrepreneurs. Understanding the multiscalar tourism – landscape interactions is thus crucial for efficient management of protected areas (Paloniemi and Tikka 2008).

Klintman (2012) points out that multi-scalarity is a challenge also in the field of sustainability programmes and numerous environmental, sustainable or fair-trade standardisation schemes linked to it. Scales are often perceived as given and simplified (e.g. local-global), but as an alternative they can also be dynamic and »strategic«, driven by social actors with their own special political, economic or cultural interests (Klintman 2012). In this way the understanding of tensions can go beyond the simplistic local-global dualism and draws attention also to surrounding economic inequality, limitations to public participation, neglect of cultural and environmental values.

Studies on place branding were traditionally focused on single spatial level (e.g., national, urban, regional or other spatial levels) (Paasi 2004), but Giovanardi (2015, 611) suggests that place branding should be considered »as a multi-scalar phenomenon since it can emerge from actions on many scales, which can no longer be seen as nested in a static hierarchy, but instead seem to coexist.« The scale should be given relational understanding – this way the phenomenon of scale jumping (van Schendel 2002) can be better contextualised. This can be illustrated on the case of Tourin place making process, where sub-national territorial stakeholders (e.g. the Piedmont Region, the Province of Turin and the City of Turin) collaborate with foreign stakeholders (e.g. European capitals) but without full support of the national, »intermediate« level (Giovanardi 2015).

The multi-scalar character of certification, labelling and branding is demonstrated also in case studies, presented in this special issue. In an article discussing labelling of wood in Germany (May 2022) we can observe that the forest certification programme was confirmed at national level. The label »*Heimisches Holz aus …*« (»Domestic wood from …«) was established by national organisation for the purpose of certification of local regional wood. The label promotes sustainability, meaning that wood is bought, processed, sold and delivered mainly in the region, however some producers are selling it also on a global market.

Grasseni (2022) focuses on the local cheese *Strachítunt* with Protected Designation of Origin (PDO) label, which is an EU geographical indication for food. Despite its small production area and small production

quantities of cheese, the PDO products play an important role in international initiatives such as Bergamo's inclusion in UNESCO creative cities. Study reveals specific market conditions during the COVID-19 lockdown with the emerging importance of proximity and solidarity in that specific moment and the support of social networks, operating out of the context of traditional geographical scales.

The article of Bardone and Kannike (2022) shows the importance of stably structured scale hierarchy and the consequences if one level is missing. In the case of another EU designation – PGI. The authors demonstrate how the lack of national level support and engagement in Estonia results in a very modest number of designated products (only two). In addition, another important aspect is raised in the Estonian study: producers decided to go for complex application of EU geographical indication not to reach foreign markets with a niche product, but to convince the domestic consumers about the genuineness of their product.

Scalarity is also a crucial aspect to be considered at assessing the networking of actors, stakeholders, and following the recent theories (Latour 2005), also of non-human actants.

5 Networking

Multi-layered actor networks between human, governmental, and institutional actors (e.g., producers, regional and national administrative authorities, media, educational institutions, business, non-profit organisations, individual politicians, entrepreneurs, and organizational leaders), and also with non-human actors (e.g., brands, programmes, food and wood products; May 2022; Latour 2005), play important role in branding, certification, and labelling processes. Networking can be vertical (across different scales, e.g., national, regional, local), horizontal (between stakeholders and brands), and cross-sectoral – leaving aside for the moment the affectual relationships and possibilities of non-human (generated) networks. It is embedded in the tension between agency and power, and between ethical and economical demands.

The vertical connections and disconnections, set between top-down interventions and bottom-up activities, are explored in the article by Ester Bardone and Anu Kannike (2022). The authors discuss the interconnectedness of regional initiatives, national and EU policies using the example of food branding and labelling in Estonia. Despite the fact that the state is an important actor in agriculture and food production, Bardone and Kannike highlight the role of regional actors (the Local Action Groups) and their use of EU instruments (Leader funding) in creating regional food (brands). However, the authors also acknowledge that regional labelling schemes require complex management of short food supply chains - this could explain why the successful, well-functioning labelling systems tend to be located at higher regional or national levels.

The regional initiatives and schemes presented in this volume emphasize regionality and local character, and seek to overcome transregional and (inter)national dependencies, but at the same time – as highlighted in May's (2022, 96) article – global (commodity) flows »stand out as a dominant lines of action.« However, this is not necessarily the case, as some labels predominantly establish small-scale relationships. This (re)localization took on new aspects in new marketing styles triggered by the COVID-19 pandemic, when the paramount importance of local food systems, networks and small-scale producers came to the fore. Grasseni (2022) – supported by a recent comparative study (Nemes et al. 2021) – shows an increase in innovations and adaptations that allowed local food systems to broaden their scope and include new actors, originating from bottom-up participatory initiatives. In addition to the local food networks mentioned above, which (can) play a crucial role in the solidarity economy, there are also industrial networks. For example, the association of dairies, an important in the agri-food sector, which participate in the geographical indications consortia, as described in the article by Grasseni (2022).

Horizontal networking in terms of competitiveness clusters (Razpotnik Visković and Logar 2022) is examined in the article by Fialová and Chromý (2022). The authors emphasise the crucial role of the active individuals – especially the coordinators of the labels and their working teams, their commitment, activeness, competences, innovativeness and sense of place, and on the other hand, the producers of certified products, cooperation and communication between them, mutual trust and personal contacts.

The cross-sectoral networking is described by Grasseni (2022). She shows that a number of public institutions and professional associations are dynamically involved in networks and alliances around cow-breeding and cheese production, e.g., local administrations such as municipal councils and mayors,

breeders' associations, farmers' unions and their agricultural extension services, chambers of commerce, tourism associations and various media. On the other hand, the case study discussed by Logar (2022) shows the lack of cross-sector collaboration that led to the general lack of recognition of the local brand.

The importance of informal networking practices of production and consumption emerged during the COVID-19 pandemic, practices discussed by Grasseni (2022) that shifted the semantic implications from certificates and labels to the solidarity and »proximity«. These ruptures may have »the potentials for discovering changes in ethical norms, market logics and power structures« (May 2022, 96). They emphasise the importance of small-scale market relationships, connections and trust between consumers and producers, belonging, unofficial support, and local chains aimed at sustaining territorial economies (Grasseni 2022).

Finally, we focus also on the agency of non-human actors, the agency that comes from labels and certificates, things and materials. May (2022) explores the agency of wood, placing timber, its material and symbolic qualities at the centre of her research. She traces the material, its properties (and limitations) as a renewable resource that binds carbon dioxide, prone to the bioeconomy, and green growth, and its agency in creating the label's network. The other authors in the volume discuss the agency of the certificates and brands. Branded and/or certified products tend to be highly valued, and therefore central to broader epistemologies »that are acted on the ground, mediating personal, local and scalar levels of agency,« as Grasseni (2017, 4) shows through case studies of Italian cheese. They attract support and generate income, link knowledge economies with value-creation, evoke associative and affective connotations, shared knowledge, experience, norms and care. Thus they submit themselves to (re)localization, which is aiming towards a value-based and territorially embedded agri-food system (Grasseni 2022).

How this relocalised and other alternative distribution networks that reconnect producers and consumers – without brands, certificates and labels – will bring change to the dominance of the commodity form and the way it attempts to recolonize the alternative space is the question, that Pratt (2007) asked already two decades ago. And articles presented in this special issue reveal a great deal behind the mainstream and alternatively branded, certified and/or labelled systems.

6 Conclusion

Articles in this volume present geographical and anthropological views on branding, labelling, and certification. Five case studies from five European countries represent the area of agri-food, forestry, tourism, and territorial development. Despite the geographical and field variety we identified four common perspectives in all of them: development and links between different branding and certification schemes, their contribution to regional development, the multi-scalar dimensions of these processes and stakeholder networking linked to it. Articles contribute to a better understanding of interferences and interconnections of various accompanying processes connected with branding, labelling and certifications, such as actors' practises and relationships, social power relations, key economic logics and alternative marketing strategies, long-term impacts on ethical values and emotional involvement. They highlight factors influencing the success of the initiatives as well as their challenges and limitations, including the knowledge gap in measuring their long-term economic benefits.

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THE USE OF EUROPEAN UNION INSTRUMENTS FOR BRANDING AND LABELLING REGIONAL FOOD PRODUCTS IN ESTONIA

Ester Bardone, Anu Kannike

ESTER BARDONE

The owner of Metsavenna Farm Meelis Mõttus selling sõir cheese at a local food fair, 2018.

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The use of European Union instruments for branding and labelling regional food products in Estonia

ABSTRACT: The article examines how European Union rural development measures and food quality schemes are used for creating added value to regional food products in Estonia. In order to understand these processes, national food and heritage policies are analysed to highlight a lack of national instruments that would protect and promote regional specialities. The emergence of regional brands (funded by the European Union LEADER measure) is an example of an initiative to increase the visibility of regional products and food culture on the domestic market and to brand the region. Another attempt for recognising and re-regionalising local specialities is the application for the European Union Protected Geographical Indications (PGI) label for a traditional cheese *sõir* in south-eastern Estonia.

KEY WORDS: regional food, food policies, heritage policies, geographical indications, food quality labels, Estonia

Uporaba instrumentov Evropske unije za znamčenje in označevanje regionalnih živilskih izdelkov v Estoniji

POVZETEK: Članek preučuje, kako se ukrepi Evropske unije za razvoj podeželja in sheme kakovosti hrane uporabljajo za ustvarjanje dodane vrednosti regionalnim živilskim izdelkom v Estoniji. Da bi razumeli te procese, smo analizirali nacionalne politike o hrani in dediščini. Prepoznali smo pomanjkanje nacionalnih instrumentov za zaščito in spodbudo regionalnih posebnosti. Pojav regionalnih blagovnih znamk, financiranih z ukrepom Evropske unije LEADER, je primer pobude za povečanje prepoznavnosti regionalnih proizvodov in prehranske kulture na domačem trgu ter za znamčenje regije. V članku predstavljamo tudi drugačen poskus prepoznavanja in ponovne regionalizacije lokalnih posebnosti, in sicer prijavo za oznako zaščitene geografske označbe Evropske unije za tradicionalni sir *sõir* v jugovzhodni Estoniji.

KLJUČNE BESEDE: regionalna hrana, prehranske politike, politike dediščine, geografske oznake, oznake kakovosti hrane, Estonija

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1 Introduction

In the global food system, indicating the origin of food products is not just about localisation; it also creates connections and trust between producers and consumers, often enables consumers to support regional development, and adds symbolic value to products through stories related to traditions, geography, and production. Almost every product that has some connection with a certain region (either historical, constructed, or both) can be sold as an embodiment of the taste of this place (Bell and Valentine 1997). Thus, regional (or local) food products and culinary experiences are significant tools in region branding (Tellström, Gustafsson and Mossberg 2006). Previous research has demonstrated the importance of small-scale food producers often operating in peripheral rural areas as key agents of a regional food scene (Tregear et al. 2007). Their products are usually artisanal regional specialities, some also niche market products, which are marketed as »localised foods« (Bérard and Marchenay 2008), in contrast to »placeless« standardised foods available on the mass market.

In the European context, regional foods can be considered as food products and raw produce originating from a specific geographical area predominantly associated with certain traditions of production (Bryła 2015; Florek and Gazda 2021). Place-based labels highlight the connection between food and place and emphasise the nonmaterial qualities of products, the values related to communities where the product comes from (Parasecoli 2017). The branding of food products happens at different levels (international, national, sub-national) and accordingly reflects different understandings of regional food. For instance, Geographical Indications (GIs) in the European Union rely on the French concept of *terroir* – interconnectedness between the place of production, producers' knowledge and skills, and historical tradition (Bérard and Marchenay 2008). In Northern and Eastern Europe, national policies may focus on other food quality assurance schemes not based on *terroir* (Sadílek 2020) or products that are made by local producers in a particular geographical area, not necessarily related to culinary traditions, may also be considered regional foods (Holt and Amilien 2007). Despite the ambivalence of the concepts of 'region' and 'regional food' (Paasi 2003; Spiller and Tschofen 2017; Pícha et al. 2018) it can be argued that looking at regions in terms of food can fruitfully add to debates on regionality. This enables us to analyse how characteristics of a cultural-geographical region are expressed in its food culture (heritage) and how the production of regional foods is related to territorial identity and regional development (cf. Ray 1998; Pollice 2003).

The article examines how regional initiatives as well as national and EU policies intermingle in the case of branding and labelling regional food products in Estonia. We focus on (a) how the existing national food quality and heritage management instruments reflect state policies regarding regional food culture; (b) what have been the principles for creating regional brands for food products, using the EU LEADER funding; (c) how the application for the EU Protected Geographical Indication (PGI) label of a traditional south-eastern Estonian cheese *sõir* reflects regional producers' needs and expectations regarding regional food heritage.

2 Food quality labels and regional food brands in Estonia

Food quality labels used on the Estonian market belong to three main categories: national labels for the local market issued by producers' organisations, which emphasise either the Estonian origin of the raw produce or Estonian production; regional food quality labels that are issued by local rural developmental organisations (Local Action Groups – LAGs) funded by the EU LEADER measure; and European Union food quality labels such as Geographical Indications. In the official and public discourse, the terms 'regional food', 'food heritage', and 'local food' are often used inconsistently (Kannike and Bardone 2021).

Estonia joined the EU in 2004 and has implemented the activities funded by the LEADER measure which have been integrated with the Rural Development Plan since 2007. Local food was a developmental priority in the Estonian Rural Development Plan through the LEADER measure in 2007–2013, which resulted in establishing multiple local food networks, farmers' markets, cooperation projects, and 4 regional food brands by 4 LAGs. Currently there are 26 LAGs in Estonia; however, most of them are not focusing on the promotion of local food. Six regional food brands established by local LAGs exist in 2022, and the respective products are marked with specific quality labels. These food brands primarily emphasise the local origin of production or (less frequently) the local origin of raw produce, and rarely the connection

of the product with the food culture traditions in the region. Currently a PGI label has been given to only two products in Estonia (Estonian Vodka – registered in 2019; *sõir*, a traditional curd cheese – registered in 2021). In general, the GIs are unfamiliar among Estonian producers and consumers alike, as they are rather accustomed to national food quality labels (Lepane et al. 2016).

3 Methods and research area

In terms of national agricultural and heritage policies, the research area is Estonia. For two case studies we focus on two cultural-historical regions in south-eastern Estonia – Võrumaa and Setumaa – which today administratively belong to Võru County. The territory of Võru County is 2,773 km^2 and it includes five municipalities; in 2022 the population is ca 35,000 inhabitants (the total population of Estonia is ca 1.3 million) and it is ethnically homogenous. In terms of economy, the contribution of Võru County is rather marginal. The area is mainly rural and its main economic sectors are forestry and wood processing, food industry, and tourism. In the article we use the term Võrumaa (or Setumaa) because these names are used by the local communities. We chose examples from these regions because of their strong regional identity, which is supported and promoted by two state-funded research and development institutions, Võro Institute and Seto Institute. These regions enabled us to study the dynamics of different food quality labelling systems supported by the EU rural policies and food quality schemes.

The data was collected in 2017–2021, using qualitative methods; also, we partly drew on the materials of our previous fieldwork conducted in 2010–2013. We mainly relied on informal correspondence with

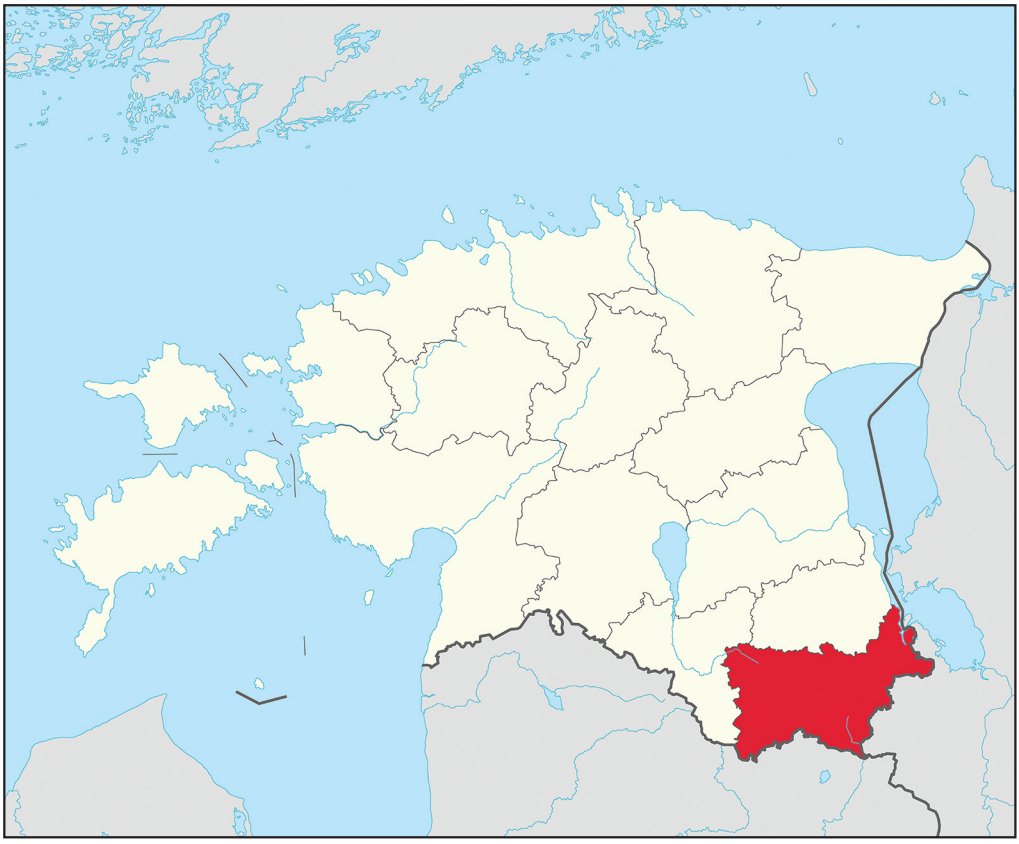

Figure 1: The study area Võru County marked within the contours of the territory of Estonia (Wikimedia Commons, 2017).

different types of actors in the food sector, as well as field notes from observations at events and minutes of meetings. We also conducted semi-structured and conversational interviews with food producers, caterers, and tourism entrepreneurs (n=6), local food developers from a LEADER LAGs Võrumaa Partnership assembly (n=3), local heritage experts (n=2), and state officials (n=4) responsible for implementing food policies at the Estonian Ministry of Rural Affairs. (It should be noted that some local actors simultaneously belong to several groups.) Additionally, we examined various publicly accessible documents (e.g., development plans, statutes, specifications), media texts, and websites. We applied thematic analysis (Ayres 2008), combining document analysis with triangulation (Bowen 2009). Ethnographical methods enabled us to gain insight into different actors' intentions, interpretations, and attitudes, which was complemented by our analysis of documents and media texts. The latter shed additional light on the institutional and organisational practices and discourses related to food quality labelling schemes.

4 Results

4.1 State policies

In Estonia, the Ministry of Rural Affairs is the state body responsible for agriculture and food. In the vision document, »Estonian Food 2015–2020«, regional food is mentioned as a developmental challenge and a priority (Eesti Põllumajandusministeerium 2014). The document states that »food cultures and ideologies in different regions are not clearly defined and therefore regional characteristics are not considered« (Eesti Põllumajandusministeerium 2014, 7). Consequently, the priority should be »developing and introducing regional cuisines that bring into focus the distinctiveness of diverse regions in Estonia and their food heritage« (Eesti Põllumajandusministeerium 2014, 11). Thus, food heritage is acknowledged to be an important characteristic of regional food distinguishing one region from another. Yet, to achieve this goal, only some initiatives have been launched by the state, most significant of which being the yearly nomination of a food region since 2016. The territory of these food regions does not overlap with the administrative regions but is based on a cultural-historical region composed of multiple municipalities or, in some cases, an invented region is created and managed by several LEADER LAGs. The title Food Region of the Year has served mainly a marketing purpose for making a region's food products and catering services more visible for the domestic as well as foreign consumers through various thematic events and activities throughout a year (see Kannike et al. 2021). Local bodies that manage food region activities are development organisations (NGOs) partly funded by state and EU measures (LEADER LAGs). One of the main goals of the Food Region of the Year is to promote local foods and improve their availability in cafes, restaurants, shops, and events. The Ministry expects the selected food region to highlight the stories related to local foodstuffs and dishes, although the terms 'traditions' or 'heritage' are not used and no specific value criteria are set for regional food (see https://eestitoit.ee/en). Some regions have had a regional brand for food products before the nomination, others do not have a brand or a label but emphasise regional speciality in their marketing messages.

The relative indifference of Estonian producers and consumers towards the EU food quality labels is related to national food policies. A survey conducted among different actors of the Estonian food sector in 2016 demonstrated that respondents' knowledge about the possibilities of applying for EU quality labels in Estonia was limited; they did not fully understand the functions and potential of these labels. This study suggested that producers would need »strong state-level support and consultation« to successfully apply for the EU food quality labels (Ahermaa and Nittim 2016). According to our research this has not been implemented. On the one hand, officials acknowledge that the application process for EU quality labels is challenging for producers and there should be more applications. On the other hand, the Ministry has not demonstrated initiative to lead the process or give systematic and professional support (for example, legal advice). Consequently, producers or other stakeholder groups who may lack the resources needed for a successful application have taken the responsibility so far.

In addition to food qualification instruments and regulations, there are also »heritage regimes« (Bendix, Eggert and Peselmann 2013) that transform traditional regional foods and related knowledge and skills into heritage items, using inventory as a tool of heritagisation. In 2006 Estonia joined the UNESCO Convention for the Safeguarding of the Intangible Cultural Heritage. In 2010 the Ministry of Culture established the

Estonian Inventory of Intangible Cultural Heritage (ICH). From 2010 until 2021, almost 30 cooking or eating practices were inscribed into the Inventory by local experts and enthusiasts, highlighting not just the recipe or the dish itself but related knowledge and skills as the ICH. Our previous research has demonstrated that the inventory is little known among the general public and entrepreneurs in the food and tourism sector do not see it as an instrument that would add symbolic value to their products or services; the inventory has no political or legislative power (Kannike and Bardone 2021).

4.2 A regional brand Uma Mekk

Support to the emergence of short supply chains and marketing locally produced foods has been a priority of the EU rural policies within the last decades, which has been realised also through the LEADER measure addressed to the development of rural regions (Regulation (EU) No. 1305/2013 of the European Parliament and of the Council on support for rural development by the European Agricultural Fund for Rural Development). Over the past decade, several initiatives for developing local food networks in Estonia have been supported by the LEADER funding. The emphasis of developing local food networks has been on creating short supply chains (e.g., farmers' markets) and promoting food regions through the joint marketing of regional products. Additionally, there are other food networks operating in Estonia (e.g., a network of direct food supply chains managed by an NGO).

Võrumaa region is one of the cultural-historical regions in south-eastern Estonia where local cultural heritage is valued by several organisations, groups as well as individual heritage enthusiasts or experts. However, conscious interest in the food heritage of the region emerged mainly in the past decade. A regional food brand *Uma Mekk* (Own Taste) was established in 2010, in cooperation between municipalities, non-governmental organisations, and local enterprises, and is managed by a LAG Võrumaa Partnership Assembly which defines *Uma Mekk* as a collective brand. This initiative was an outcome of a LEADER measure project developing local food as part of the Rural Development Plan in Estonia 2007-2013. According to the current development strategy of Võru County, *Uma Mekk* is considered one of the most successful brands of the region (https://www.riigiteataja.ee/aktilisa/4160/3202/1009/Arengustrateegia%20lisa.pdf).

The name *Uma Mekk* comes from the regional dialect, highlighting the connection with this cultural-historical region. The logo of the brand that is used both on sticker labels on products and in catering establishments has a visually distinguishable design created by a local artist. The aim of the brand has been to create better market opportunities for local micro-producers by organising *Uma Mekk* Food Fair in November each year and supporting entrepreneurs' participation at other food fairs and events in Estonia,

Figure 2: Logo of the regional brand *Uma Mekk* (left) and Micro-producers selling their Uma Mekk products at the Annual Uma Mekk Food Fair in November 2017 (right).

helping producers to get access to retail sales at supermarket chains and creating marketing materials for *Uma Mekk* products. Throughout the years coordinators of the LAG have organised training courses on product development and marketing for local entrepreneurs as part of brand development activities. The statute for awarding and use of the brand states that it is given to products that utilize at least 50% of their raw materials from Võrumaa region or southern Estonia, or to dishes that use at least 50% of ingredients from the region and the »cooking methods of which are characteristic of southern Estonian region, or which have been traditionally prepared in this particular village, farm or family«. The brand can be assigned to single products, products' series, to a single dish or the whole menu at a catering establishment (https://umamekk.ee/).

In 2020 almost 300 food products and 80 dishes or menus were given the right to use the *Uma Mekk* brand logo, and each year about 10–50 new products are added. They belong to different categories, such as juices and soft drinks (e.g., fermented birch sap, sea buckthorn juice), alcoholic beverages (e.g., sparkling cranberry wine, craft beers), herbs and teas (multiple mixes of locally harvested herbal teas), oils (e.g., hemp oil), milk and cheese (e.g., fresh and mature goat cheeses), meat products (e.g., meat smoked in the smoke sauna). There are also flours and seeds, bakery products, vegetables, fruits and berries, conserves and jams, and honey. A local heritage tourism entrepreneur, who temporarily also acted as a coordinator of the LAG, was critical of the criteria of the *Uma Mekk* brand, which refer to local raw produce rather than traditional knowledge or production practices. She found the selection of *Uma Mekk* products too diverse and often not related to regional food heritage. Furthermore, *Uma Mekk* brand does not have a special meaning for foreign consumers, unlike for locals who can recognise its label as an indicator of products from Võrumaa region (Interview, August 15th, 2017).

The cultural heritage and identity of Võrumaa region are strongly related to the local dialect or Võro regional language still used in everyday communication. Local food heritage has been described in great ethnographic detail in a cookbook published in the Võro language in collaboration with Võro Institute, local entrepreneurs, and heritage enthusiasts (Karu and Guerrin 2014). Once a year, in October, several cafes and restaurants in the region offer a special *Uma Mekk* menu that highlights local and seasonal ingredients; each place has the names of dishes written also in the local dialect. In an interview a local heritage expert working at Võru Institute brings out that the *Uma Mekk* brand criteria are challenging for several food producers or caterers who have difficulties demonstrating the connection of their products with the local heritage and cultural context. In these cases, she or her colleagues have consulted entrepreneurs, helped show the historical-cultural link, and described the product in the local dialect (Interview, July 14th, 2017). The names and descriptions in the Võro language especially make regional products or dishes stand out for domestic consumers, as compared to other food items.

Uma Mekk is not just a brand but also a food network as it involves multiple actors in the food and hospitality sector and aims to facilitate joint marketing and cooperation between entrepreneurs. The first coordinator of *Uma Mekk* network stressed: »We promote local food – it helps to sustain rural life.« But she also admitted that the development of local food networks and cooperation between producers takes time because cooperation should be built on trust (Allas 2012). Several years later another coordinator acknowledged that entrepreneurs' cooperation still needs to be supported and strengthened, and the added value of the brand requires producers' or caterers' own effort to make it more visible and known. Furthermore, she saw multiple possibilities for cooperative marketing, such as joint participation at food fairs, using each other's products (e.g., collaboration between restaurants and producers), or launching packages of multiple *Uma Mekk* products (e.g., gift baskets) (Frosch 2019). Although the goal of developing *Uma Mekk* food network has been to establish a legal body (such as producers' cooperative) responsible for the further management of the brand, this has not happened in 10 years and the network still relies on the developmental organisation and a coordinator.

4.3 Applying for the EU PGI label for a traditional regional cheese *sõir*

Currently, there are only two PGI products registered in Estonia. The European Commission approved Estonian Vodka as a PGI in 2019. The second PGI product and the first agri-food product that was recognised as a PGI in 2021 was a traditional curd cheese *sõir*. In the case of Estonian Vodka, the production is limited to three producers who are eligible to use the name as they use ethyl alcohol made from locally grown ingredients and water from Estonia (https://estonian-vodka.ee/en/). Thus, the geographical indication involves all the national territory, whereas in the case of *sõir* the production area in the product

specification is limited to two cultural-historical regions in south-eastern Estonia – Vana-Võrumaa and Setumaa.

The name *sõir* refers to a traditional unripened cooked curdled milk cheese. It is made with butter and eggs, using caraway seeds for flavouring. According to the PGI specification, traditional production does not use rennet, industrial starter cultures, food additives, aromas, or colouring (Publication of an application for registration of a name pursuant to Article 50(2)(a) of Regulation (EU) No 1151/2012 of the European Parliament and of the Council on quality schemes for agricultural products and foodstuffs, 2021/C 46/08). Similar cheeses exist in Latvia and Lithuania, where they are strongly related to ethnic and national cuisines, although in all the Baltic countries the recipes of curd cheeses vary slightly by region and even between households (Blumberg and Micyte 2016). The word *sõir* originates from the south-eastern Estonian dialect. Historically, *sõir* has been prepared in households and this custom is still alive in some families. Except for a short period in the 1960s (in Soviet Estonia), *sõir* has not been produced industrially. As a commercial product *sõir* was re-introduced to the local market about ten years ago. Today *sõir* is produced mainly by micro-producers who are not represented by any producers' organisations. Overall, there were seven entrepreneurs behind the PGI application that was initiated by one of them in 2017 and ended with the registration in 2021. The Ministry of Rural Affairs provided minimum support in the process of application, all necessary documents were compiled by a food technologist and a regional cultural heritage expert from Võro Institute; as food heritage experts, we also participated in the writing and editing process of the application.

Sõir made by three producers can be purchased at farmers' markets and fairs, in some local shops, and in a small number of supermarket chains all over Estonia; other entrepreneurs sell their *sõir* only at local fairs, tourism facilities, and cafeterias. Hence, currently *sõir* is a product made for the local market, not for export. Why would small-scale producers of a niche product be interested in going for the EU geographical indication that involves a complex application procedure if they are not planning to reach foreign

Figure 3: *Sõir* produced by Metsavenna Farm. On the package, three food quality signs are used: EU Organic Label, EU PGI label, and regional label Uma Mekk.

markets soon? One of the main initiators behind the application, Mr. Tiit Niilo, owner of Nopri Dairy Farm, stated in an interview: »All kinds of cheese-like products with caraway seeds are sold in Estonia, using the name *sõir* on their label. It is not correct in many senses – the consumer is not getting what they are looking for, and for those making genuine *sõir* it is an unfair competition« (Rahman 2018). Thus, getting the PGI label for *sõir* was not aimed at becoming more competitive on the EU market but mainly on the domestic market. However, at the meetings in which product specification was discussed, some producers of the stakeholder group expressed different understandings about what authentic *sõir* is, and some did not consider others' products genuine or questioned their recipe or methods of production. Ideas about domestic production and family traditions conflicted with the standardisation and production methods needed in the commercial production. The final technological description of *sõir* in the specification document was a result of amendments and compromises.

The application for the PGI for *sõir* can be characterised as an attempt to re-regionalise a food product, emphasising that *sõir* is a regional not a national speciality. Previously *sõir* was acknowledged as part of Estonian national culinary heritage. Since the mid-20th century it has been made and consumed everywhere in the country (mainly for non-commercial purposes) and has been included as a national dish in several cookbooks of Estonian cuisine. The PGI application aimed at reconnecting *sõir* as a commercial product with particular regions in Estonia, thereby reminding about its importance as regional cultural heritage. According to the EU legislation, a PGI designates a product produced in a defined geographical area, and it must have a particular reputation related to its geographical origin. The geographical origin of *sõir* from two cultural-historical regions was emphasised from the beginning but it created several frictions during the application process. The first version of the PGI application aimed to protect the name »*Vana-Võromaa and Setomaa sõir*«, thereby including geography in the name of the product. After the application was submitted in 2018, an EU official responded that such a name cannot be registered because it is not used in commerce or everyday communication. On the national market, mainly the general term *sõir* is used. Thus, although the producers and compilers of the application thought that using place names in the name of the product would create a clear link between the geographical origin and the product (cf. *Coppa di Parma, Emmental de Savoie*), this did not fit with the EU PGI requirements. Therefore, the name *sõir* could be registered as a PGI. However, in the specification the geographical territory where *sõir* can be produced is limited to the two regions only. Other Estonian producers cannot use *sõir* for similar cheeses but must choose an alternative name.

To understand producers' motives for seeking EU protection to their traditional regional product, the context of the existing food quality and cultural heritage protection instruments in Estonia should be considered (cf. Ledinek Lozej 2021). The brand *Uma Mekk* was already given to several dairy producers making *sõir*. Additionally, the *sõir*-making tradition in the cultural-historical region Old Võrumaa has been described in the Estonian Inventory of Intangible Cultural Heritage since 2010 (https://rahvakultuur.ee/2020/03/24/soira-tegemine-vana-voromaal/). Yet, according to the producers who initiated the PGI application, the existing food quality and heritage policies in Estonia did not provide the kind of protection and benefits for *sõir* as a traditional regional product. Thus, the PGI was seen to work as a stronger instrument for protecting this traditional cheese as intellectual property.

5 Discussion

National development documents in Estonia state the need for promoting regional food cultures; yet, this has mainly been realised in marketing activities such as the nomination of the Food Region of the Year. Similarly, Sweden has supported the development of food regions within the national *Matlandet Sverige* (Eng. Foodland Sweden) programme demonstrating the importance of regional networks for promoting local products (Skåne region) and using local food in the hospitality sector (Jämtland region) (Halkier, James and Stræte 2017). Although the Estonian Ministry of Rural Affairs announces the nomination, regional developmental organisations are responsible for managing food region events. A study of Sisask (2021) claims that being nominated as a food region in Estonia has improved the region's image, facilitated cooperation between entrepreneurs in the area, increased the use of local raw produce, and brought to the fore small- and micro-scale producers. However, our previous research demonstrated that if promoting a food region is based on project-based funding, it may not be sustainable in the long term (Kannike et al. 2021).

The Estonian state does not provide food quality or food heritage instruments that would enable protecting or promoting regional food products. In contrast, in the Czech Republic two national schemes exist for labelling regional products: the Regional Food scheme awards the best regional food products, aiming to promote these for domestic consumers, supports their marketing, and provides a label *Regionální Potravina* (Eng. Regional Food); and the Regional Brand scheme managed by the Association of Regional Brands, which selects individual products of regional origin and with particular qualities from different regions all over the country (Bošková and Ratinger 2018; Fialová and Chromý 2022). In Estonia regional food brands are issued by some LEADER LAGs and like in Slovakia, they were established quite recently with the support of EU rural development funding (cf. Štensová 2013). *Uma Mekk* in south-eastern Estonia has become a successful brand for Võrumaa region and has made products from the area visible on the local market. However, the meaning of the brand is understandable for domestic but not for foreign consumers and not all producers consider it as a value-adding instrument (cf. Dare, Jönsson and Knutsson 2013). A recent study publisehd by Ruszkai, Pajtók Tari and Patkós (2021, 3 & 15) points out that LEADER LAGs have the potential *to* »develop a labelling scheme to protect real local products from cheap imitations (…) and guarantee the geographic origin of the product«. However, the authors admit that regional labelling schemes require a complex management of short food supply chains, which might be the reason why their occurrence at LAGs is rare and successful well-functioning labelling systems rather belong to higher regional or national levels (Ruszkai, Pajtók Tari and Patkós 2021). This observation relates to our concerns about the sustainability of *Uma Mekk* brand and food network as currently it remains unclear how the cooperation in the food network and promotional activities would continue in the future without external funding and a supporting organisation. For instance, the Skärgårdssmak (Eng. Archipelago Taste) in Sweden and Finland was a successful example of regional branding and regional development, which was created by a project funded by the EU Interreg programme, whereas after the project had ended, the brand management was turned into a commercial limited company and today its promotion is not as lively as it was during the project period (Larsen and Österlund-Pötzsch 2015).

Estonia stands out even among other Eastern European countries with a very limited number of registered EU food quality labels. This may be a result of the lack of national place-based labelling that prioritises regional or traditional production as this is considered a prerequisite for smoother application for the EU GIs (cf. Parrott, Wilson and Murdoch 2002; Velčovská and Del Chiappa 2015). The Estonian Ministry of Rural Affairs has not taken a proactive position in supporting or consulting entrepreneurs in applying for EU food quality labels. In Latvia, by contrast, the Ministry of Agriculture officials have actively coordinated the application process, seeing these labels as nation branding tools in the EU although the number of GIs is likewise low (2 PGIs and 1 PDO among agricultural products and foodstuffs) (Bardone and Spalvēna 2019). Unlike in the case of mountain cheeses in Slovenia, which are niche products not made for export but registered as PDOs or PGIs as examples of Europeanisation of local traditional foods as well the creation of national property (Ledinek Lozej 2021), registering *sõir* as a PGI aimed to re-regionalise a food product previously considered a national cultural property and to create a regional cultural property instead, using the EU food quality schema as an instrument (cf. Kneafsey 2010; May et al. 2017). However, it is questionable how useful it is for small-scale and micro-producers to seek for European protection if a product is made for the local market, often purchased through direct sales, and familiar only to local customers who know the origin and the taste of such foods (Bérard and Marchenay 2008; Normann Eriksen and Sundbo 2016; Chalupová et al. 2020). In the Estonian context, the registration of *sõir* as a PGI revealed the need of some producers to protect traditional regional specialities in a way that national quality schemes or regional labels, such as *Uma Mekk*, do not provide. Although the custom of *sõir*-making in Võrumaa region is enlisted in the Estonian Inventory of ICH, producers did not see it as a value-adding instrument for commercial products (cf. Ledinek Lozej 2021).

A further research perspective emerging from our study concerns measurable long-term economic benefits of regional food brands – whether developed by LEADER LAGs or within the EU quality schemes – for producers.

6 Conclusion

The study revealed heterogeneous and inconsistent state policies and initiatives related to the marketing and labelling of regional products in Estonia. The LEADER-funded LAGs play a key role in developing regional food networks and establishing food quality labels. One of the brands managed by a LAG and

based on a local food network involving multiple actors in the food and tourism sector is *Uma Mekk* in Võrumaa region in south-eastern Estonia. The regional brand places greater emphasis on the use and origin of local raw materials rather than historical food traditions in the region. Also included in the study was an insight into a regional speciality, a traditional cheese *sõir* from south-eastern Estonia, which demonstrated how producers could add value to their products using the EU food quality instrument. In the latter case, the PGI application was an attempt to re-regionalise a traditional food that originated in a cultural-historical region by using the EU quality schemes.

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FROM BRANDING TO SOLIDARITY: THE COVID-19 IMPACT ON MARKETING STRACHÍTUNT CHEESE FROM VAL TALEGGIO, ITALY

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Curdling milk for *Strachítunt* production.

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From branding to solidarity: The COVID-19 impact on marketing *Strachítunt* cheese from Val Taleggio, Italy

ABSTRACT: Branding, labelling and certification are the principal instruments for marketing heritage cheese in the Italian Alps. However, the COVID-19 pandemic has put considerable strain on these tools. In Val Taleggio, where the Protected Designation of Origin cheese *Strachítunt* is made, the cooperative of producers suffered a breakdown in access to markets during the lockdown of March–May 2020. Their strategy was to appeal directly to consumers, connecting digitally with solidarity economy networks such as *Gruppi di Acquisto Solidale* (Solidarity Purchase Groups). Building on long-term ethnography, the article shows how this appeal brought to the surface a shared discourse and understanding of proximity and solidarity, which is not usually employed in the language of certification and labelling.

KEY WORDS: cheese, geographical indications, solidarity economy networks, heritage, Northern Italy

Od blagovne znamke do solidarnosti: vpliv COVID-19 na trženje sira *Strachítunt* iz Val Taleggia v Italiji

POVZETEK: Znamčenje, označevanje in certificiranje so glavni instrumenti za trženje tradicionalno proizvedenega sira v italijanskih Alpah. Pandemija COVID-19 je močno vplivala na ta orodja. V Val Taleggiu, kjer izdelujejo sir *Strachítunt* z zaščiteno označbo porekla, je zadruga proizvajalcev med zaprtjem od marca do maja 2020 utrpela prekinitev dostopa do trgov. Njihova strategija je bila neposredno nagovoriti potrošnike in se digitalno povezati z omrežji solidarnostnega gospodarstva kot je *Gruppi di Acquisto Solidale* (Solidarnostne nakupovalne skupine). Članek na temelju dolgoročne etnografije pokaže, kako je ta poziv spodbudil razpravo o razumevanju bližine in solidarnosti, ki v jeziku certificiranja in označevanja nista običajna.

KLJUČNE BESEDE: sir, geografske označbe, mreže solidarnostnega gospodarstva, dediščina, severna Italija

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1 Introduction: Branding for food (re)localization

The article rethinks the links between brands, labels, certification on the one hand, and territorial development and heritage-making in agricultural production on the other. It has been sufficiently demonstrated in international and interdisciplinary literature, that geographical indications do not reflect pre-existing differences, but instead establish and reify them (Coombe, Ives and Huizinga 2014; May et al 2017; Ledinek Lozej 2021). However, for the cheese-making industry of the alpine region, cheese continues to be »the chosen pivot of broader epistemologies that are acted on the ground, mediating personal, local and scalar levels of agency« (Grasseni 2017, 4). In other words, cheese is »one of the essential agricultural products, not only in the daily diet but, above all, also a highly valued (artisanal or industrial) market product« (Ledinek Lozej 2021, 143).

There is a globally observed movement »from local food to localized food«: Holt and Amilien (2007) outlined the co-constitutive relationship between local food products and systems and processes of localization, explaining how the latter exists in reaction to the race to the bottom and the standardization of the global food system, aiming instead towards a »value-based, territorially embedded agrifood system« (Bowen and De Master 2011, 75). As Guthman (2007, 456) explains »it is the retention of value that eases tendencies of intensification and exploitation and thus mitigates neoliberalism's race to the bottom«. However, for precisely that reason, labeled, certified, or simply locally sourced heritage foods are not as accessible – in terms of price – to the average consumer, and some critics, including Guthman (2007) go as far as considering voluntary food labels as forms of neoliberal governance or as a museification of food cultures – what Barham (2003, 132) has termed »turning rural areas into living museums for privileged urban visitors«.

Building on such critique to the »French *terroir* strategy«, anthropologists Heath and Meneley Heath (2007, 593) underline how food and drink are »localized instances of large-scale spatial and temporal processes and as cultural-material markers of power/knowledge« and conclude that »claims to distinction based on tradition or terroir are also imbricated in global industrial production and distribution«. Considering in particular the controversy around *foie-gras*, they notice how »the invocation of place by foie gras farmers and vendors also links landed aristocracy and their vintage wine, aged port, or artisanal cheeses to what the French refer to as the *terroir*« (Heath and Meneley 2007, 596). Cultural anthropologists focus in particular on the perspectives of the social actors involved in the economic chain. As Cavanaugh and Shankar (2014, 51) have investigated, »linguistic and material work« on the part of producers is needed to »create authentic goods against those who question and contest their efforts«.

This article investigates how the effort of branding can be fluid and dynamic, adaptable to important parameters such as logistics and accessibility of the food market for the consumers. These were suddenly transformed during the COVID-19 pandemic. In particular, it will be argued how the discourse and appeal of local mountain cheese has significantly shifted from one of singularity (Siniscalchi 2009) to one of proximity (Grasseni 2014) during the COVID-19 crisis. It will be shown how a moral discourse of belonging transpires from the communication strategies undertaken by the Val Taleggio heritage cheese makers under the emergency circumstances of the pandemic in March–May 2020. The goal of this cultural analysis is to evaluate the impact of this discourse on heritage-making practices and processes, including the potential for including more actors in local economic networks.

2 Research area and methodology: The *Strachítunt* PDO case study

The article's case study comes from the heritage cheese industry of the mountains in the Italian province of Bergamo, specifically Val Taleggio, which is home to two Protected Designation of Origin (PDO) cheeses: *Taleggio* and *Strachítunt*. *Strachítunt* PDO is exclusively made in the area comprising the municipalities of Vedeseta (20 km^2), Taleggio (46.6 km^2), Blello (2.2 km^2) and Gerosa (10 km^2) for a total production area according to the municipalities' official data of less than 80 sq. km. Since February 2014, the municipality of Gerosa has been merged with the larger municipality of Brembilla, thus creating the municipality of Val Brembilla. This administrative merger has not changed the original protocol and area of production (https://www.strachitunt.it).

The production area of *Taleggio* PDO overlaps partly with that of *Strachítunt* cheese, as both originate from Val Taleggio. In fact the production technique of Taleggio, which earned its name from the valley, achieved the distinction of a DOC (it. Denominazione di Origine Controllata, eng. Controlled Denomination of Origin) in 1954, and was then equated to the European PDO denomination in 1994 (Ministero delle Risorse Agricole, Alimentari e Forestali 1994). However, its vast area of protected denomination covers most of the Northern Italian plains - specifically in Lombardy (Bergamo, Brescia, Como, Cremona, Lecco, Lodi, Milano, Monza & Brianza, Pavia), Piedmont (Novara, Verbano-Cusio-Ossola) and in the region Veneto (Treviso) (https://www.taleggio.it/).

A *Strachítunt* consortium of dairy-farmers and cheese-refiners aiming to establish a PDO in Val Taleggio began collaborating in October 2002, initially under the auspices of Slow Food (Grasseni 2017, 122–128; Strachitunt … 2022). The goal was to claim a Protected Denomination of Origin that would have only Val Taleggio as area of production for Strachítunt, because the producers felt that a broader production area would only favour the interests of lowland industrial producers and not the livelihoods of small and medium enterprises in the mountains (Grasseni 2017). A simple comparison between areas of production of Taleggio and Strachítunt show how minuscule Taleggio cheese's homonymous valley is, vis-à-vis the vast area where Taleggio PDO can be produced (Figure 1).

It took the *Strachítunt* consortium more than eleven years to obtain the PDO, mostly due to legal appeals from other producers in the neighbouring lowlands, who claimed that they too historically mastered the *Strachítunt* craft, because its recipe had been circulating among transhumant cheesemakers for generations (Grasseni 2017). Despite these hurdles, *Strachítunt* was eventually registered as a PDO cheese in March 2014 with EU regulation (CE) n. 244/2014. It was further modified in March 2021 (Regione Lombardia 2021). The production protocols (disciplinari di produzione) of Italian PDO cheeses can be consulted on the web site of the The Ministry of Agricultural, Food and Forestry Policies (it. *Ministero delle politiche agricole alimentari e forestali*).

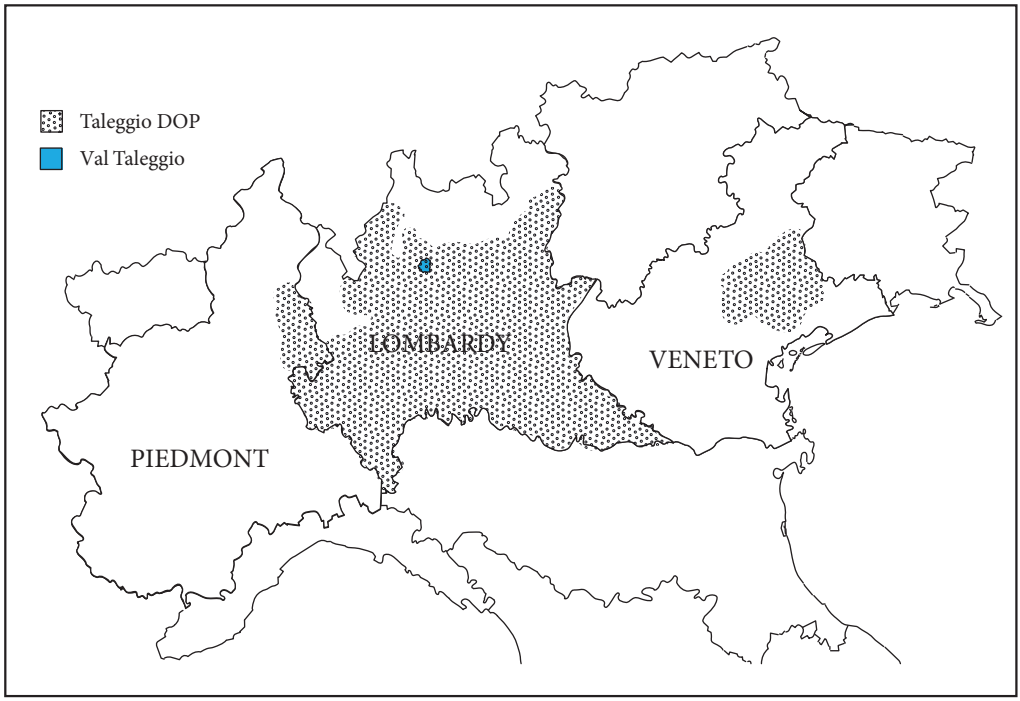

Figure 1: Comparison of the production area of *Taleggio* PDO and of Val Taleggio (De Musso n.d., https://www.geoportale.regione.lombardia.it).

To make *Strachítunt*, the producers' cooperative *Sant'Antonio di Vedeseta* gathers and transforms milk exclusively from active dairy farms in Val Taleggio and Gerosa. Beyond being a member of the production consortium for *Strachítunt*, the producers' cooperative of Val Taleggio gathers and transforms the milk of the last five remaining dairy farms in Val Taleggio, plus three new farms in Gerosa, and enrolls the cheese-maturing firms of Val Taleggio as associates too. The cooperative specializes in producing a raw-milk PDO Taleggio, matured by the valley's cheese refiner CasArrigoni for at least two months, conforming to the PDO protocol of production for Taleggio cheese. The fresher variant of the same cheese, called *Stracchino di Vedeseta*, is also produced with raw milk in the same cooperative and matured for a minimum of 35 days (thus not a PDO production).

This case study builds on a long-term ethnography of heritage cheese-making in the Bergamo province (Grasseni 2009; 2017). Empirical data over the short period of time covered for this study includes participant observation in the organization and follow up of a two-day conference in collaboration with the *Strachítunt* consortium in February 2020, to which the author participated as convenor and round-table moderator. Remote (digital) ethnography in social networks (Facebook groups, WhatsApp groups, email lists) was conducted during the 2020 lockdown (March–May 2020). Formal (audio and video recorded) and informal interviews were conducted in person in Val Taleggio and Bergamo in February 2020, then the summer of 2020, 2021 and spring of 2022 (with twenty people, among which the president of the producers cooperative Sant'Antonio of Vedeseta, managers and employees of the two main cheese refiners in Val Taleggio, the cheesemaker of the valley's dairy cooperative, representatives of the Solidarity Purchase Groups network who organized collective bulk-buying from the cooperative during the COVID-19 emergency, including the organizer of the initiative Market and Citizenship, local historians, cattle breeders, representatives of environmental associations and short food chains, faith and justice groups, the president of the *Strachítunt* consortium, the organizer and ideator of the *Strachítunt* conference, scholars of solidarity economies and of environmental sciences). These conversations were complemented by participant observation during public events such as film-screenings, cheese-tasting events, and guided tours of the cheese-making and cheese-refining facilities. Empirical data is complemented by analysis of documentary sources such as regional and EU regulations published online and in legal bulletins, product specifications such as production protocols (it. *disciplinari di produzione*) which are reported online by the relevant production consortia, by the Ministry of Agricultural, Food and Forestry Policies (MIPAAF), by the European Commission EU Geographical Indications Register eAmbrosia, or in the Region Lombardy bulletin (it. *Bollettino Ufficiale*). Secondary sources such as press releases, (digital) newspaper articles and professional magazines also integrated empirical and primary sources. When statements are not sourced, the relevant information has been obtained in personal conversations and ethnographic observation (author's field notes).

3 Results of ethnographic observation

This section offers results of ethnographic observation during two phases: firstly, the *Strachítunt* conference in February 2020 reflected critically on the added value of protected designations for the preservation of territorial economies in mountain valleys such as Val Taleggio. This critical reflection is contextualized within a broader picture of networks and alliances among private entrepreneurs and public institutions, which the local press recorded and commented on. Secondly, digital ethnography and follow-up interviews are employed to record the marketing discourse that the Val Taleggio producers employed to by-pass the March–May 2020 COVID-19 lockdown.

3.1 Conference and networks

The conference »*Strachítunt*: From family value to resource for the territory« (it. *Strachítunt: Da valore per la famiglia a risorsa per il territorio*), held over three days on 21st, 22nd and 23rd February, 2020 staged a significant debate about whether the system of labelling and certification that characterizes production consortia is sufficient to promote territorial economies – particularly in Val Taleggio.

The presentations and conference were located in Val Brembilla, while it was accompanied by several laboratories and guided visits in Val Taleggio, including to the dairy cooperative and to the main cheese refiners of the valley. The conference was also an occasion to showcase the dairy cooperative to the broader public

(the curdling session was also recorded and broadcast on local television while it was being presented and explained to the conference visitors). Additionally, the cooperative shop opened for the conference and the valley's cattle breeders opened their cowsheds to the registered audience (Figures 2–5).

Among the invitees, representatives of the association Market and Citizenship explained the importance of »informal networks of production and consumption«, »practices of active citizenship and social economy, community supported agriculture, short food chains and local food policy«. These are often disconnected topics from the discourse and practice of marketing heritage cheese. They are often overlooked in the glossy brochures and Made in Italy stands which celebrate instead local identities and excellence of culinary production. This intervention instead proposed a privileged relationship between small scale producers and solidarity economy networks, particularly Italy's solidarity purchase groups (*Gruppi di Acquisto Solidale*, GAS). However, during the conference, one could not notice too much synergy between the representatives of the entrepreneurial world of PDO consortia and producers' association on the one hand, and the representatives of critical consumers with their requests to activate direct and short food chains with solidarity economy networks. One of the reasons given in a round table was that, even for a medium-sized consortium, to pay one person to staff a stand at a farmers' market for an entire day, is not an attractive investment because of the likely lack of returns (especially if one considers the transport costs, the expected intensive communication and personal engagement, and the loss of value of the merchandise displayed vis-à-vis the small quantities than usually get sold in these venues).

One of the take-away message provided by the representative of Assolatte (it. *Associazione Italiana Lattiero-Casearia*), the industrial association of dairies (milk and cheese producers) was that consortia for geographic indications continue to play a key role for the Italian economy. Among the figures mentioned are the one indicated on the home page of the associations' official website (https://www.assolatte.it) with 16,2 billion euro turnover and over 100,000 jobs, the dairy sector is of paramount importance in Italy and abroad, exporting 40% of production for a value of almost 3 billion euro. A number of public institutions and professional associations dynamically participate in networks and alliances around the trade of cow-breeding and cheese-making, for example local administrations such as municipal councils and mayors,

Figure 2: A cameraman records the curdling of the milk for *Strachítunt* production, *Strachítunt* wheels are in the foreground.

Figure 3: Cooperative shop displaying the Strachítunt conference program on the door.

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Figure 4: Cooperative shop selling several cheese made at the cooperatives including Strachítunt.

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Figure 5: Brow cows at the stable of a dairy conferring milk to the valley's cooperative.

breeders' associations such as APA (it. *Associazione Promozione Allevamento*, eng. Association for the Promotion of Breeding), farmers' unions such as Coldiretti and their agricultural extension services, chambers of commerce and tourist boards. The most important events or funded projects profile prominently in the local press as well as in websites, flyers, and videos. For example the yearly festival *Forme* hosts public exhibitions and professional workshops, and hosted the World Cheese Award in October 2019.

In the province of Bergamo alone, one finds nine out of Italy's fifty PDO cheese consortia, including that for *Strachítunt*, and four Slow Food presidia. They are listed in Italian and English under the institutional website of Bergamo as UNESCO Creative City (https://www.bergamocittacreativa.it/). This recent recognition of Bergamo as Creative City for gastronomy, on a par with Alba and Parma, was sought and obtained in 2019 within the international framework of UNESCO (https://en.unesco.org). UNESCO's Creative Cities is a networking program aimed to support designated cities to develop existing economies based on their traditional strengths, gastronomy in this case. In Italy there are another nine »creative cities« namely Bologna and Pesaro for music, Fabriano, Carrara, and Biella for crafts, Rome for cinema, Turin for design, Milan for literature. In the case of Bergamo, its »Cheese Valleys« were profiled as a keystone for UNESCO recognition, building on the existing alliance among local production consortia of seven cheeses made in the Bergamasque mountains called »Princes of the Orobie [mountains]« (https://www.bergamocittacreativa.it/). The relevant Memorandum of Agreement (it. *Protocollo d'intesa*) counts 34 partners among municipal and province administrations, boards of conservation parks, Local Action Groups of EU development projects, the Alpine Corps Association and offices for tourist promotion.

3.2 Online marketing strategies during the COVID-19 lockdown

Between the end of February and the beginning of March 2020, Lombardy and specifically Bergamo became a global hotspot of the COVID-19 pandemic. A very strict national lockdown was enforced as per March 8th, 2020. Travelling and leaving one's home were forbidden. Practically every movement on foot or by transportation, public or private, was forbidden expect for health emergencies, the carrying out of jobs of national interest, and shopping for necessities in the closest outlet or convenience store. This impeded or discouraged the logistics of distribution and consumption for many small scale producers such as those of Val Taleggio.

On April 16th, 2020, the dairy cooperative launched a Facebook appeal for online orders. It read (translated in English): »Do you fancy some cheese? All of our products directly at your home, via refrigerated courier. Our home delivery service in all of Bergamo and province is already active on Thursdays, and soon we will launch our e-commerce website to deliver our cheese anywhere in Italy! Write or call to find out how to place your orders! Let's stay at home without missing out on good things!« (Cooperativa Agricola Sant'Antonio, Facebook post April 16th, 2020). The message was accompanied by emoticons as it would be in a WhatsApp conversation among friends, and linked up to Twitter campaigns about »staying at home«, »taleggio«, »Val Taleggio«, »staying united while apart« and »let's cheese«. There was such an overwhelming (online) response that two days after, the same Facebook page asked customers to only make orders by phone because there was too much correspondence to look after. After a week, the dairy coop benefited indeed from an e-shop portal, orchestrated through the efforts of the main valley's cheese refining entrepreneur.

The campaign continued also throughout April thanks to the local (digital) press, which reiterated how due to COVID-19 restrictions, local producers from the Bergamasque mountains risked throwing away their produce (Invernizzi 2020). The network of Solidarity Purchase Groups of the province of Bergamo RETEGAS intervened at this point, also thanks to personal contacts made at the February conference. Through informal chains of word-of-mouth and email lists, they activated the solidarity of individuals and networks within and beyond the province of Bergamo, being prepared to buy heritage cheese such as *Strachítunt* and other types of cheese produced by the cooperative of Val Taleggio, despite a conjuncture that was making it difficult for these commodities to make it to the market (and thus would warrant a lower price). The cooperative's thanks appeared on June 4th, 2020 on the Facebook page of RETEGAS, acknowledging having received orders from Lombardy, Veneto, Emilia Romagna, Rome and Neaples (Rete Gas Bergamo, Facebook post on June 4th, 2020).

4 Discussion

The ethnographic anecdotes gathered at the *Strachítunt* conference, the opinions confirmed by stakeholders with in-person conversations, and the analysis of digital discourse in the local press and Facebook reflect important changes in the marketing and communication style of the Val Taleggio producers. These emerged during the COVID-19 emergency, but have been anticipated by forward-looking networking strategies. The notion and semantic implications of heritage cheese have shifted from one stressing the importance of certification and labelling to one implying the primacy of solidarity and »proximity« (Grasseni 2014). Local farmers and entrepreneurs are portrayed as in need of help, thus the premium price asked for heritage cheese is now solidarity-driven, rather than based on their »singularity« as commodities (Siniscalchi 2009).

The vocabulary and register chosen by the producers' cooperative for their online appeal were informal and non-elitist, thus broadening and simplifying the language of its distribution and not even mentioning consortia and geographic indications. As part of this broadening of its audience, the cooperative of producers underlined that they produce *not only* PDO cheese such as *Strachítunt* and *Taleggio*, but a very broad range of dairy products which »support breeders, cheesemakers and cheese refiners« since the eighties (Bassi 2020). The word and notion of solidarity featured prominently in this campaign: »it was the collaboration and great solidarity of the people of Bergamo and Lombardy to support decisively the producers of this territory throughout that terrible period of March and April 2020«, commented the president of the valley's cooperative. »This emergency taught us once again what teamwork means, especially for a small and fragile sector like ours« (Bassi 2020).

The February 2020 *Strachítunt* conference was a springboard to reflect on how to expand and nurture alliances and networks beyond production consortia, for example involving societal stakeholders in the name of sustainability, locality, and food sovereignty – as advocated by the representative of the association Market and Citizenship at the conference. For example, by profiling its »cheese valleys« to join the UNESCO Creative Cities network, Bergamo underlines its dairy tradition – notably not only that of the mountains, but also the more industrialized and well-connected dairying lowlands. So-called intangible cultural heritage is thus politically tangible, connecting knowledge economies with value-creation according to the semantics of (culinary) appreciation.

As mentioned, Val Brembilla includes one of the production localities of *Strachítunt*, Gerosa, which has merged into the municipality of Val Brembilla. While the production protocol of *Strachitunt* has not changed, this has implications in terms of new potential alliances for Val Taleggio and its cheese-making economy to the neighbouring, more populous, better connected and economically significant Val Brembilla. In fact, while the municipalities of Val Taleggio (Taleggio and Vedeseta) count 296 and 193 residents respectively, plus the minuscule municipality of Blello (73 residents), the population of Val Brembilla counts 4249 residents (of which 360 in the former municipality of Gerosa, according to municipalities' official demographic data updated to May 2020. The conference organizers wanted to offer a well-orchestrated show of force of all the socio-economic actors involved directly or indirectly in the consortium's strategies in Val Taleggio, namely the dairy cooperative, individual dairy farming families, the cheese refiners of the valley, but also the municipalities of Val Taleggio and its neighbouring Val Brembilla, and their communities at large.

Grasseni (2017) argued that making heritage cheese is a dynamic process of meaning-making, in which heritage synergizes with other concepts (such as *tipicità*) to function as a marker of distinction. In the case of the new marketing style triggered by the COVID-19 pandemic, the language of proximity, combined with underlining the small scale of local operations, served the purpose not of guarding and certifying production boundaries, but to act directly in solidarity with producers. This adds to recent scholarship about »local food systems« (LFS), by underlining how the perceived *meaning* of LFS is of paramount importance in solidarity economies, and not only their perceived advantages *per se* (such as heathyness, higher value, social and financial support to farmers and local economies, community building, sustainability; Enthoven and Van den Broeck 2021).

The development of a register of communication based on solidarity in the online promotion of Val Taleggio's cheeses during COVID-19 points toward the significance of proximity, not only in geographical terms, but also in relational terms, in consumers' appreciation. This adds to existing qualitative and quantitative analysis of consumers' perception of the preferability of local food systems, which tend to focus more on their objective characteristics such as healthiness, affordability, traceability etc. (Merlino et al. 2022, 9). A recent comparative survey conducted across 13 countries (Nemes et al. 2021, 593) found that the impact

of COVID-19 on alternative and local food systems (ALFS) meant an increase in »innovations and adaptations« that enabled them »to extend their scope and engage new actors«, thus in effect »upscaling«. While the urgency of relocalizing (at least some of) the supply chain became evident in times of lockdown because of the stalling global production, »bottom-up participatory initiatives and the everyday practices of 'ordinary' citizens and social entrepreneurs« became more appreciated, argue the authors (Nemes et al. 2021, 592). This argument comes mainly from a point of view which compounds small-scale and local food producers with social and alternative entrepreneurship, which is misleading because the two do not necessarily share the same interests and needs, as it emerged during the mentioned debates during the *Strachítunt* conference. Secondly, if ALFS benefitted, supermarket chains with authorized entry and delivery schemes, and multinational online providers such as Amazon reaped the most benefits through increased digital and captive trade. However, local food producers benefited from more attention in media and press (especially thanks to their connection with concerns about health, diet and safety), so that their very existence, skill and struggles found more space in mainstream discourse.

This is significant for the Italian food sales economy where 18% of farms use direct sales as their main sales channel for 90–100% of production (Nemes et al 2021, 593). In the case of the *Strachítunt* Facebook appeal, direct sales did no longer mean staffing stands at farmers' markets, but substituting the usual logistics chain of mid-size economic players such as Val Taleggio's cheese refiners. Moreover, direct sales were traditionally used with raw products, unprocessed harvest, or extremely small operations – not the kind of consortia which, albeit small in size, strategically weave networks in dynamic alliances with economic and political partners (such as *Strachítunt*, for example in association with the network [it.] *Principi delle Orobie*, or within UNESCO's network of Creative Cities, or during expensive and well publicized events such as *Forme*).

The local dairy industry has significantly invested on certifications and geographic designations, inculcating the distinction of mountain cheese in local discourse also with the help of celebrity chefs and food journalism (Bindi and Grasseni 2014). While the prices of singularity marketing favored discerning customers and niche markets, the new turn to the local has taken a democratizing flavor. Now heritage cheese producers in the Bergamo valleys seek not so much foodies, but rather solidarity buyers and networks of benign consumers, who are ready to accept hand-crafted, locally sourced foods at a price premium, but without the stringent, exclusive protocols that were key to define branded or certified heritage cheese. These developments contribute to qualify heritage cheese in flexible ways, calibrating economic, social and moral appeals within a broader discourse of solidarity, proximity and locality.

5 Conclusion

Ethnographic analysis based on long-term research of the local dairy industry combined with digital ethnography and follow-up analysis of the marketing practices of Val Taleggio cheese during the 2020 lockdown allows us to conclude that the *Strachítunt* conference of February 2020 marked a significant point in critical reflections on the added value of protected designations and laid some fundamental steps in networking more broadly for the preservation of territorial economies in mountain valleys such as Val Taleggio. This happened within a context of institutional and commercial alliances that had already been established, but benefitted from the enlargement to solidarity economy networks.

Branding, labelling and certification are traditional tools for the promotion of local products. Solidarity economy networks had not previously been interested in the marketing of typical products of the local territory. However, in this case both heritage cheese producers and critical consumers had to compromise and converge on the language and practice of salvage-economy, instead of dairy excellence.

This is relevant to debates of branding, labelling and certification as it relativizes the perceived meaning of food heritage. In times of urgency, the (re)localization of food movement revealed to react to issues of proximity and solidarity (and less to previously paramount issues such as culinary excellence and protected denomination). Hence, in their marketing and communication, local dairies are now redefining their practices within a broader discourse of solidarity and proximity.

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LABELLING LOCAL WOOD: ON THE VALORIZATION OF REGIONALITY AND SUSTAINABILITY IN TIMBER TRADE

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SARAH MAY

»Local« wood – an object of economic and ethical ambitions.

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Labelling local wood: On the valorization of regionality and sustainability in timber trade

ABSTRACT: In the face of climate change and a common call for environmental protection, regionality and sustainability turn out to be as symbolic as monetary values in economic contexts. In order to highlight and certificate these ethical ambitions, an international programme of forest certification has established a label that aims at distinguishing wood as logged and processed within a specific 'regional' area. The article scrutinizes the implementation of this label in the timber trades and deconstructs how the actors involved establish a link between ethical and economic concerns. By describing their everyday perspectives on the micro level, the article reveals shared aims (evoking credibility) and ideals (establishing sustainable action within regional markets) but also contradictions (efficiency and range). It shows that the label borrows from established designation procedures (such as Cultural Heritage, Geopark, Geographical Indications), and yet has its own logics linked to the properties of the material wood and spatial relations that constitute and confine the label's actors network.

KEY WORDS: declaration of origin, timber trade, sustainability, regionality, ethnography, material culture analysis, southern Germany

Označevanje lokalnega lesa: O vrednotenju regionalnosti in trajnosti v trgovanju z lesom

POVZETEK: V času podnebnih sprememb in pozivov k varstvu okolja imata regionalnost in trajnost v gospodarstvu tako simbolen kot tudi finančen pomen. Da bi izpostavili in certificirali etične prakse v trgovanju z lesom, je mednarodni program certificiranja gozdov razvil posebno označbo za les. Ta označuje, da je les posekan in predelan na določenem območju. Članek proučuje uvedbo in uporabo označbe v lesnopredelovalni dejavnosti in odkriva, katere etične in gospodarske pomisleke imajo akterji v tej dejavnosti. Na podlagi opisov vsakdanjih izkušenj posameznih akterjev sklepamo, da gre pri certificiranju lesa za skupne cilje (vzbujanje kredibilnosti), ideale (vzpostavitev trajnostnega delovanja na regionalnih trgih), pa tudi protislovja (učinkovitost in doseg). Označba lesa izvira iz uveljavljenih praks znamčenja, na primer kulturne dediščine, geoparkov in drugih geografskih označb, ima pa tudi svojo logiko. Označbe lesa izkazujejo lastnosti lesa in razmerja, ki sestavljajo in zamejujejo označbeno mrežo akterjev.

KLJUČNE BESEDE: označevanje porekla, trgovina z lesom, trajnost, regionalnost, etnografija, analiza snovne kulture, južna Nemčija

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1 Introduction: Aiming to understand the logics of labelling in timber trade from the actors' perspectives

»It counts if you have a label on your product saying 'wood from the Black Forest' as the name 'Black Forest' already says something. There are many regions that express more with their names because the names distinguish them and make them special.« – The man saying this to me in an interview in autumn 2021 runs a sawmill in the Black Forest, a region in southern Germany known for its hills and forests (Mr. E. 2021). With almost 50 employees, he is one of the medium-sized sawyers in Germany and yet he has acquired a reputation far beyond the region: he processes only high quality wood which he tags with the label »Local wood from Baden-Württemberg« (Ger. »*Heimisches Holz aus Baden-Württemberg*«). The label names the wood's origin in Baden-Württemberg, a federal state in the southwest of Germany and reinforces this spatial ascription with the adjective »heimisch«. There is no English word that translates this fully, »native«, »homely«, »local«, »domestic« or »indigenous« only name parts of the adjective's meaning: by declaring the wood as »heimisch« the label invokes associative and affective connotations that refer to a certain delimited (spatial, ethnic, familiar etc.) origin and correspondingly shared knowledge, experience and norms. »Heimisch« is as inclusive as exclusive – an attribute that is as attractive as it is repulsive. Its intentional use indicates a central appeal for ethnographically arguing cultural analysis, as well as the questions about its structural implementation and local realization.

The use of names of geographic spaces to label products provides both emotional and economic valorization: these labels refer to images of seemingly delimitable regions which are known beyond the region and thus make them valuable for various economic sectors such as regional specialties or tourism (Fonte and Papadopoulus 2010; May 2016; Welz 2016). The regional label »Heimisches Holz aus …« borrows from established designation procedures (such as Cultural Heritage, Geopark, Geographical Indications), and yet has its own logic. It was established by the German association of the internationally effective »Programme for the Endorsement of Forest Certification Schemes« (PEFC) within a bottom-up revision process and aims not only at the valorization of regionality but also at the valorization of sustainability in timber trade. With its claim to sustainable economic activity, the label references one of the central ethical values of the present. This is an interesting agenda for an ethnographic cultural analysis that this article discusses under the following question: how are economic and ethical values linked in the practices of labelling regionality and sustainability in the timber trade?

In the following, I will first map the results of my ethnographic research that I realize as a long-term study in the thematic area of 'Wood and Crafts'. Here, with concrete view on the labelling of regionality and sustainability, certain practices and interpretations within the multi-layered actors network become relevant. I condense them into four core practices which uncover the wide range of objectives, contradictions and conflicts that accompany the processes of labelling of wood. On this basis, I demonstrate in the discussion how the material's size and physical shape, how the valorization of 'region' and 'Heimat' as well as spatial logics shape the interpretation and (limited) use of the label. In this way, I deconstruct the conceptualization and creation of regionality, sustainability and trust in the timber trade.

Accordingly, neither my research nor this article seek to evaluate the effectiveness of PEFC or to compare it to its competitor, the Forest Stewardship Council (FSC), since the relevant scientific work was carried out by other authors and subjects (Paluš et al. 2018; Michal et al. 2019; Purwanto et al. 2019). In distinction and addition to this, I do not choose a quantifying research approach but take the emic perspective of the actors that establish and apply (or avoid) the PEFC regional label which has not yet been subject of any scientific work. It is likely that this gap is due to the fact that the label is neither long-established nor widely spread. However, this does not reduce its attraction for cultural analysis, which assumes that only in small constellations of everyday life can 'the whole' of culture be found and understood (Löfgren 1981).

In taking this approach, I locate my work within the interdisciplinary research field on certification and valuation (Helgesson and Muniesa 2013). I connect to cultural analyses of labelling practices, particularly prominent to the works on the distinction of cultural heritage (e.g. Kirshenblatt-Gimblett 1995; Bendix and Hafstein 2009; Tauschek 2013; Adell et al. 2015). The references become even more concrete with regard to the certification practices of culinary specialities through the EU system of geographical indications. In their analysis, scholars in cultural anthropology including myself have already demonstrated the added value of an actor-centered ethnographic analysis in an otherwise predominantly economic-legal discourse

(Tschofen 2007; Fonte and Papadopoulus 2010; May 2013, May 2016; Parasecoli 2016; Welz 2016; May et al. 2017).

And yet, my study of the PEFC regional label opens up new perspectives in this discourse. Central here is the role of the material object to be labeled: wood. As a renewable raw material that stores carbon dioxide, wood is an attractive material in contemporary culture (May 2018, 2021). This attraction causes my motivation to research the labelling of wood as »heimisch« right now. In 2021, an emotional debate about the demand, export, and scarcity of wood flared up in the timber sector, media and politics (May 2022). The question of how the timber trade is spatially and ethically (in sense of an anthropology of ethics; Faubion 2011; Laidlaw 2014) organized is at the beginning of my ethnographic research for this paper, in which I describe the complexity of timber trade on a micro level starting from the specific properties of the material and its PEFC regional label.

2 Methods: Realizing an ethnographically based analysis of material culture

In the analytical approach of cultural anthropology »culture« is understood as »the whole way of life« (Williams 1960, 91) and therewith as (Korff 1978; May 2020): the continuously produced result of social practices, meanings, and relations; the historically conditioned, value- and orientation-giving precondition of everyday life. In this sense, the purpose of a cultural analysis is to elaborate, how values and thoughts are organized and correlate with practices and social constellations (Löfgren 1981).

Methodologically, this means taking an emic perspective and describing actions, interpretations, relations and material formations from the actor's perspective in contexts of everyday life. Interviews, observations and media data serve as sources for ethnographic »thick descriptions« (Geertz 1973) of the micro level from which conclusions can be drawn about larger social constellations at the macro level.

In my research, this methodological approach is internalized. Since 2016, I have been conducting ethnographic research in the fields of 'Wood and Crafts'. In sense of contextual material culture research (Beck 1997; König 2012; May 2021) I place the wood into the focus of my work. Starting from concrete material phenomena, I conduct cultural analysis in the fields of politics and economics. As these fields are complex and multi-layered, the method of »studying through« (Wright and Reinhold 2011) proves to be suitable to understand practices and relationships of actors through all layers of their shared network as well as social power relations, economic logics, and long-term effects on ethical values (Adam and Vonderau 2014; Lowenhaupt Tsing 2015). With this aim, I »follow the material« (Marcus 1995) into concrete fields of work – like the network created by the PEFC regional label.

To date, this regional label is used by 38 companies, 37 of which are located in southern Germany (https://pefc.de). That dictates the geographical scope of my study: I have conducted six guided narrative interviews and field visits in forest administration, sawmills, wood industry and manufactory in southern Germany since 2017, mainly in 2021. The companies and actors are not randomly selected. Their selection follows the methodological logic of studying through. It is not the number of interviews but the functions of the actors in the network that make my conclusions plausible. The interviews last between 35 and 120, on average about 50 minutes. Due to the pandemic, I conducted two of the six interviews online and four on-site at the companies and workshops, which included longer stays and observations. Following this, I took notes and transcribed the interviews. I reviewed the data set several times, then coded and categorized it. Together with the background of about 40 narrative interviews and observations as well as a continuous media analysis from the last five years, this forms the basis for the following presentation of results and discussion, in which I trace the perspectives of the actors on their everyday work.

3 Results: On the practices of labelling locality and sustainability

In order to do full justice to the complexity of actions, interpretations, evaluations and relationships that I identified during the interviews and observations in the field, I will outline my study's results in four clusters of practices. By practices I mean, referring to the philosopher Theodore Schatzki (1996, 89), a »nexus of doings and sayings« within the timber trade.

I use the working description »timber trade« in a broader interpretation than the actors in my field, as I understand »trade« as a central cross-cutting dimension of the actors who produce, process, or deal with wood. This perspective should highlight the interactive relatedness within the local field which is connected by buying and selling wood (products) but not reduced to that. In doing so, »local« and »regional« cannot be consistently distinguished: I do not conceive of them as distinct physical quantities, but as frames of interaction and spaces of attribution. I use »local/ity« primarily as a reference for actions within the spatial network whereas »region/al/ity« to denote the label and its geographical orders.

I condense the results of my ethnography-based analyses of material culture into four aspects, which I link to four key actors, to highlight that labelling practices are much more complex than a simple awarding of qualifications. They appear as practices of negotiations and relations in a multi-layered network of actors, in which territorial implications, the material's size and physical shape, (lack of) knowledge and the actual socio-cultural claims for sustainable actions play a crucial role.

3.1 Creating need and narrative

PEFC is the acronym for Programme for the Endorsement of Forest Certification and the name of an international organization that claims to aim »at documenting and improving sustainable forestry with regard to economic, ecologic and social standards« (PEFC 2021, 1). PEFC is divided into 55 national organizations that report to the international PEFC Council, which in turn expects to revise national standards every five years (PEFC 2015).

In 2013, PEFC Germany initiated such a standard revision process to establish cooperation between stakeholders from forestry, timber trade, the paper industry, environmental associations, trade unions and academia (PEFC 2014). The revision took place over a period of one and a half years and combined working group meetings with conferences and online surveys. During this process, certification criteria were discussed and new ideas were launched – including: forest Christmas tree standards, criteria for certification of recreational forests and the implementation of a regional label, which at the time was called »Wood from the Region« (Langhans 2014, 31).

Seven years after this standard revision, I met the managing director of PEFC Germany for an interview (Mr. T. 2021). I asked him about his experience with the label, his role in his daily work and how the initial procedure took place. In this interview it became clear that in addition to the need for a regional label, the narrative of 'local wood' was developed during the revision process: The wish for a regional label was endorsed by the forest owners. They complained that neither 'small' sawyers nor artisans were interested in a 'normal' PEFC label.

To understand this, it is necessary to outline the logic of certification systems in timber trade; here in the words of Mr. T.: »Labels are based on the consumers' bad feeling when they buy a wooden product and relate it to tropical forest destruction, illegal use and overexploitation.« In his experience, however, customers do not have a »bad feeling« when they buy from regional crafts as there was a »basic trust that the craftspeople and small sawyers only process wood from the region«. This trust that customers place in small workshops and sawmills represents a gap in the market for PEFC. And as PEFC follows the logic

Figure 1: Regional label »Heimisches Holz aus Bayern«.

of markets and strives to »raise its own profile,« the regional label should fill the identified gap – by intending to »help« the actors in timber trade who buy and sell wood (products) locally.

This shows how the needs of the actors (to fill the market gap), the standardized rules of an international organization (PEFC revision process every four years), the material wood itself (regionally available, not necessarily labeled as such) are linked into a relational structure of action and interpretation that creates a narrative (local wood is worth labelling). This constellation reveals an asymmetry of action and power (some actors initiate a process for which the others have never seen the need). From the very beginning, the regional label has been at a crossroad between ethical and economic requirements.

3.2 Labelling regional responsibility

On my way to a sawmill in a small town in the Black Forest, a region in southwestern Germany, I am made unmistakably aware of the important role that the timber trade has played here (May 2018): along the small river that gives its name to the town where the sawmill is located, there are quite a few timber construction companies and sawmills. However, this sawmill is known far beyond the valley (e.g. in Japan) for its »quality wood from the Black Forest« (company logo) – certified by the PEFC regional label.

Mr. E. (2021), the owner of the sawmill, a family business with 40 employees, told me in the interview that he was made aware of the label about three years ago by the PEFC certifier he knew and that he found open ears: »We are very strongly anchored in the region. We buy our timber regionally within a radius of no more than 80 kilometers. This label is a chance to show our customers that we use wood sustainably and regionally.« He reported how easy it was to obtain the label: Since he already bought all his timber in Baden-Württemberg before, it only required a change to the internal electronic data processing system: »We did not have to change anything, we just made it a bit more transparent.«

During the interview, the sawmill owner emphasized several times that the focus on regional and environmentally friendly actions is his guiding principle – without neglecting the fact that he sells his products very successfully on the global market. He refers to ecological forest management, which is »feasible in the region and necessary for the region«. Here, ecological and economic claims are linked and it seems – or should seem – that they can best be combined in the social network of relationships that has been made publicly visible by the label »Heimisches Holz aus Baden-Württemberg«.

3.3 Proving credibility and uniqueness

We now change region, professional group and product line and we turn to the Bavarian Forest, a region hardly less well known to the timber trade in Germany. Here, a 'wood manufactory' (with almost 50 employees, exporting to 22 countries) produces 'individual' packaging for business customers: wooden boxes for wine, cigars, beer and gifts, which may be labeled with the customer's logo – additionally to the PEFC label »Heimisches Holz aus Bayern«.

MR, K., 2021

Figure 2: Coordinates of the felled timber: a bid to know the origin of the product.

The owner of the manufactory, Mr. K. (2021), calls »storytelling« the core of his daily work: »With our products, we want to tell stories that our customers can tell their customers. Our packaging should have an independent value, an added value to the product it packages.« Mr. K. has a doctorate in communications. Before he took over the wood manufacturing company, he worked as a managing director in the food industry. He says he knows how to »tell good stories« and wants to differentiate himself from companies that ship wood »in containers across the oceans to Europe to produce wooden packaging as cheaply as possible.« To do this, he has developed his own method of expressing the regional origin of his products, grasped on the slogan »sustainability through traceability«. He offers his customers the possibility to trace the place where the wood of their packaging has grown to »within five meters« on site or via Google Earth.

In the interview, Mr. K. said that he was looking for an »objective« way to assure his customers that his »subjective« technique with the coordinates of origin was »correct and true.« In his presentation, he searched for a long time for a suitable certification option until »an acquaintance told him about an acquaintance« and he became aware of the PEFC regional label, which was easy to obtain because he had »already met all the requirements« before. With the coordinates and the regional label, he considers himself in the possession of »double proof that we really work regionally«.

Three aspects seem noteworthy here: 1) relationships (such as the forest environment of the manufactory as well as the more distant connections of »acquaintances«) are fundamental to the establishment of the label in private companies. 2) »Sustainability« and also »regionality« are valuable concepts in the timber trade, where transparency and credibility are considered crucial especially with regard to the supply chain. 3) To convey credibility and uniqueness, different levels of perception, knowledge and concern can be served. The PEFC regional label should cover the 'rational' part, the geographical tracking data, the dimension of experience and the story behind the affective impact.

3.4 Avoiding the labelling of regional origin

When considering the practices that constitute the regional label and implement it in companies, it should not go unnoticed that there are not only actors who establish, use or develop the label, but many more who avoid it. I tie this observation to a family-run sawmill in Upper Swabia (Baden-Württemberg), but there would have been many more companies where I could have asked why the label is not used. To do justice to this, I supplement my observations in this sawmill with statements from the other background interviews.

Before I arrive at the sawmill, I see it from a nearby hill. It looks like a huge factory with an enormous grey facade, the trucks with logs look like toys in front of it. As I get closer, I see more and smaller buildings (office, saw, powerhouse), clearly different in size, type of construction, material and shape. They make it clear how the sawmill has grown over the past decades. 110 years ago, an ancestor of the current managers founded the sawmill, which has developed into a comprehensive wood processing company that today employs 500 people and is currently building a second stand. What makes this family business special as

SARAH MAY, 2021.

Figure 3: Material traces of growth: sawmill in Upper Swabia.

other interviewees told me beforehand, is that every last bit of timber is actually processed here. The company produces many variations of lumber, insulation, pallets and more. Mrs. S. (2021) has a degree in business law and belongs to the generation of the next managing directors. In the interview, she said of her company's ideals: »Our goal is to reduce unnecessary transportation and not leave such a large footprint in terms of emissions. We have our own philosophy: we buy our timber in the region, process it in the region and deliver it in the region.« With that attitude, the company would be just about predestined to carry the PEFC regional label, so I asked her why they do not use it. And her response was, »I did not even know it existed until now.«

The observation that the regional label is not very well known was urgent before. In this Upper-Swabian family-run business, my conclusions about not using the label became more diverse; I summarize them into two aspects. Firstly, not fitting the requirements: In Mrs. S.'s account, the company buys its timber within a spatial radius of 60 kilometers – but only its round timber. As the company has grown immensely over the last decades its sawmill is now far too small and the actors buy sawn timber from »all over Europe«. The high standard the company has set with its philosophy of adding regional value collides with the constraints imposed by the size of the company and the limitation of its saw. Secondly, not knowing and not needing: Other reasons for not using the label lie in the conceptual core of the label itself, as it wants to reach actors who a) have never struggled to establish their credibility in the local timber trading and b) are known for their time pressure and low affinity for bureaucratic processes (May 2018).

So far, some of the key practices, logics and contradictions of the network have been outlined. Next I will deepen the discussion of how these are framed by economic and ethical values (Heuts and Mol 2013) in conjunction with logics of regionality and sustainability in the timber trade.

4 Discussion: On the conceptualization and creation of regionality, sustainability and trust in the timber trade

Having unfolded the ethnographic results, I will now describe the analytical dimensions that run through them. To answer the article's guiding question, four aspects seem to be particularly important to elaborate on the interplay of economic and ethical values: 1) the materiality of wood – and how it enables and limits actions; 2) spatial relations in trade – and how the local and the international have (always) interacted here; 3) the connotations of »Heimat« and »region« – and how they relate knowledge and affect; 4) sustainability as a ethical ideal – and how ethical aspirations and economic goals are interlinked here.

4.1 Properties and limitations of the labeled material

Wood is an extremely versatile material. As a raw material, it takes on gigantic proportions; once processed, it can take on almost any size and be made into very different things: fine caskets and multi-storey houses, fine furniture and rough packaging (May 2018). It refers to nature and even makes its natural growth visible in its rings. The philosopher Walter Benjamin described wood as a »material of desire« (1969, 63), connoting the craftsmanship of times past. Referring to this, the historical and cultural anthropologist Gottfried Korff speaks of wood as a »counter material« (2002, 170), meaning that wood and wooden objects represent an antithesis to economic and cultural-historical modernization processes. And yet, wood is just that: the object and cause of economic and socio-cultural processes of contemporary progress and future hopes.

Currently, wood is receiving enormous attention. As a renewable resource that binds carbon dioxide, the material seems particularly attractive for products of the 'bioeconomy' and the idea of 'green growth', especially in the construction sector (May 2021, May 2022). These material and symbolic qualities shape actions and interpretations in the network of actors formed by the PEFC regional label.

Since Alfred Gell's (1998) influential reflections on 'material agency' and especially since Bruno Latour's (2010) wide-raging conceptualization of things as 'non-human actors', analyses of material culture have been premised on the assumption that agency can be invested in things and that, equally, emanates from them. Things and materials have a 'social life' (Appadurai 1986) and possess a 'cultural biography' (Kopytoff 1986).

To apply this to my work with wood: wood is harvested as round timber. Depending on its quality and intended use, it differs in size and volume shortly after felling. In the further course of its use, it is usually

sawn and its shape is changed. The PEFC label »Heimisches Holz aus …« appears on documents and also on wood products – but the process of labeling has no influence on the appearance of the wood itself. The label does not change the material, only the assessment of the actors. Human actors in the timber trade see a challenge here, for instance the already quoted general manager of PEFC Germany: »One problem is that the wood itself is not visually certified: it does not turn red at the moment of certification and I cannot see if I use this wood in my house, everything is red – everything is good'« (Mr. T. 2021).

Thanks to its properties, wood creates attractiveness and impact and at the same time it limits the possibilities of human action. A direct and detailed look at the material, at its properties, its appearance and its (lack of) changes allows us to understand human practices and valuations. However, this approach remains incomplete if the human experiences of use and the temporal and spatial context are not also included in the cultural analyzes.

4.2 Valorization of »region« and »Heimat«

Labelling is a qualification instrument for marketing purposes. Here, value is a central concept. For a long time, cultural anthropology has tended to study value mainly in its symbolic dimension excluding the contact with global economic markets (Bendix 2013). Recently, however, the dimensions of symbolic, economic, and social value have been brought together. How can ethnography of local timber labelling contribute to this discourse? And what role does the conceptualization of »Heimat« play here?

Again, I begin with the view of the label givers, in concrete Mr. T. (2021) who stated: »Why we name it 'heimisches Holz'? Because it's a term with good vibes. 'Heimat' is the region where you feel at home. It has marketing reasons.« In his reading »heimisch« has positive connotations, refers to a familiar spatial origin. It links knowledge to emotion – an as powerful as valuable draw, especially in economic contexts.

At the same time, »Heimat« is, especially in Germany, not free from critique and negative connotations (Bausinger 1990; Binder 2010). It carries connotative references to (national) demarcation efforts and practices of inclusion and exclusion. Nevertheless, it is often used in advertisement (e.g. in the food industry; May 2016). The PEFC regional label, however, does not leave the attribute »heimisch« blank but concretizes it by adding names of regions such as 'Bavaria'.

The symbolic-economic power attached to these names results from an interplay of knowledge and affect; in the words of the European ethnologist Jonas Frykman (2002, 48): »When regions take the stage, their character is thus as much a dreamed as a factual geographical unit. They have […] personality, life, and 'soul'.« This understanding of regionality is dependent on cultural contextual knowledge which is linked to certain spaces (Nora 1996). In a global market, local names constitute an added value – symbolically and economically (Tschofen 2000; Barham 2003; May 2016). Nevertheless, the PEFC regional label does not appeal mainly to international trade but to strengthen small-scale trade relations 'on site'. This may be understood primarily as a ethical impulse – because local trade is prevalent in timber trade.

4.3 Local wood in global markets

At first sight, the spatial frame of timber trade depends on the material form of the commodity. While processed wood products, ranging from furniture over planks to pallets, are commonly conceptualized as commodities of the global market, the raw material, round timber, ought to be objects of small-scale trade. This point made for instance Mr. H. (2017) who markets the timber of the state forest in Baden-Württemberg: »Timber transport is extremely cost-intensive. Wood is heavy, weighing almost a ton per cubic meter. This means that the possibility to transport it over long distances is per se gone.« He did not only describe the economic constraints imposed by the material properties of wood but linked them to spatial restrictions and power. Local dependencies increase due to the difficulties of large transport routes: »They have to buy my wood. It must be extremely valuable wood if it is transported over more than 150 kilometers.« Mr. H. said this in 2017; barely four years later, the situation is completely different and it became clear that wood of high and also minor quality is transported over distances way longer than 150 kilometers.

In 2021, media and woodworking crafts call wood a 'scarce resource' in Germany as there was (allegedly) too much timber exported to China and in the USA (May 2022). Mr. H. (2021) put the things in context: The years 2018 to 2020 were very dry, resulting in large quantities of damaged wood that did not meet

European standards; 'substitute markets' with more generous rules were found abroad. Only a small part of the German timber was exported but the outcry was loud because these sales coincided with a general construction boom and global supply chain difficulties triggered by the Covid-19 pandemic.

The practices of export were conceptualized as a 'rupture' from the perspectives of the actors. For a cultural analysis, such ruptures and frictions could provide a gain (Lowenhaupt Tsing 2005) as they hold the potentials for discovering changes in ethical norms, market logics and power structures. In this case, the sudden experience of resource scarcity emphasizes the significance of small-scale market relations in face of global crises and insecurities.

4.4 How ethics and economy are shaped by regionality and sustainability

What became apparent in a condensed form in the 2021 crisis, was already set before, as a more long-term trend: regionality is a powerful argument trade – even more if it is linked to sustainability such as in the case of the PEFC regional label.

'Sustainability' was applied in forestry (von Carlowitz 2013 [1713]) long before it was adapted to describe (and criticize) the relations among humans and between humans and their environmental surroundings, in a broader sense by the often quoted pillars of environmental, economic and social sustainability (e.g. Purvis, Mao and Robinson 2019). By focusing only on the question of how regionality and sustainability are thought to be bound in the field of the PEFC label, I detect two main lines: the link of regionality and sustainability to ecological action and – even more powerful – to economic trade and social relations (Varga 2019).

In order to elaborate on that, a quote of the sawmill owner serves as a basis: »We can counter climate change only by saving carbon dioxide. How can we do that? We need to promote timber construction […] and use wood in short distances: The more wood is consumed, built and used regionally, the better our CO2 balance will be« (Mr. E. 2021; similar Mrs. S. 2021). From the commitment of his statement and also in the observation of his everyday work it becomes clear that he conceptualizes environmental protection as linked to regionality and that he aims to act accordingly.

Besides these, there are other attitudes, such as of the manufactory owner K. (2021): »For me, sustainability is credibility and an emotional experience as well as a commitment to regional value creation and the shortening of supply chains, and thus in the end also to environmental protection.« The context of the interview and the tone of his voice made clear that this list is not a rising but a falling climax. Through the label, K. primarily wants to achieve credibility and uniqueness for his products; he sees ecological caution included in his daily work but aims to prove »sustainability through traceability« as he considers »regionality« as the better argument which is better verifiable.

Not least, there are positions in the field that relate sustainability primarily to trade relations – especially in light of frictions in global trade as recognized in 2021: »The local market is a piece of reliability. If a ship is stuck in the Suez Canal, exports start to limp. In a global market you are dependent from many persons and things, but that's not the case in the region« (Mr. E. 2021).

It might be surprising (or even not) that ecological sustainability plays a minor role within the field of PEFC regional label. Although it touches the work of forestry, the economic and social components are more decisive. In view of the global circulation of commodities, the logics of regional trade relate to security, reliability and control. The interconnection of nature and culture is elementary, especially with regard to the trade in wood. And yet, trans-regional dependencies and commodity flows stand out as dominant lines of action.

5 Conclusions: The interplay of proximity and distance

To study material culture ethnographically means to turn to commodities, things, materialities, to explore how they are embedded in actions, interpretations, and relationships and how they likewise constitute them. In this sense, I put wood at the center of my ethnographic research to understand the cultural conditions and effects of the PEFC regional label »Heimisches Holz aus …«.

Against the background of my knowledge from a long-term study in the thematic area of 'Wood and Craft' I realized as short as thick descriptions of the 'doings and sayings' of four key actors of the multilayered network. In this way I made clear: 1) the creation of the PEFC regional label included the active

creation of a need and narrative; the actors aim to prove 2) regional responsibility as well as 3) credibility and singularity by the use of this label; while 4) others avoid its use due to logics and constraints of their everyday work.

In the analytical synthesis of these practices, I identified essential cross-cutting dimensions ranging from the material's agency over market logics to common ethical claims. They, in turn, can be condensed into two crucial points: it is the material and spatial properties that constitute and confine the label's actors network. And it is the interplay of proximity and distance that shapes the practices, potentials and contradictories within this network.

In the view of the stakeholders, the PEFC regional label is designed to strengthen regional value creation and, very specifically, those people and companies that fell and process, buy and sell timber »in the region«. The motivation of the actors has an economic dimension: they want to generate regional added value and strengthen (business) relationships within spatial proximity. Speaking of region and »Heimat« strengthens this perspective of highlighting what is known in order to gain security – especially in the face of global uncertainties. Not at least with regard to long-distance trade relations, climate change or pandemics: 'regionality' and 'sustainability' are extremely valuable concepts.

My ethnographic cultural analysis can show that the interplay of proximity and distance correlates with an alternation of knowledge and affect, connects rational narratives with emotional uncertainties and the ethically framed striving for 'the good' even and especially in the context of economic logics. The focus on the material wood (its limitations and attractiveness) irritates by revealing the visible and the invisible relationships in the network. Those who can endure it see how closely material and mental orders are interwoven.

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(IN)VISIBLE AGENTS IN REGIONAL DEVELOPMENT: ACTIVE INDIVIDUALS AND THEIR NETWORKS AS A DRIVER OF REGIONAL PRODUCT LABELLING INITIATIVES

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Figure: Exhibition of regional products accompanied by a public photo competition in one of the Association of Regional Brands regions.

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(In)visible agents in regional development: Active individuals and their networks as a driver of regional product labelling initiatives

ABSTRACT: Support for regional production along with its certification and labelling can be understood more broadly as regional development initiatives. Accordingly, the declared objectives of many certification schemes include environmental, economic, social, and cultural aspects. However, to bring benefits for the region, a certification scheme must be used efficiently. Key actor interviews combined with an assessment of the activities of thirty Czech certification schemes, all members of the Association of Regional Brands, helped us identify positive and negative factors affecting the initiatives' success and potential for enhancing regional development. In line with current institutional approaches to regional development, the engagement and creativity of actors as well as creating networks, which help them overcome various constraints, were found to be essential.

KEY WORDS: regional production, labelling schemes, certification, regional development, soft factors, human geography, Czechia

(Ne)vidni dejavniki regionalnega razvoja: Aktivni posamezniki in njihova omrežja kot gonilo regionalnih pobud za označbe izdelkov

POVZETEK: Podpora regionalni proizvodnji, vključno z njenim certificiranjem in označevanjem, je oblika regionalnih razvojnih pobud. Številne certifikacijske sheme vključujejo okoljske, gospodarske, socialne in kulturne vidike, vendar so za regijo koristne le, če so vpeljane učinkovito. Intervjuji s ključnimi akterji in ocena delovanja tridesetih čeških certifikacijskih shem, ki so članice Združenja regionalnih blagovnih znamk, so nam pomagali prepoznati pozitivne in negativne dejavnike, ki vplivajo na uspeh teh pobud, in njihov potencial za krepitev regionalnega razvoja. V skladu z obstoječimi institucionalnimi pristopi k regionalnemu razvoju se je izkazalo, da so bistveni zavzetost ter ustvarjalnost deležnikov in ustvarjanje mrež, ki jim pomagajo pri premagovanju različnih omejitev.

KLJUČNE BESEDE: regionalna proizvodnja, označbe, certificiranje, regionalni razvoj, mehki dejavniki, družbena geografija, Češka

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1 Introduction

In recent decades products, especially food, associated with a certain region or place have enjoyed growing interest among consumers, society as a whole, and academia. Social science scholars approach this subject largely in terms of changes in (societal preferences of) food production, distribution, and consumption systems in the context of globalization and of changing values in post-industrial and post-material society (Renting, Marsden and Banks 2003; Watts, Ilbery and Maye 2005; Ilbery et al. 2005; Wiskerke 2009; Fonte 2010a; Marsden, Hebinck and Mathijs 2018; Jehlička et al. 2020). However, local and regional products are not just commodities; they are also a part of the regional milieu, and in the context of regional development strategies, objects of targeted support. Therefore, (re)localization of production is rightly of interest to human geographers.

One strategy for supporting regional production is the use of regional product labels. In addition to traditional »loose« links between product and place through logos or slogans, institutionalized regional product labelling schemes are being developed (Lee et al. 2005; Tregear et al. 2007). These schemes have been created by third parties (from the public, private, and non-profit sectors) and certify the origin of products offered by particular producers (Bottega and de Freitas 2009).

Regional product labels intentionally link products and places (e.g., Zappalaglio 2021). The territory of origin (place, region, country, etc.) and its unique character is becoming a base for constructing a product's quality (Wiskerke 2009). Thus, the support for regional products is also closely connected with the idea of the region, its construction, and with the forming of territorial identities and image. The emphasis on links to place/region allows us to understand product labelling schemes as regional development initiatives too. Current approaches to regional development highlight social, ecological, and cultural dimensions moving from mere economic progress towards the concept of complex sustainable development (Pike, Rodríguez-Pose and Tomaney 2006; Šmid Hribar and Ledinek Lozej 2013). Strengthening of competences of regions (as social constructs) and activating endogenous sources of their development is being emphasized. Critical importance is attributed to soft factors, that is, socially determined and hardly measurable capacities and settings such as informal institutions and norms, trust, relationships, identities or knowledge. Studies largely focus on bottom-up activities that are regionally specific, long running, and based on cooperation between individuals and subjects involved in development (Amin 1999). Key actors in development include administrative authorities both inside and outside the region, the media, educational institutes, companies, and non-profit organizations as well as individual politicians, businesspeople, and organization officials (Komárek and Chromý 2020). However, the roles played by individuals, including their abilities, qualifications, and values, still seem underappreciated (Tovey 2010; Messely et al. 2012), in the discourse of the agency-structure debate, »agency is an essential but understudied factor for regional development« (Grillitsch et al. 2019, 1).

These ideas are also encompassed by the new rural development paradigm (e.g., Jenkins 2000; Ploeg et al. 2000). Supporting regional production, including labelling schemes, appears to be one of the suitable tools for putting this conception of rural and regional development into practice (Ray 1999; Renting, Marsden and Banks 2003; Fonte 2010a; Šmid Hribar, Razpotnik Visković and Bole 2021; Ledinek Lozej 2021). This approach is also reflected in the policies of the European Union (EU). Besides the EU's own certification schemes supporting regional production, the LEADER programme (EU's rural development policy tool) provides an ideological and financial foundation for establishing regional product labelling schemes, chiming in with their principles (Lošťák and Hudečková 2010). Therefore, most labels in the EU are associated with activities of local action groups (LAG), the basic organizational units of the LEADER programme.

Many studies have ascribed several benefits for regional development to the promotion of regional products through labelling schemes. From an economic perspective, regional labels are assumed to support production itself, keep added value within the region (Kvam 2010; Fonte 2010b) and indirectly support employment (Tregear 2003) contributing to social stability in regions (Rodrigo and da Veiga 2010). For tourism trade regionally specific products can be an important draw (Spilková and Fialová 2013). From a social perspective, labelling schemes facilitate the creation of contacts and networks between participants of the certification process (Wiskerke 2009) and strengthen social capital (Malecki 2012). Labelling schemes often provide consulting to producers, support learning and gaining experience (Rodrigo and da Veiga 2010; Fonte 2010a), and promote innovative approaches toward conducting business (Kvam 2010). Furthermore, such labels help protect, (re)discover and even create regional values, especially values associated with landscape

and environment, and cultural and artistic traditions (Fonte 2010b). Drawing attention to regional products strengthens regional identity and image (Rodrigo and da Veiga 2010). In this sense, labelling schemes become a part of not only regional marketing and branding (Pike 2011) but also of region- and place-forming processes (Šifta and Chromý 2017).

The promotion of regional production and its purported positive effects have also been the subject of large criticism. Besides critique on the overuse and high diversity of labelling schemes (Ilbery et al. 2005; Wiskerke 2009), they have been criticized as fabled or inconsistent (Gille 2006; Moor 2011). Labelling schemes face several internal problems that detract from expected benefits too (e.g., Adamski and Gorlach 2010; Arévalo, Pérez and San Antonio 2010).

This paper takes the regional studies approach to examine labelling schemes on the example of the Association of Regional Brands (ARB), which brings together 30 Czech labelling schemes. Our aim is to identify factors determining how sustainable and beneficial for complex regional development labels are. Thus, we address the following questions: What are the critical factors for successful working of labelling schemes (and similar development initiatives)? And conversely, what are the main problems and barriers to their functioning? Insights from previous research (Kašková and Chromý 2014) allow us to assume that existing spatial patterns can explain differences among labelling schemes only to a limited extent and that viability of the schemes is based mainly on »soft factors«.

2 Study area and methods

2.1 Regional product labelling in Czechia

There are several regional product labelling schemes operating on different scale levels and managed by different types of subjects in Czechia. The oldest labels generally refer to the territory of entire Czechia and were developed in the early 1990s. In 2000 the first label focused on a microregion was introduced, soon followed by many others (Figure 1). Today, more than 40 such initiatives exist in Czechia. Three-quarters of them are members of the Association of Regional Brands (ARB).

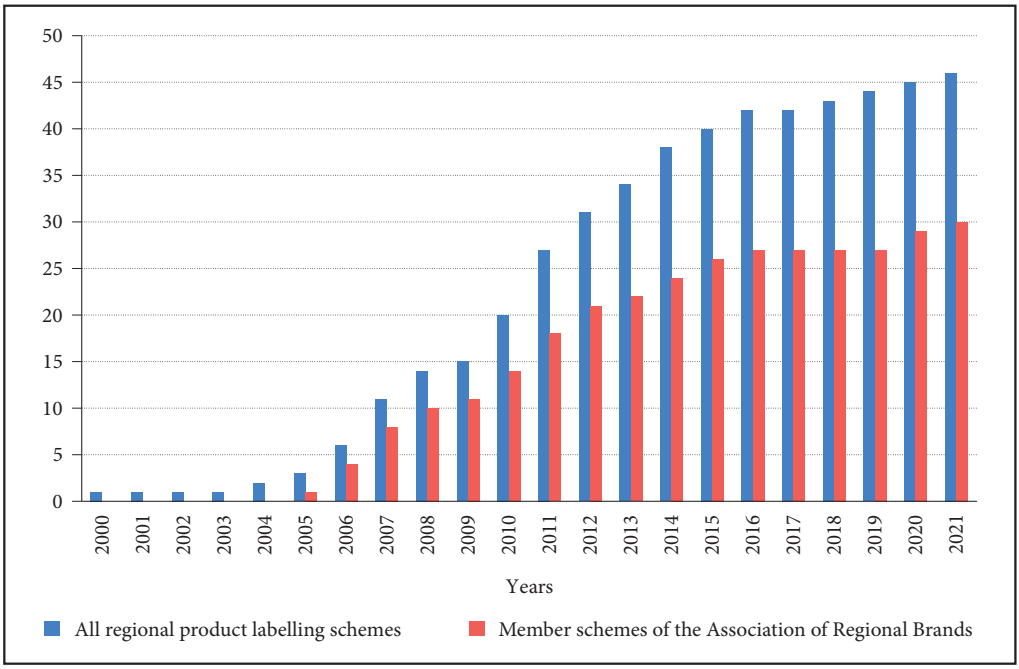

Figure 1: Number of regional product labelling schemes at the microregional level in Czechia, 2000–2021.

The first labels to eventually join the ARB were established in 2005 and 2006 as part of an environmental project operating in protected areas. In the following years, other similar initiatives emerged in other regions. In 2008, 10 existing labelling schemes formed together the Association of Regional Brands – a registered association of (mostly) legal persons, financed from membership fees, subsidies, and provision of consulting (Margarisová et al. 2018). Each labelling system has a coordinating institution, which owns the label, and is represented by a coordinator – a person responsible for managing the scheme. Each label has its own certification board and certification criteria. In addition to food and other agricultural products, consumer goods, artisanal and artistic products, and, in some regions, even services can be certified. Certification is generally subject to an administrative fee and is granted for a limited period, after which renewal may be requested. Coordinating bodies are basically non-profit organisations (funded by fees and diverse subsidies), usually LAGs, furthermore tourist offices, development agencies, environmental organizations, or civic associations. The ARB is headed by a chairperson, who is supported by a small team. The decision-making body is the general assembly. Thus, key actors related to the labels include especially coordinators of the labels and their working teams, producers of certified products, and the team of the ARB chairperson. All member labels work along the same principles; have a collective presentation (website, social media, markets, most recently e-shop); and share the same visual style (applied especially to logos). This unified approach helps overcome the common problem of fragmentation of labels (Ilbery et al. 2005; Wiskerke 2009) and provide better marketing support for producers (Margarisová, Vokáčová and Kuralová 2019). The ARB currently has 30 members (Figure 2).

2.2 Methods

The studied labels are all members of the ARB that can be easily compared and cover different types of regions in Czechia (Figure 2). The largest stage of research was conducted in 2013, with additional research taking place in 2016 and 2021. In all 3 stages, various archival information sources were first analysed to understand the societal context and performance of regions, then semi-structured interviews were held with label coordinators. For quantification of data sources see Table 1.

Archival information sources we analysed included statistical and cartographic data sources, documents produced by the ARB (especially annual reports), individual labelling schemes, coordinating bodies, and local governments; and regional media outlets. We used websites as well as electronic and printed materials. In addition to studying the features of these systems, we monitored their activities (production of promotional materials, organisation of events, realisation of projects, promotion of own activities). To evaluate the data obtained we used spreadsheets helping us to count different types of activities and categorize the schemes into 4 groups from highly active to inactive (Table 2). The same sources we used to monitor the number of certificates granted helping us to benchmark the labelling schemes (Figures 3, 4).

Table 1: Quantification of data used during the research stages in 2013, 2016, and 2021.

	research stages		
	2013	2016	2021
interviews with label coordinators (minutes)	1069 min	216 min	347 min
communication with chairperson	90 min (interview)	2 pages (e-mail communication)	4 pages (e-mail communication)
web pages monitored (number)	47	28	59
internal documents of institutions monitored (number)	23	4	43
printed / pdf promotion materials monitored (number)	71	32	82
statistical and cartographic (socioeconomic) data sources (number of datasets used)	12	5	6

Figure 2: Areas of labelling schemes united by the Association of Regional Brands in Czechia, 2021. ► p. 96

1 Krkonoše
2 Beskydy
3 Šumava
4 Moravský kras
5 Orlické hory
6 Moravské Kravařsko
7 Górolsko Swoboda
8 Vysočina
9 Podkrkonoší
10 Polabí
11 Haná
12 Českosaské Švýcarsko
13 Jeseníky
14 Prácheňsko
15 Broumovsko
16 Kraj blanických rytířů
17 Železné hory
18 Moravská brána
19 Zápraží
20 Toulava
21 Znojemsko
22 Krušnohooí
23 Opavské Slezsko
24 Kraj Pernštejnů
25 České Středohoří
26 Poohří
27 Kutnohorsko
28 Brněnsko
29 Slovácko*
*The region of Slovácko is shared by two labels: Slovácko regionální product and Tradiční výrobek Slovácka
Cities (more than 150.000 inhabitants)
Border of administrative regions
State border
GERMANY
POLAND
AUSTRIA
SLOVAKIA
Praha
Plzeň
Brno
Ostrava
0
50
100 km
N
Scale: 1:3.000.000
Content by: Magdalena Fialová
Map by: Magdalena Fialová
Source: Arc Data Praha 2011;
https://www.regionalni-znacky.cz (11. 10. 2021)

We held in total 30 interviews with label coordinators in person or online (in 6 cases even another member of the coordination team joined the interview). Nearly all of the coordinators work in the position of a project manager (of LAGs or other type of institutions). Neither of the coordinators refused the interview; in general, they were positively disposed. Most meetings were informal in nature, which contributed to the interviewees being open in their responses and willing to share their personal experience including negative aspects, and opinions. In order not to interrupt or restrict our informants we slightly changed the order or formulation of our 18 originally prepared questions. In addition to analysing the interviews, we used a spreadsheet simplifying the evaluation and identification of common themes in the dataset. Inspired by the grounded theory approach (see e.g. Geiselhart, Schlatter and Orlowski 2012) we sought to identify »clusters« of success factors arising from the interview analysis. Simultaneously we emphasized examples illustrating the general features of the dataset while also capturing the particularities of individual regions (Kvam 2010; Table 3). Although coordinators are key components capable of communicating to a certain extent the views of other actors (Frisvoll and Rey 2009), conducting interviews with only one type of actors has many limitations. For example, informants can intentionally skew information. To determine if informants were overestimating their own work, we compared their responses with those of other coordinators, with archival information sources, and information provided by the chairperson of the ARB (who was interviewed in 2013 and contacted – due to lack of the informant's time – per e-mail during the next two research stages). When conducting interviews researchers inevitably introduce their own biases – preferences, experiences, and personal sympathies into the subject being studied (Limb and Dwyer 2001). Thus, we must keep this in mind when considering the findings of this study.

Based on our long-term research and previous findings (Kašková and Chromý 2014), we perceive the beneficiality and success of regional product labels not in terms of (hard to register) financial profit, but in terms of complex support of the regions' development including social and cultural aspects. Thus, in our research we outline a successful labelling scheme as:

1) being viable and long-term sustainable;
2) gaining and keeping certified products, i.e. producers interested in receiving the label (indicating the merit of the label for artisans and business);
3) being active in promotion (in the region as well as online);
4) contributing to social and cultural life in the given region.

3 Results and discussion: Success of regional product labelling schemes

Member labels of the ARB can be described as long-term sustainable. None of the labels ceased to exist, outliving the (sustainability) period of their initial projects. In contrast, new regional labels joined the ARB (most recently in 2020 and 2021) and there is also continued interest from producers in gaining certification for their products.

There are substantial differences between the labelling schemes, however it is difficult to find appropriate criteria for distinguishing between successful and unsuccessful schemes. Financial criteria are missing. According to label coordinators, artisans and small businesses report premium revenue increase as well as premium price increase due to gaining the ARB certification for their products; however, accountings are very poor or none. There is no possibilitiy for the coordinators to receive precise data. Additionally, it is difficult to distinguish the effects of labelling from other tools supporting producers (see Barjolle 2016 for the case of geographical indications). According to the research of Spilková and Fialová (2013) 35% of interrogated certified producers declared a positive effect of certification on consumer interest in their products, and thus on the business's revenue. Simultanously, 64% of producers stated that the label significantly improved the promotion of their product. The consumer position was studied by Margarisová et al. (2018). According to their research, ARB labels are doing quite well with respect to the amount of money spent on marketing – the recognition of ARB labels among consumers is approximately 50%. Other authors studying consumer awareness of ARB labels report lower numbers of label recognition (Chalupová, Prokop and Rojík 2016; Rojík et al. 2016; 2019; 2020).

One of the useful indicators for evaluating and comparing labelling schemes is change in number of certified products, but even still, we must keep in mind that this leads to simplification (it ignores, for instance, the different strategies coordinators take toward label exclusivity). In the years we conducted our research

(2013, 2016, 2021), the number of certificates issued by most labels was around the respective average number of ARB (Figure 3). A below-average number of certificates relative to region size indicates either that few producers were certified (likely due to poor coordinator performance or intentional limits on the number of certifications issued) or that there was great instability (i.e., producers were not interested in renewing their certification). In contrast, an above-average number of certifications (see Figure 3 with respect to data approximation – Figure 4) relative to region size can be attributed to the activities of coordinators and constant producer interest.

It would be more accurate to use the number of certified producers instead of products; however, these data are not available for most of the years. The average number of certified products per producer (as for 31. 3. 2022) is 1.1, thus on average 90% of certified products can be identified with one producer. There is little difference between the numbers (Figure 4), so we approximated the producers by the number of products. It would also be more appropriate to relate the number of products / producers to the total number of economic subjects in the region instead of the region's area. However, these data are only available for the year 2022 (see Figure 4).

Trends in the number of certified products help to indicate how well labelling schemes are functioning. Figure 5 depicts the most significant changes between 2010 and 2021. We can observe four types of trends: labels with a growing number of certified products (*Jeseníky*, *Haná*, *Opavské Slezsko*), labels that experienced oscillations but are once again growing (*Krkonoše*, *Broumovsko*), labels that experienced rapid

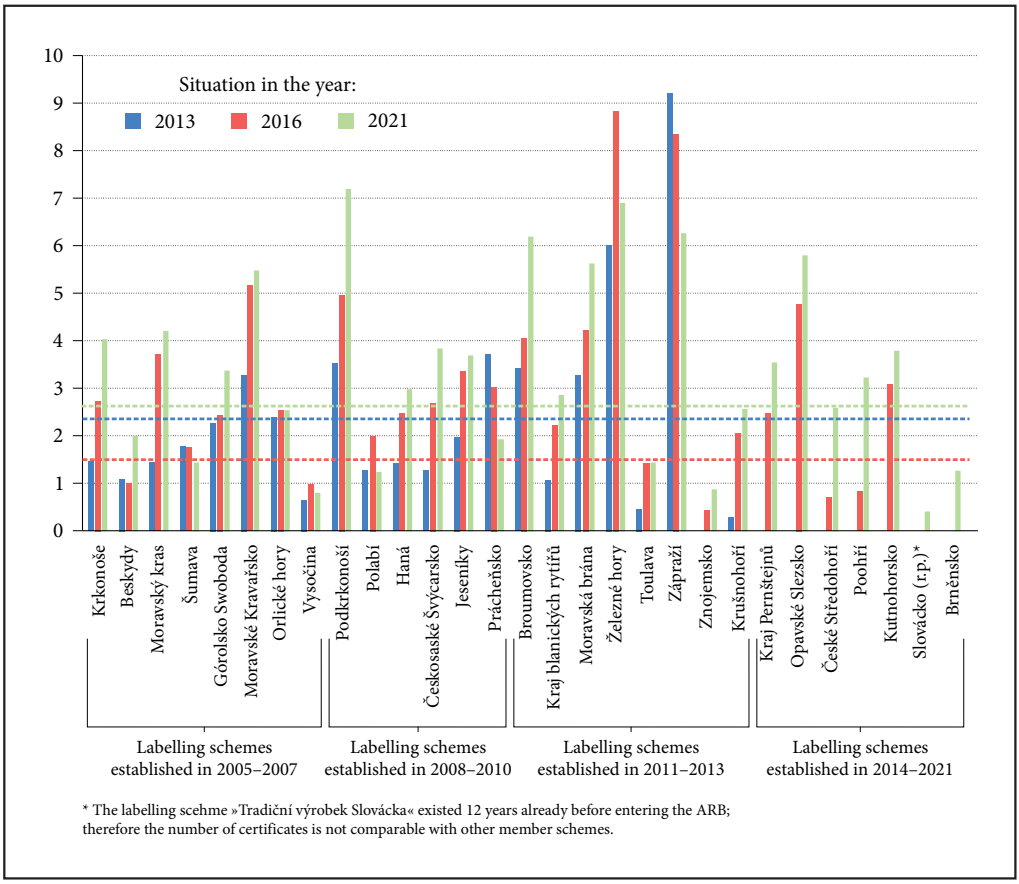

Figure 3: Number of certificates issued per 100 km^2 of the area of regional product labelling schemes (united by the ARB) in 2013, 2016 and 2021 (average area: 1.940 km^2). Horizontal lines represent the average number of certificates per 100 km^2 of the whole ARB in the respective year.

growth but are now stagnating or even slowly decreasing (*Zápraží*, *Železné hory*, *Vysočina*, *Šumava*), and labels where after initial growth the number of certificates is decreasing roughly to the half of its largest number of certificates (*Prácheňsko*, *Polabí*).

Labelling schemes can also be evaluated based on their activities. Despite fluctuations, during our research we observed several highly active regions that implemented new projects (with or without public funding, focused on e.g., inventing tourist trails or searching for and supporting local traditions), induced social and cultural events in the region (realising e.g., festivals, regular markets, or public handcraft workshops), and realised promotional activities (see Table 2). In contrast, there were regions that were little active or where it was hard to tell (based on online sources) how active they were.

We also examined how label coordinators evaluate their own successes. Coordinators do not share a uniform procedure for monitoring the success of their labels. In addition to personal assessment, most of them monitor the interest of both producers and consumers in the label and try to gather information about

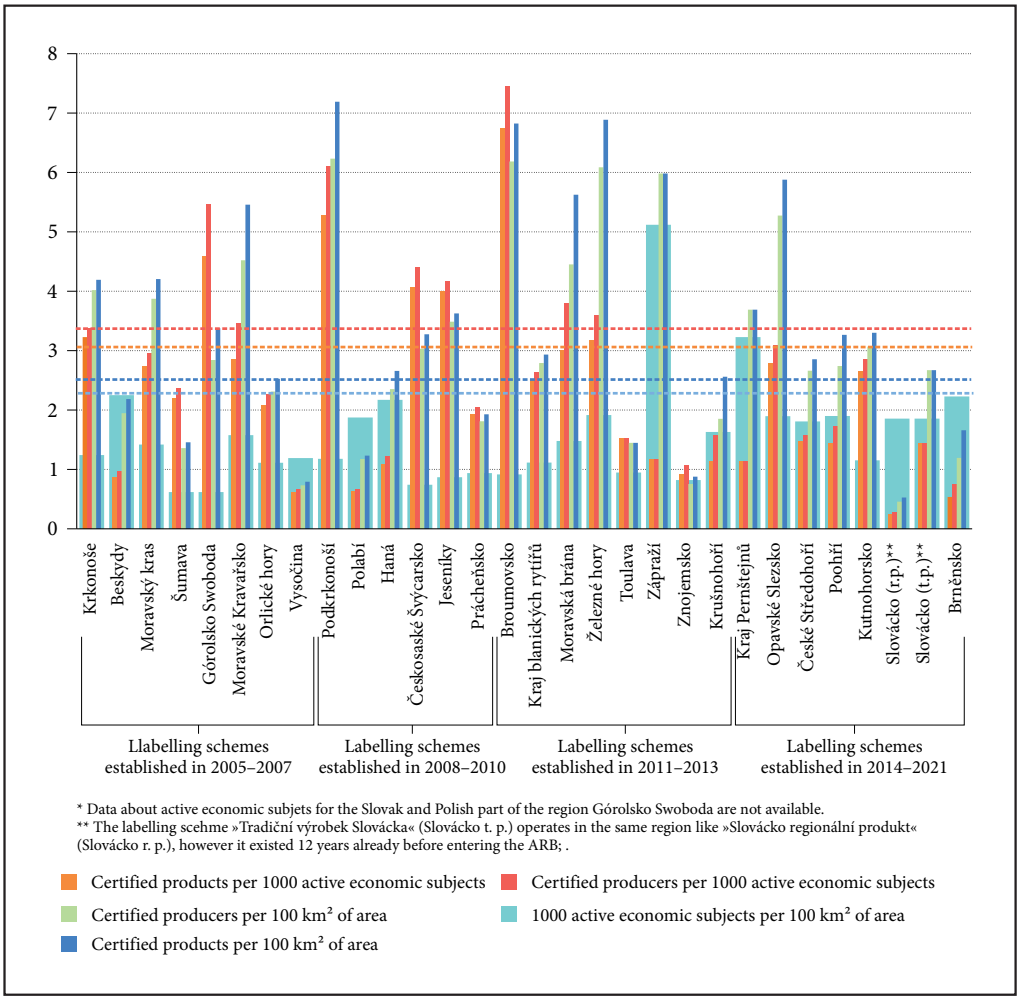

Figure 4: Comparison of the relation of certified producers / products in the region to the number of active economic subjects / area of the region (31. 3. 2022). Horizontal lines represent the average number of the respective dataset. Economic subjects are concentrated in large cities and their immediate background (including foreign businesses and other enterprises not suitable for certification by the ARB) – therefore some regions are at a disadvantage when comparing this indicator.

the financial benefit for producers. Some also make use of surveys carried out within scientific research (e.g., Chalupová, Prokop and Rojík 2016; Rojík et al. 2016; 2019; 2020). The ARB provides internal and public surveys to the coordinators. However, the monitoring of these indicators is inconsistent and unsystematic.

In our first wave of interviews (2013) *Zápraží* and *Šumava* were rated the highest. In the following two stages of research (2016, 2021), the *Jeseníky*, *Krkonoše*, *Opavské Slezsko*, and *Šumava* regions were mentioned as being the most successful. ARB leadership arranged two »good practice« excursions for regional coordinators to the *Jeseníky* (2019) and *Krkonoše* (2020) regions, which reflects (but potentially further bolsters) these labels' leading status.

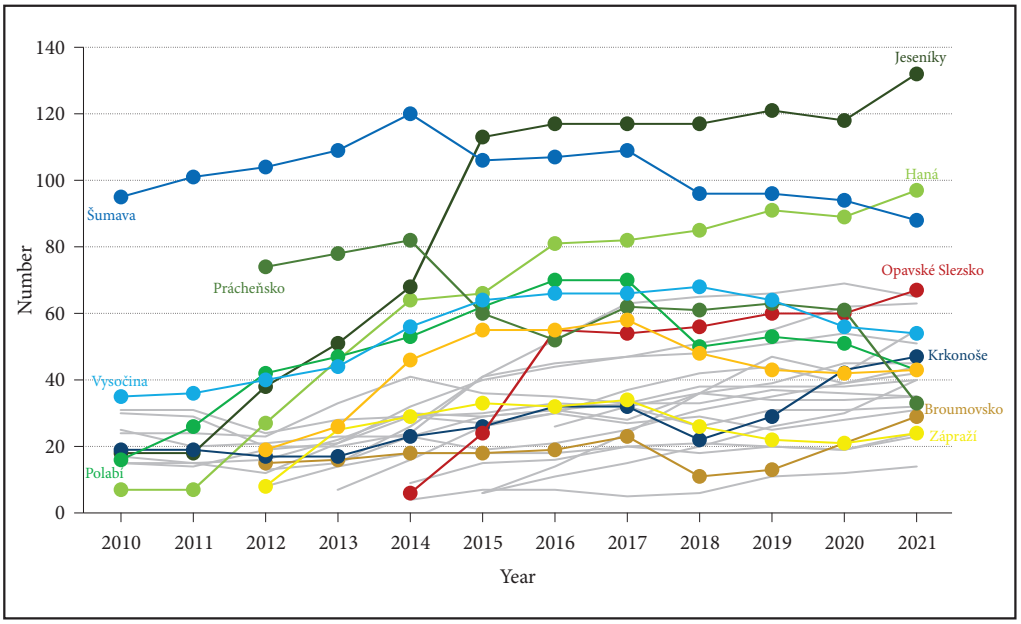

Figure 5: Trends in number of total certified products of selected regional product labelling schemes (members of the ARB), 2010–2021.

Table 2: Activness of ARB member regions, 2004–2021. ARB regions are assessed as follows: + little activity, ++ middle activity, +++ high activity, ++++ very high activity. Regions missing any sign were not working yet in the given time period.

	Krkonoše	Beskydy	Šumava	Moravský kras	Orlické hory	Moravské Kravařsko	Górolsko Swoboda	Vysočina	Podkrkonoší	Polabí	Haná	Českosaské Švýcarsko	Jeseníky	Pracheňsko	Broumovsko	Kraj blanických rytířů	Železné hory	Moravská brána	Zápraží	Toulava	Znojemsko	Krušnohoří	Opavské Slezsko	Kraj Pernštejnů	České Středohoří	Poohří	Kutnohorsko	Brněnsko	Slovácko
2004 – 2012	++++	+++	++++	+++	+++	+++	+++	++	+++	+++	+++	++	+++	+++	++	++	+++	++	++	+	+								
2013 – 2016	+++	+	++++	++	++	++	+	+++	+++	++	+++	++	+++	++	+++	+++	+++	++	+++	++	++	+++	+++	+++	+	+			
2017 – 2021	++++	++	++++	++	+	++	+++	+	+++	++	+++	+++	+++	+	++	+++	+++	++	+++	++	+	+++	+++	+++	+++	++	++	+	+

Margarisová et al. (2018) examining the awareness of labels among consumers confirm the evaluation of labels as mentioned above – most successful are reported *Haná*, *Krkonoše* and *Jeseníky*. The research of Spilková and Fialová (2016) based on questionnaire survey among certified producers indicates as being most successful the label of *Šumava*.

Based on existing studies (e.g., Renting, Marsden and Banks 2003; Siebert and Laschewski 2010) we expect that label success will replicate existing spatial patterns. Thus, for example, we can expect labelling schemes to meet with difficulty in the Czech borderlands, where development including local production traditions was interrupted by post-World War II population transfers, and in suburban areas, which are similarly classified as regions seeking (new) identities (for typology of regions regarding identity formation see Chromý, Kučerová and Kučera 2009). Structurally affected regions with high unemployment are also problematic as are the persistently economically weak areas of the »inner periphery« (Havlíček et al. 2008; Kučera and Kučerová 2012). However, the differences in label success we observed do not seem to replicate existing spatial patterns concerning regional development in Czechia (see Kašková and Chromý 2014). Therefore, the situation on the ground must be studied in greater detail.

4 Results and discussion II: Success factors

An analysis of the coordinator interviews will allow us to determine factors contributing to the creation of »positive deviations«, that is, to the existence of regional labels that are sustainable and function well regardless of the region's location and problems. We focus mainly on coordinators of those labells which can be described as best working according to the results of the previous chapter (*Jeseníky, Opavské Slezsko, Krkonoše, Zápraží, Podkrkonoší, Haná, Broumovsko, Železné hory, Šumava, Moravské Kravařsko, Moravská brána, Českosaské Švýcarsko*). The factors that informants mentioned most frequently are contacts and cooperation, activity and creativity, sense of place and regional identity as well as passion and personal motivation. The findings are illustrated by example narratives from concrete labelling schemes based on conducted interviews (Table 3).

4.1 Contacts and cooperation

About two thirds of the interviewees highlighted the role of social capital, communication and willingness to cooperate among actors inside the labelling system (relationships between producers, communication between the coordinator and producers, the certification board, and applicants) and outside it (contacts between the coordinator and local government, politicians, the media, and other coordinators). But having many contacts is not sufficient for the coordinators to manage a successful label – relationships must be good and long lasting (Tovey 2010).

An important criterion for label success is nurturing relationships with certification holders and staying in personal contact – coordinators visit or call producers and organize meetings (Table 3, example 1). Building trust through regular contact is particularly important for artisans and small businesses, as trust helps overcome the hurdles on the way to join a labelling scheme (fear of inspection, bureaucracy, theft of know-how). An overly formal approach can reduce producers' willingness to engage actively and threaten the entire system's functioning. However, the maintenance of personal relationships is limited by the number of certified producers. Therefore, some coordinators (especially in large regions) do not expand the number of certified products deliberately (Figure 3).

A critical function of labelling schemes is the creation of a space where relationships between certification holders can be made (Fonte 2010b). Nearly all coordinators organize or invite producers to markets and similar events, which are not only important for the distribution of products, but even the most frequent occasions for making contacts. Cooperation between producers comes in many forms: they help each other with sales, share experience and marketing tips, create functional supply chains (e.g., a gingerbread maker newly buys honey from a certified beekeeper) or create even new products (e.g., a small jam producer introduced together with a local mill the production of fruit pancakes). In doing so, they create relationships that can be used outside »the label space« (Wiskerke 2009). Coordinators usually act as facilitators creating the first contact, but they rarely contribute e.g., to implementing product innovations. Similarly,

the ARB becomes a communication platform – meetings of the general assembly and more active working groups, excursions, and educational events provide a space for experience-sharing and problem-solving.

Other specific conditions also influence the forming of relationships. Functional links are often created and maintained by an active leader, generally the label coordinator, who is capable of bringing together different actors and fostering synergies between them (Table 3, example 2). Being dependent on a strong figure, who is irreplaceable once they leave, however, threatens the stability of the entire labelling system (see Messely et al. 2012).

Opportunities for cooperation are also influenced by the label's spatial delimitation (Table 3, example 3).

Cooperation, however, is always dependent on specific people, and political changes introduce instability to existing relationships. According to our findings, a labelling scheme must be part of a broader strategy to effectively contribute to regional development. Therefore, relationships with other actors and subjects in the region are crucial (see Messely, Dessein and Lauwers 2010). Failure to cooperate, fragmentation of activities, and outright animosity disrupt the efforts of various subjects and are among the most significant obstacles to successful regional development. When introducing labels (and other similar initiatives) it should be a priority to hold talks with all subjects in the region and eliminate any potential disagreements while strengthening social capital in the region – mutual trust, stakeholders' commitment, and participation.

Table 3: Example narratives based on interviews with labelling scheme coordinators in 2013, 2016, 2021.

1	When the *Moravská brána* label was first introduced, the coordinators held regular meetings for producers, where they got to know each other, shared their experiences, discussed problems, made plans, and organized even informal events such as tastings.
2	The founding coordinator of the *Orlické hory* label had held many local government positions and led several regional associations. Thanks to the contacts he built up over the years, he has been able to link the activities of several institutions, implement joint projects, and overcome rivalry between these institutions.
3	The geographical scope of the *Vysočina* regional label is identical to that of the self-governing administrative region after which it is named. This overlapping makes cooperation with the regional government easier. In other regions, such collaboration can be problematic. Shared borders and symbols, which strengthen regional identity and thus retroactively support the regional government's political goals, make it easier for the coordinator to access subsidies and other forms of support from the regional government (purchasing gift baskets for official guests, holding ceremonies when new producers are inducted attended by the regional governor).
4	In the *Jeseníky* region thinking up new project ideas helps overcome financial pressure. It was the 2nd region involved in the ARB to begin issuing the label to services. Working together with businesses, it then came up with the idea of certifying experiences. Other innovative activities and projects include the creation of the »Regional Label Trail«, along which tourists can visit the workshops of 12 producers, and the regional food and drink festival »The Tastes of the Jeseníky«. The most recent campaign, »Jeseníky under the Tree«, is focused on selling certified products as Christmas gifts.
5	In the first phase of research, the coordinator of the *Krkonoše* region complained that the difficulties he had working together with producers contributed to his unwillingness to do anything beyond what was absolutely necessary. Since 2018, when he was replaced by a new coordinator, however, new activities have begun to appear in the region (markets, creative promotional campaigns, an exhibit and workshops, a contest for consumers, greater website activity, etc.).
6	For example, in the *Železné hory* region certificate holders initiated the »Gourmet Trail« project, which allows tourists to visit certified production facilities and restaurants that offer a variety of visitor services. The coordination team was only a project partner.
7	For the coordinator of the cross-border *Górolsko Swoboda* label, lying on the tri-border between Czechia, Poland, and Slovakia, sense of place and belonging to the local community is essential. The label coordinator is the chairperson of an association for preserving Goral culture that has very limited financial resources. He devotes much of his free time to working for the label. He sees it as one way for promoting Goral culture and identity.
8	The coordinators of the *Haná* and *Moravská brána* labels clashed over the Záhoří ethnographic region, which is located in Haná. The Moravská brána coordinators, after joining the ARB, demanded that this region be reclassified as belonging to Moravská brána, where they believe it rightfully belongs. The Haná coordinator, however, considers Záhoří to be a specific part of his region. This conflict came to a head when one producer from Záhoří rejected the Haná label because he does not have a sense of belonging to that region.
9	The *Prácheňsko* label was developed with support from a LAG subsidy project. The coordinator heavily and enthusiastically invested himself in the label. One result was growth in the number of certificates. But administrative burdens and difficulties working with regional stakeholders gradually demotivated the coordinator. When the project ended, his position was eliminated due to a lack of money, the label started to stagnate, and limited activity combined with the introduction of participation fees for producers led to a decrease in the number of certifications. Not even with new coordinators has the label been able to recover from this setback.

4.2 Activity and creativity

Activity and creativity of actors (see Borseková et al. 2021) involved in a label are reflected in the success of the label at all levels. Innovation and thinking up new activities are necessary for long-term label sustainability. A proactive approach is also critical for reaching consumers, as the entire labelling concept is dependent upon them.

The label coordinator's activity and agency help overcome structural constraints stemming especially from the grant-based nature of funding such initiatives (Table 3, example 4). Recent COVID-19 restrictions (since 2020) have become the touchstone for assessing the work of coordinators. Everyone was affected by limitations put on public events (markets, festivals, etc.), and tourism, and the heavy (financial) pressure felt by businesses. Some though (Table 2) have managed to seize windows of opportunity even in these difficult circumstances. They have become more active online, on both their websites and social media, and have also engaged in more intense media outreach. They have been working with e-shops, producing electronic materials, organizing online workshops for producers, and so forth.

The sudden introduction of activities requiring constant upkeep, however, could lead to the overall worsening of maintaining labelling systems. Even successful regions run the risk of the coordinator burning out. Many labels (at least one third) have reached a certain »breaking point« associated with an overworked coordinator or with the departure of a coordinator and the subsequent search for a replacement (see Figure 5; Table 3, example 5).

The efforts of the coordinator must be supported by the activity of producers. Most frequently they promote the label among customers and other producers. Some producers (in 4 regions) also contribute organizationally or even generate their own activities (Table 3, example 6).

If certification holders are passive, distrustful, and resistant to committing to the label (for example, by not labelling their products), the label cannot be successful among consumers and at the same time the coordinator can become demotivated. The activities of coordinators and producers are »communicating vessels«, as can be observed in the example from the *Krkonoše* region (Table 3, example 5).

4.3 Sense of place and regional identity

For actors to be active, personal motivation is crucial. Sense of place plays a critical role here. It encourages the coordinator's commitment to improving conditions in the region. Such a coordinator is connected to the local community and knows very well the region, the way of life there, and the population's preferences (Messely, Dessein and Lauwers 2010). The intensity of relationships is not related to where the coordinator is originally from. Those who have moved to the region from elsewhere usually think more about why they live in the region, whereas natives often have an »automatic« relationship to the region (Table 3, example 7).

Regional pride frequently motivates producers to apply for certification, which, once gained, boosts their pride. Sense of place, however, does not generate activity all by itself, but it does help steer activities towards benefiting the region (Messely et al. 2012).

However, excessively identifying with a region (having an »us vs. them« mentality) and being blindly patriotic can detract from labels' success; it can lead to conflicts between coordinators and to producers rejecting the label – we have identified three such conflicts (Table 3, example 8).

4.4 Passion and personal motivation

It is essential that a good coordinator is passionate about the label (see Messely, Dessein and Lauwers 2010). This passion can come from many sources, including having a personal relationship with the region. Enthusiasm enables the overcoming of practical problems including personal educational and professional limits, but especially the problem of low pay. Finances are limited, and salaries often do not correspond with the actual demands of the job (Spilková and Fialová 2016). Coordinators frequently end up »subsidizing« their labelling schemes with their free time, or they have to ensure alternative sources of financing (such problems were mentioned by about two thirds of our informants). If coordinators lose their passion and motivation, they become less active, creative, and innovative and the label stagnates or declines (Table 3, example 9).

In contrary to Spilková and Fialová (2016) we do not assume that coordinators act only in the intention of the label's initiating project. Nearly all of the labels already outlived the sustainability period of these projects. Coordinators of successful labels still seek new contents and development possibilities for their labels.

5 Conclusion

A key focus of geography is to reveal the processes and mechanisms of regional development affecting the success of development activities. The aim of this paper was to contribute to the ongoing debate by examining regional product labelling schemes (as initiatives supporting comprehensive regional development) and to reveal critical factors leading to their success as well as possible constraints.

Studying selected labelling schemes in Czechia revealed several factors that are not obvious at first sight, and which do not correspond with traditionally perceived spatial patterns in terms of spatial polarization, peripherality, or the development of regions. We assume the key role of soft factors, especially the capabilities and motivations of individuals and their abilities to build networks. It is evident that sociocultural factors related to agency – activeness and creativity – of actors help overcome geographical and socioeconomic constrains. Strong contacts and cooperation between (groups of) actors inside and outside the region (again dependent upon their activeness) contribute to the healthy functioning of such initiatives. Actors' sense of belonging to a region and their passion also affect successful development, and when the label is successful these feelings are boosted. We did not deal directly with education, professional experience and (managerial) skills of the coordinators that apparently build another important (success) factor. Spilková and Fialová (2016) state that most of the coordinators do not have sufficient capacity to promote the label and need support. Another problem revealed by our research, is the lack of constructive reflection on the labels's performance, monitoring of results, and setting criteria – potentialy informing the label promotion strategy.

Each of the revealed factors has both positives and negatives. Relationships between actors can be threatened by personnel and political changes. Being overly active and overestimating one's capabilities can weaken the entire system. Strong regional identities may lead to competition between regions possibly impeding development efforts. Personal commitment is not a constant variable and may wane over time.

In terms of enhancing regional development our research highlighted social aspects. We argue that the contribution of labelling to regional development do not necessarily consist in increasing sales, but in creating potential for further (development) activities in the region.

This study presents only one type of development initiatives in a specific national context. However, it clearly indicates that the most important factor for the success of such initiatives comprises the individuals that form relationship networks. Very close to what Messely, Dessein and Lauwers (2010) revealed in other national contexts – crucial is the presence of at least a small group of active agents.

Dependence on individuals, and thus high volatility, are also alarming factors. On the other hand, one of the main benefits of regional labelling schemes for regional development – the creation of a space where relationships working beyond the space of the label can be made – does reduce this uncertainty. It supports the embedding of the initiative into broader development strategies and the functional interlinking of activities in the region. Actor commitment plays a fundamental role; the potential of a labelling scheme can be used to the fullest or it can be left unused.

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PLACE BRANDING AS AN APPROACH TO THE DEVELOPMENT OF RURAL AREAS: A CASE STUDY OF THE BRAND »BABICA IN DEDEK« FROM THE ŠKOFJA LOKA HILLS, SLOVENIA

Erik Logar

KRISTINA MIKLAVČIČ

Figure: Weekly food fair.

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Erik Logar[1]

Place branding as an approach to the development of rural areas: A case study of the brand »Babica in Dedek« from the Škofja Loka Hills, Slovenia

ABSTRACT: Place branding is an approach to stimulating territorial development. From the theoretical point of view, place branding in rural areas should be an inclusive and participatory process. Applications and outcomes of the process have been insufficiently investigated so far in rural areas. The oldest place brand in Slovenia, »*Babica in Dedek*«, is analyzed to present its socioeconomic circumstances, impacts, and challenges from the perspective of local producers. Three qualitative methods are thus applied: analysis of documents, semi-structured interviews, and a focus group. This case study has revealed factors that contribute to new marketing opportunities, product packaging, holding seminars, and advertising local products in the area. On the other hand, the empirical findings are only partly aligned with the theoretical implications: the impacts of place branding are »sectorally limited« instead of being inclusive and participative.

KEY WORDS: rural geography, place branding, territorial development, network, local producers, bottom-up approach, Škofja Loka Hills

Znamčenje območij kot pristop k razvoju podeželja: študija primera znamke »Babica in Dedek« s Škofjeloškega hribovja

POVZETEK: Znamčenje območij je pristop za spodbujanje teritorialnega razvoja. S teoretskega vidika je znamčenje vključujoč in participativen proces, vendar so bile njegove aplikacije in učinki na podeželska območja doslej slabo raziskane. V tem prispevku smo analizirali vplive in izzive najstarejše tovrstne znamke v Sloveniji, »Babica in Dedek«, na območju Škofjeloškega hribovja z vidika tamkajšnjih ponudnikov. Uporabili smo tri kvalitativne metode: analizo virov in dokumentov, polstrukturirane intervjuje in fokusno skupino. S to študijo primera smo pokazali dejavnike, ki so pripomogli k novim tržnim priložnostim, k novi embalaži in organizaciji izobraževanj ter oglaševanju ponudbe na območju. Rezultati so osvetlili tudi neskladja s teoretskimi predpostavkami: namesto vključujočega in participativno naravnanega procesa znamčenja območja so njegovi učinki omejeni zgolj na en sektor deležnikov.

KLJUČNE BESEDE: geografija podeželja, znamčenje območij, teritorialni razvoj, pristop »od spodaj navzgor«, Škofjeloško hribovje

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1 Introduction

Place branding is a process with the potential to improve the profile or reputation of an area. It is a subtype of branding: an approach to giving meaning to a specific object (i.e., organization, company, product, or service) by creating and shaping a brand in consumers' minds (https://www.thebrandingjournal.com/2015/10/what-is-branding-definition/). Place branding borrows the techniques and ideas developed within general branding and uses them for at least three different aims of place branding: geographical nomenclature (i.e., promotion of location), product–place co-branding, and place management (Kavaratzis 2005). Due to its focus on diverse aspects of place, research in this field has encompassed multiple disciplines – human geography, sociology, economics (marketing), and anthropology – for more than four decades.

In this study, the conceptualization of place branding is aligned with Kavaratzis' definition (2005) due to its process and development emphasis: place branding can be considered an approach to integrate and guide place management. This process thus refers exclusively to places, such as countries (Anholt 2011), cities (Therkelsen and Halkier 2011; Razpotnik Visković 2021), regions (Lorenzini, Calzati and Giudici 2011; Fernandes and Richards 2021), tourist destinations (Campelo et al. 2013), and rural places as well. The place-branding process can thus develop the local economy and empower local communities (Donner 2016).

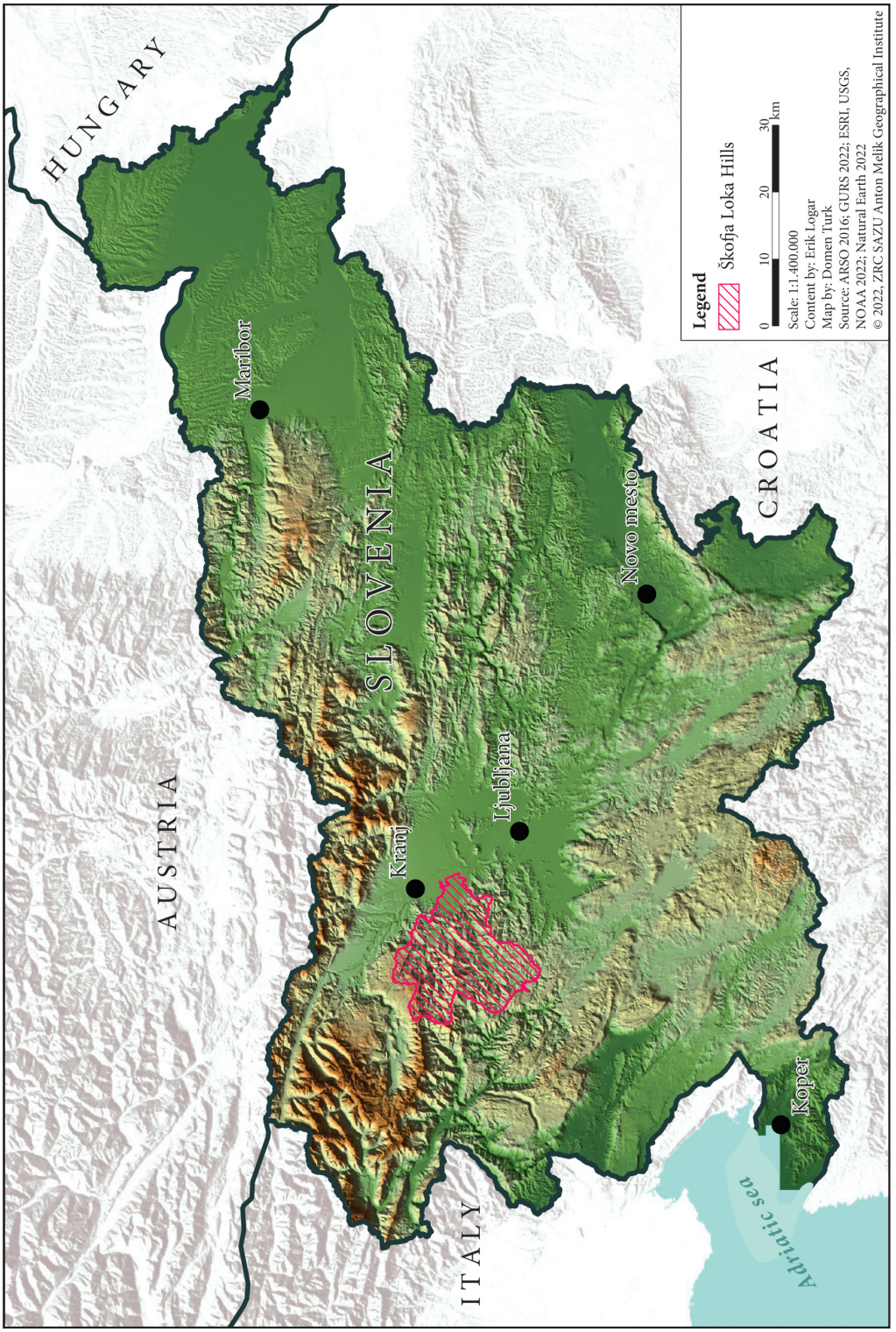
Rural areas have minor importance compared to urban areas and tourist destinations in place-branding literature. According to Karachyna et al. (2020), practitioners mostly do not monitor and evaluate place branding in rural areas, and researchers also rarely analyze this process. Compared to urban areas, the number of stakeholders in rural areas is usually lower and they are less motivated, skills and financial resources are more limited, and so on (Andersson 2014). Rural communities, the countryside, and its economies are not attractive for such research (Vogt and Mergenthaler 2015). Gulisova (2021) identified eighteen articles on place branding in rural areas in the last two decades (see the four paragraphs below). Those articles mostly focus on individual case studies without applying a comparative approach. Attempts at generalization or abstraction of research findings to expand the current theoretical framework are rare (de San Eugenio Vela 2013). Prior knowledge of place branding of rural areas can be classified into four thematic highlights:

- Place branding as an approach to stimulate the development of networks of cooperation, marketing activities, and innovations in a rural area in a holistic, inclusive, and participative way (Domínguez García et al. 2013; Urquhart and Acott 2013; Vuorinen and Vos 2013; Lee, Wall and Kovacs 2015; Mann and Plieninger 2017; de San Eugenio Vela and Barniol-Carcasona 2015; Topole et al. 2021);
- Place branding as a process of activating local resources (Pintar et al. 2010; Blichfeldt and Halkier 2014; Ledinek Lozej 2021);
- Place branding as a way of (re)constructing the image of a rural area (Vik and Villa 2010; Berg and Sevón 2014; Lai et al. 2017; Rinaldi 2017); and
- Place branding as a means to raise the quality of an area's products (e.g., foods and crafts) and services (e.g., gastronomy and tourism; Marsden and Smith 2005; Tregear et al. 2007; Wilson and Whitehead 2012; Káposzta et al. 2015; Gyimóthy 2017; Skowronek et al. 2020).

So far, only in rare cases has research addressed the identification and evaluation of the impacts of place branding in rural areas (i.e., economic, social, and cultural) from the perspective of stakeholders (i.e., residents, governance structures, companies, associations, NGOs, and producers). Due to the rural characteristics of the Škofja Loka Hills and the focus of place brand *»Babica in Dedek«* (»Grandma and Grandpa«) on producers as the main group of stakeholders, this article addresses this research gap: understanding the producers' perspective on place branding in this area.

This article analyzes the development of the place brand *»Babica in Dedek«* to present its impacts on the Škofja Loka Hills area and the challenges faced from the perspective of producers. The study focuses on the place brand *»Babica in Dedek«* in the sparsely populated and agrarian Škofja Loka Hills in northwestern Slovenia (Figure 1). For more than two decades, development of this brand has sought to stimulate territorial development from the self-sufficient, inhospitable, and even backwards image of the area to a more attractive, entrepreneurial, and well-connected one (https://babicadedek.si/). *»Babica in Dedek«* is also the oldest place brand in Slovenia. Place-brand development has addressed the physical components of area

Figure 1: Škofja Loka Hills area in northwestern Slovenia. ► p. 138


HUNGARY
AUSTRIA
SLOVENIA
CROATIA
ITALY
Maribor
Kranj
Ljubljana
Novo mesto
Koper
Adriatic sea
Legend
Škofja Loka Hills
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km
Scale: 1:1.400.000
Content by: Erik Logar
Map by: Domen Turk
Source: ARSO 2016; GURS 2022; ESRI, USGS, NOAA 2022; Natural Earth 2022
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(improving infrastructure, promoting the landscape, etc.) and territorial structures as well (i.e., development of governance structures, networking, and socioeconomic activities; https://babicadedek.si/;). The research questions of this study are the following: 1) What development impacts does the place brand »*Babica in Dedek*« have for producers in the Škofja Loka Hills? and 2) What challenges do producers identify for further place-brand development?

2 Methods

The empirical parts of this study are based on three qualitative research methods: analysis of documents and sources, semi-structured interviews, and a focus group. All texts (documents and transcriptions) were analyzed using the Atlas.ti computer program.

The first step analyzed the documents and sources from the archives of the place-brand manager at the Sora Regional Development Agency in Škofja Loka: current and previous place-brand strategies, annual project reports on brand development, records of stakeholder meetings, and development policies. This method yielded the main findings about the process of brand development (Bowen 2009). The qualitative analysis of those documents contributed to reconstructing the history of the place brand's development and its conceptual structure: organizational features, a stakeholder list, socioeconomic characteristics of the brand, and marketing approaches.

The second step was conducting semi-structured interviews. The stakeholders that were interviewed had to meet the following criteria (Table 1):

- The interviewee had to have been a stakeholder in the place brand for at least three years;
- The interviewee had to actively participate in the brand events (e.g., weekly local markets, stakeholder meetings, and seminars); and
- The interviewees selected had to form a representative sample of the entire group of producers (all types of stakeholders were to be interviewed: food producers, craftsmen, entrepreneurs in tourism and gastronomy, and representatives of associations and the regional development agency).

In this text, the term »producer« refers to producers and service providers in the Škofja Loka Hills (i.e., farmers, artisans, and caterers), and the term »stakeholder« refers to all actors involved with the place brand (i.e., residents, public institutions, and associations). All the stakeholders cooperating in the place-brand initiative were invited to participate in the study. Eleven interviews were conducted in situ with stakeholders and one with the brand manager (Table 1). All the interviews were recorded, and transcripts of the recordings were created. Semi-structured interviews were an effective method to gain insight into stakeholders' opinions, experiences, and values (Crick 2020). In this way, deep insight was gained into the research topic: questions could also be partially adjusted to the interviewees' answers to better understand their point of view (Esparcia et al. 2015; Lee, Wall and Kovacs 2015; Lin and Bestor 2020).

After the interviews were performed, a qualitative analysis of the transcripts was conducted with the computer program Atlas.ti (Urbanc 2008; Friese 2019; Kozina, Bole and Tiran 2021). This program allows

Table 1: Interviewees in the study.

Interviewee	Date	Location	Type of interviewee
1	May 28th, 2020	Škofja Loka	Brand manager (employee of the regional development agency)
2	May 29th, 2020	Škofja Loka	Representative of producers' association
3	May 29th, 2020	Srednje Brdo	Pastry producer
4	May 29th, 2020	Kladje	Bakery
5	May 29th, 2020	Žirovski Vrh	Farm tourism
6	June 2nd, 2020	Studor	Pastry producer
7	June 2nd, 2020	Dolenja Ravan	Vegetable producer
8	June 2nd, 2020	Martinj Vrh	Pastry producer
9	June 2nd, 2020	Dražgoše	Pastry producer
10	June 22nd, 2020	Praprotno	Vegetable producer
11	June 22nd, 2020	Dolenčice	Craftsman
12	June 22nd, 2020	Žiri	Skin-care products producer

analysis by coding the information in a text. Those codes could also be treated as categories of answers for data segmentation on the basis of research questions. Codes were created in a deductive manner in reference to the research questions and theoretical framework. The data that were selected and classified in this manner were analyzed and compared using analytical tools of Atlas.ti, such as a matrix of quotes and interactive networks of relations between codes. As a result, some representative quotes were selected and included in Table 2 to highlight the findings of the article. Through coding of transcripts, other qualitative data were complemented, and more detailed information also emerged to explain the research questions.

Due to the great diversity of answers and sometimes even contradictions among the interviewees' answers, a focus group meeting was held on October 9th, 2020, from 3 to 5 pm at the Škofja Loka town hall. Seven participants attended the focus group: three stakeholders (not the same ones as those interviewed), the brand manager, the director of the Sora Regional Development Agency, and two researchers with previous experience in studying the place brand »*Babica in Dedek*«. The focus-group method was complementary to the previous two methods (Goodsell, Ward and Stovall 2009; Secor 2009). It also validated the findings gathered by analysis of documents and interviews (Vuorinen and Vos 2013).

3 Results

3.1 Socioeconomic circumstances of developing the place brand »*Babica in Dedek*« in the Škofja Loka Hills

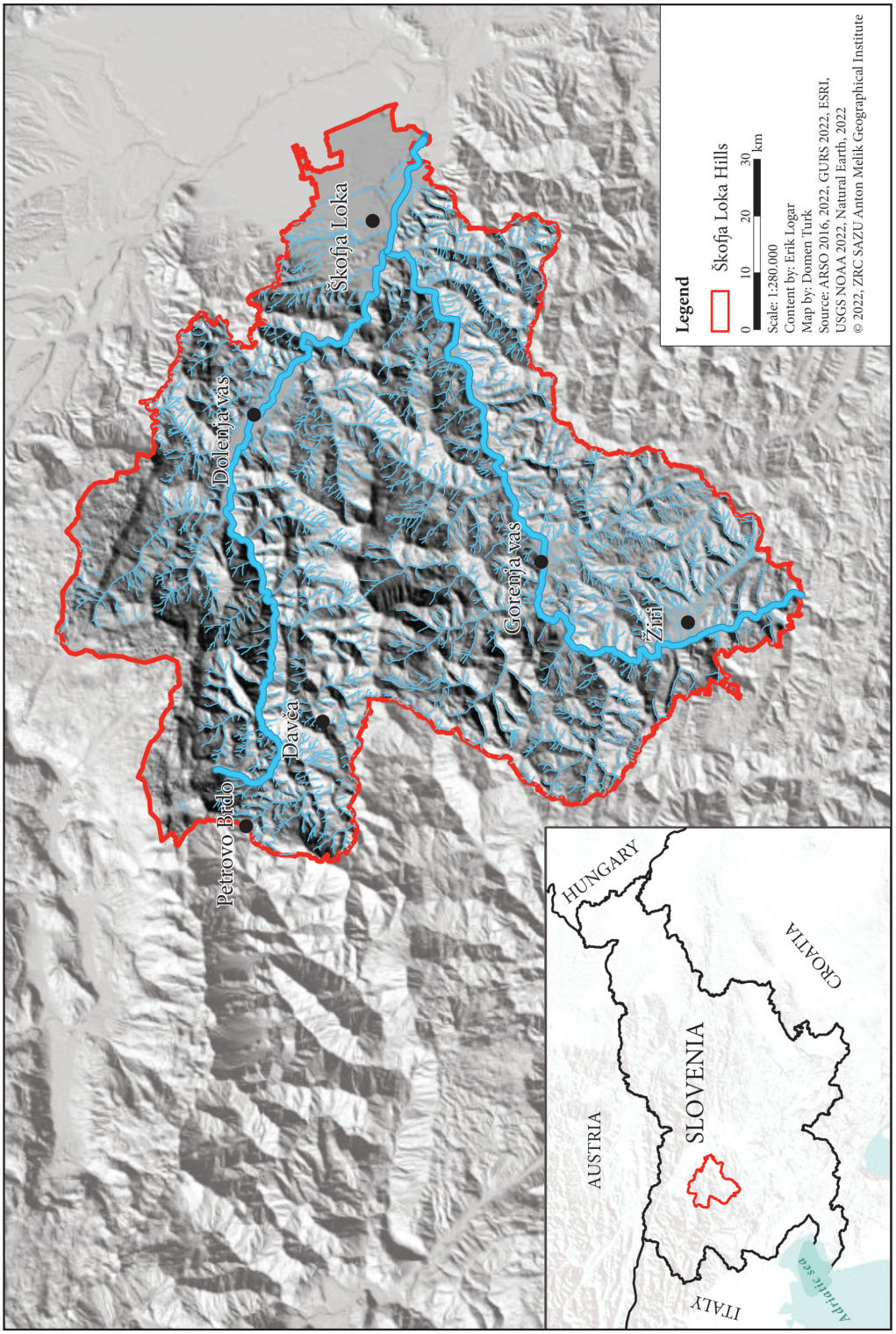
As a territorial entity in this study, the Škofja Loka Hills area is defined as »rural« due to its sparse population and network, embedded in and dependent on the broader regional spatial socioeconomic system (Potočnik Slavič 2010). The area is located in subalpine northwestern Slovenia. It consists of ranges of hills and two valleys (Figure 2). The Škofja Loka Hills area is one of the oldest historical regions in Slovenia, set up as one territorial unit in the tenth century. Despite the area's dispersed settlements, including hamlets and isolated farms, the local communities thus have a strong identity and sense of belonging to the area (Uhan and Potočnik Slavič 2019). The area has approximately 1,500 farms, and they are oriented toward dairy and beef production (Cunder and Lampič 2013; Uhan 2018).

This area of Slovenia has preserved a strong tradition of local food production and self-sufficiency even though many farmers have also been employed part-time in industry in recent decades (Uhan and Potočnik Slavič 2019). To stimulate socioeconomic reconstructing and prevent depopulation of the area, Slovenia's Ministry of Agriculture created the Rural Development Program in 2000 to develop supplementary activities on farms, to add value to farm products, and to generate diversification of farm income (Potočnik Slavič 2002). The aim of this program was to boost farm-based entrepreneurship (i.e., to upgrade cereal production to baking or pastry production, and to develop agritourism services such as accommodation and hospitality services; Razpotnik Visković 2021). The development effects of this program were noticeable: 168 farms in the area have registered supplementary activity or entrepreneurial activity in the last decade (Uhan 2018).

This development success has created new challenges. Despite diverse traditional skills, which were fundamental in improving farm production and services, enormous gaps were identified in producers' marketing, legal, organizational, and logistics skills. For example, several farms developed their own bread production using a traditional recipe. However, there was the problem of who to sell to, how, and where. This challenge contributed to the bottom-up initiative of individuals and local associations to create a common place brand to support producers in the area in marketing tasks, package development, legal questions, and setting up sales channels and stores (Uhan and Potočnik Slavič 2019). In the original idea, the place brand was seen as a »magnet« to attract consumers in the area.

In such a manner, the place brand »*Babica in Dedek*« was registered at the Intellectual Property Office of Slovenia in 2000 by the Sora Regional Development Agency, which has carried out a rural development program in the area. This development agency is responsible for the area's territorial development. The

Figure 2: Area consists of ranges of hills and two valleys. ►


Legend
Škofja Loka Hills
0 10 20 30 km
Scale: 1:280.000
Content by: Erik Logar
Map by: Domen Turk
Source: ARSO 2016, 2022, GURS 2022, ESRI, USGS NOAA 2022, Natural Earth, 2022
© 2022, ZRC SAZU Anton Melik Geographical Institute
Škofja Loka
Dolenja vas
Gorenja vas
Žiri
Davča
Petrovo Brdo
HUNGARY
CROATIA
AUSTRIA
SLOVENIA
ITALY
Adriatic sea

place brand *»Babica in Dedek«* is governed by a brand manager and a team of experts employed at the Sora Regional Development Agency. The primary aim is to stimulate territorial development through place branding in a holistic way despite the strong agricultural character of the area. The brand *»Babica in Dedek«* is used to advertise traditional food products (i.e., jam, bread, butter, milk, and vegetable products) and also other products, such as spirits and wooden crafts. To maintain the quality level, a quality check of the branded products is carried out every year. Furthermore, recommendations for each labeled product and service are made, and a broad variety of seminars, consultation services, and other activities are carried out to improve the quality level of labeled products and services. In addition to revitalization and marketing of traditional gastronomy and craftsmanship, other plans have also been created for place-brand development: stimulating cultural activities, conducting archaeological and historical research to shed light on the history of the area, and increasing the quality of life and general wellbeing in local communities (https://babicadedek.si/). This development has contributed to the growing reputation of the area as a gastronomic region, which is recognized for its food products (bread and pastry, jam, honey, pickled vegetables, and cheese); restaurants with homemade, traditional, and local cuisine; agritourism services; and weekly local food fairs in four settlements in the valleys.

3.2 Positive impacts of brand development

The producers have obtained new opportunities for marketing and sales channels. The brand manager and a team of experts at the Sora Regional Development Agency are responsible for brand development as well as seeking new marketing and sales channels. First, they contacted several retail chains to include products from the brand *»Babica in Dedek«*. Particularly successful is the cooperation with the local retail chain Loška Zadruga, which has stores in six locations in the Škofja Loka Hills. In 2011, the Sora Regional Development Agency obtained EU funds through the Leader program for Loška Zadruga to set up specialized points of sale and market shelves to highlight *»Babica in Dedek«* products (https://loska-zadruga.si/domaci-koticek/). Second, in cooperation with the municipalities in the area and associations, the brand manager has launched weekly local food fairs to sell *»Babica in Dedek«* products at the Škofja Loka marketplace. Most of the interviewees stated that their experience with selling at fairs has positively contributed to their communication skills, networking, direct links with consumers, and positive self-image. The producers highly appreciate this impact of place branding, as illustrated in Quote 1 in Table 2.

Before the place brand *»Babica in Dedek«* was registered, many producers packaged their products in plastic bags, cellophane, or other non-degradable or non-reusable materials. Even though the products were of high quality, their physical appearance was unattractive and did not stand out. The brand manager and team of experts designed product packaging in a participatory way: the producers and designers were involved in designing the packages of their products considering their ideas, their needs, and the products' features. All the packages (bottles, jars, paper bags, and boxes) are designed to follow the color scheme and logo of place brand. Quote 2 in Table 2 is an example of the change in the producers' attitude.

Designing the product packaging showed that each producer has his or her own specific issues. Experts provided consulting regarding legal issues (intellectual rights, geographic indications, and registration issues), marketing and advertising issues (how to advertise products most effectively), financial issues (how to obtain funding for new business ideas), and issues concerning hygiene regulations. The consulting was mostly financed by the Sora Regional Development Agency and thus free of charge for the producers, and the sessions were therefore broadly attended.

Some knowledge gaps (marketing, legal, organizational, and logistics) among producers led to seminars, training sessions, and networking events to stimulate knowledge exchange and boost innovative thinking. The seminars usually covered explanations of new legal rules and hygiene regulations or marketing issues. The training sessions were oriented toward developing practical skills such as business communication, digital administration, and innovative techniques in pastry decoration and craftsmanship. The networking events were held to strengthen internal cooperation networks between different types of producers (farmers, the tourism and gastronomy sectors, and craftsmen) and also external connections with researchers, policy developers, and politicians. Those events have stimulated the development of a feeling of a brand community and cooperation. Some producers have started advertising their products in a cooperative way. For example, vegetable producers have tried to jointly sell their products to local schools,

and some craftsmen have jointly advertised their products in regional newspapers. The place-brand manager emphasized this in Quote 3 in Table 2.

Advertising local products has become a key priority of the place brand. The place brand has stimulated cooperation and mutual benefits among producers in advertising. Many producers cannot afford their own advertising due to the high costs of media placement on TV or radio stations. The local newspapers were willing to publish ads, but hardly anyone would pay for them. Furthermore, most of the producers were unaware of the importance of advertising via social networks and webpages. In two decades of the brand's history, noticeable changes were made in advertising activities for local products:

- The web page Babicaindedek.si and related social media profiles have been established, which are the first approaches to digital marketing and virtual representation for many producers and their products;
- Today, local newspapers regularly cover the events of place branding (innovations, tenders for new products, new products, and producers' entrepreneurial stories) to stimulate the feeling of continuous place-brand development;
- Every December, the Sora Regional Development Agency publishes a promotional catalogue of products packaged as Christmas presents, which can also be used as business gifts; this catalogue is a shrewd marketing move because it emphasizes sustainable and responsible purchasing as an investment in the local economy;
- The place brand and its products are also represented at a variety of national and international fairs (for tourism, crafts, and food) and promotional events. Every October, the traditional promotional event *»Teden podeželja«* (Countryside Week) is held in Škofja Loka to promote producers and their products, and there are also discussions about the future of place-brand development in rural areas in the Škofja Loka Hills (Figure 3).

Table 2: Key quotes from the interviewees.

Source	Quote
1) Interviewee 7, vegetable producer	»Because of the brand *»Babica in Dedek«*, consumers can buy our vegetables in six stores in our region. This is great success! No individual producer could ever achieve such success due to a lack of business experience and engagement.«
2) Interviewee 3, pastry producer	»I was never aware of the role of the design of paper bags and boxes for my pastry. And, even if I were, I could not afford to design my own product packaging. The brand *»Babica in Dedek«* gave me this new opportunity, and now I can really see that the layout and appearance of the products are important too. My previous packaging was completely unattractive to consumers, and in some respects even hygienically questionable.«
3) Interviewee 1, brand manager	»Producers know how to create their product. Their knowledge was accumulated through lifelong learning and intergenerational cooperation. But how could they know everything about the changing rules in law, hygiene, or finances? The place brand *»Babica in Dedek«* has changed this: we take care of producers to keep them informed and offer them new skills too. This is one of the important ways our place brand works: it stimulates socioeconomic development by the educating the producers.«
4) Interviewee 11, craftsman	»I've been part of the place brand *»Babica in Dedek«* for several years. So what?! Even though I go to all the meetings, follow all the regulations, and use new forms of packaging, nobody has bought my products because of that place brand.«
5) Interviewee 5, farm tourism	»The brand manager is completely overloaded. She is hardly able to solve contemporary problems of the place brand, and she has no time to make long-term plans for brand development. Meetings of producers can confirm that: we plan activities to be done in the coming months and never actually discuss our vision of development and future plans. It's always just about the organizational perspective and never about the content.«
6) Interviewee 12, skin-care products producer	»The brand manager sometimes enforces her ideas or ideas in place-brand development regardless of our opinions and feedback. In fact, this is also our fault: we're always so inactive, disinterested, and without ideas or innovative proposals.«
7) Interviewee 9, vegetable producer	»Young people do not recognize the potential of brand *»Babica in Dedek«*. Brand community is too old for them and many of older producers see new products and innovations as a threat to their business.«

KRISTINA MIKLAVČIČ

Figure 3: Weekly food fair in the Municipality of Žiri.

3.3 Challenges of brand development

Two decades of brand development empowered the producers. On the other hand, all the interviewees stress that the place brand did not bring them any increased sales or profit. The producers have noticed that most consumers of their products do not pay attention to the *»Babica in Dedek«* logo and do not have any information about the place brand, as the producer emphasized in Quote 4 in Table 2.

There are several explanations for this observation. First, despite a devoted brand manager and an engaged team, the interviewees point out that managing the place brand is just one of many tasks of employees at the Sora Regional Development Agency. Due to employee overload, brand development (i.e., shaping new ideas, communication with stakeholders, and endeavoring to get new or more stable financing) is usually limited to current tasks and short-term solutions only: nobody has full insight into the sales channels of the place brand or consumers' expectations. Consequently, there is an absence of a holistic approach and a lack of long-term planning for marketing and selling. The interviewee in Quote 5 in Table 2 thus suggests employing a sales specialist, whose full-time job should be marketing and selling the products.

Second, even though the initiative to establish the place brand came from local stakeholders, brand-development decisions were mostly made by employees at the Sora Regional Development Agency. Although they hold annual stakeholder meetings to discuss development issues of the place brand, the number of participants at those meetings is decreasing due to an increasing sense of irrelevance and noncompliance with the decisions made at such events for the place brand. On the one hand, the lack of stakeholder engagement in developing the place brand *»Babica in Dedek«* in the Škofja Loka Hills is seen as a key problem of place-brand development. On the other hand, the brand manager often does not consider producers' ideas. For example, in designing the product packaging, a broad variety of producers' ideas emerged, but most of them were not accepted. A similar problem was seen in the LEADER/CLLD project for launching promotional sales cabinets (*marejne*) to establish small points of sale at tourist locations and in restaurants in the area with products labeled with the place brand. This project was carried out without broad

stakeholder participation. The sales cabinets have also been criticized due to their design and idea: they are seen as an outcome of an unsuccessful »top-down« project. The producers are aware of the lack of their engagement too, as stated in Quote 6 in Table 2.

The brand manager has emphasized the unstable financing of place-brand development, which has caused a long-term structural problem. The place brand *»Babica in Dedek«* is mainly funded by two volatile financial sources: 1) the budgets of the four municipalities in the Škofja Loka Hills, which can change every year due to the municipalities' annual financial plans; and 2) EU funds (the Leader/CLLD funds, the Regional Development Fund, and the European Social Fund), which finance time-limited projects, usually over a two- to four-year timeframe. Lack of long-term financing puts the brand manager and employees of the Sora Regional Development Agency in a difficult position, in which the future of the place brands seems highly uncertain. The development plans for the place brand must usually be adjusted to the demands of municipalities and conditions of tenders. This uncertainty prevents shaping future plans, visions, and development strategies for the place brand. Consequently, the achievements of brand development are sometimes not cohesive or harmonized by strategies and a brand vision. The brand manager argues that her scope for autonomous decision-making regarding brand development is thus usually very limited.

All the interviewees pointed to the absence of new, especially young, producers. On average, the producers are over fifty years old. On the one hand, the level of engagement and enthusiasm for cooperating in place-brand development decreases proportionally with the lower age of producers. Young people are less interested in participating in place-brand activities; although they know considerably more about marketing skills and digital administration, they do not recognize the place brand as a long-term project with potential benefit for their business. To them, place-based networking and cooperation in the local area has a secondary role compared to digital networking and cooperation at the regional, national, or even international level. On the other hand, young producers could contribute new ideas to the place brand (Quote 7 in Table 2).

4 Discussion

The results of this research indicate a limitation of brands' impacts on one sector of stakeholders (producers). The results of this case study show alignment with one of Kavaratzis' (2005; see Introduction) three aims of place branding: product–place co-branding. This contradicts the primary aim of the place brand *»Babica in Dedek«*, which is stimulation of territorial development in a holistic way. »Sectorally limited« outcomes instead of holistic place branding are a phenomenon already known in the literature (Donner 2016; Gulisova 2021; Lešnik Štuhec 2021), but this has never been evaluated from the perspective of territorial development so far.

The development of the place brand *»Babica in Dedek«* has created quite a non-inclusive, considerably closed group of producers with a limited supply of products and services in the Škofja Loka Hills. This contradicts the theoretical presumptions of place branding as an inclusive and participative process, resulting in positive experiences and common success stories of local communities such as cooperation of producers with associations and residents, and shared events and initiatives (Domínguez García et al. 2013; Urquhart and Acott 2013; Vuorinen and Vos 2013; Lee et al. 2015; de San Eugenio Vela and Barniol-Carcasona 2015; Mann and Plieninger 2017). In such a way, branded products and services could acquire an »elitist« reputation, being sold in special places or occasions (i.e., specialized points of sale, food fairs, and festivals) and for higher prices, which would not be affordable for most local communities.

On the other hand, some interviewees also pointed out a »lock-in« feeling. They pointed to other stakeholders in the rural area that are interested in place branding of the area and could also participate in the process, but the brand manager never created an opportunity for them to join the process (i.e., through public tenders, invitations, media campaigns, etc.). The »lock-in« feeling is contrary to the definition of territorial development: it decreases of area's level of cohesion and raises its internal development discrepancies (WIKIAlps 2022). Even more, the place-branding process in the Škofja Loka Hills has contributed to new differences and inequality between stakeholders.

The results of this case study also confirm the findings of Karachyna et al. (2020) about the lack of monitoring, evaluating, and analyzing place-branding processes in rural areas. Despite two decades of brand development, the impacts of *»Babica in Dedek«* have never been evaluated. So far, the place brand has not

had any sort of monitoring system or research-based assessment regarding how much the impacts of place branding rely on the theoretical framework. Without feedback and reflection on the process, it is hard to plan further development and address the challenges identified.

In this case study, the sectoral impacts of the place-branding process are related to the identified absence of bottom-up approaches due to a lack of participative and inclusive approaches. This is a key factor that weakens place branding as an approach to territorial development. It contributes to the feeling of exclusion of several stakeholders and weakens integration of the place brand *»Babica in Dedek«* in the economies and sociocultural life of the local communities. Although the initiative for the place brand *»Babica in Dedek«* originated from the local community, a predominately top-down approach to development was used. There are several reasons for this: 1) deficient community engagement (most decisions about brand development were made by the brand manager and team of employees at the Sora Regional Development Agency), 2) ineffective use of participation methods (i.e., at annual stakeholder meetings), and 3) a continuous need for place-brand adjustment due to unstable financing. In such circumstances, a top-down approach is unavoidable in brand management, but more attention should also be paid to strengthening the bottom-up approach. Place branding will be better aligned with the needs of stakeholders only through an effective combination of top-down and bottom-up approaches (Nared and Bole 2020). A common vision and development strategy should be broadly discussed in an interactive process between the brand manager and local communities. Only in this way can the stakeholders in the area strengthen the feeling of the place brand as a common project with shared responsibilities among the stakeholders.

Due to these findings (i.e., limitation of brands' impacts on one sector; domination of non-inclusivity and top-down approaches over bottom-up; and absence of monitoring, evaluating, and analyzing the place-branding process), the place brand is not broadly accepted or embraced by the general public at the regional, national, and international levels, although several positive impacts are recognized (i.e., marketing and a new packaging layout, and opportunities for training and networking). There are no plans to expand the development scope of the brand *»Babica in Dedek«* in a holistic way, and there are no far-reaching decisions to change its structure. Broadly speaking, effective ways of updating the place brand must be developed in line with the stakeholders' needs and integrated into its structure and organization. In general, place branding in the Škofja Loka Hills area is a process that has contributed to territorial development, but there several factors and circumstances have been identified that hinder full development of its potential.

In this case study we faced to several methodological challenges. This challenges have influenced to results and have potential to develop further researches, focused on methodological point of view. First, weakness of qualitative analysis of documents and sources is the absence of other sources (i.e. unofficial notes, preparatory documents, and drafts of policy documents), which could broaden the perspective on the place-branding process. Further on, two challenges arose when applying the method of semi-structured interview: it was very time-consuming to organize and conduct the in situ interviews due to the COVID-19 pandemic, and some stakeholders that were interviewed were unable to remember certain details of place-brand development. Application of third method, qualitative analysis of the transcripts with the computer program Atlas.ti, was challenging from two viewpoints too. First, due to the complexity of the Atlas.ti computer program, preliminary training and experience of researchers are required. Second, several tools in the Atlas.ti program (i.e., automatic coding and sentiment analysis) are not adjusted to analyze texts in Slovenian, which entailed more manual coding and thus a lower level of objectivity in research. Final method, the focus-group, was conducted during the COVID pandemic, and it was a challenge to convince participants to attend the live focus group. There was also the problem of different levels of motivation to participate in the group discussion (de San Eugenio Vela and Barniol-Carcasona 2015).

5 Conclusions

The place brand *»Babica in Dedek«* is a living organism whose functions and impacts are strongly related to the socioeconomic environment of a rural area. In this case study, the theoretical implications of the place brand *»Babica in Dedek«k* are of secondary importance and are partially disregarded due to other development factors.

This study has shown the contribution of a place brand to territorial development. The impacts of the place brand on producers have successfully overcome several shortcomings and knowledge gaps: new sales

channels were set up, and the producers of labeled products have also learned about marketing, legal issues, and hygiene rules. The impacts of the brand are mostly in a practical and concrete form (i.e., packaging, events, and ads), whereas more abstract processes and approaches (i.e., networking, creativity, and innovation) are of secondary importance.

The place brand *»Babica in Dedek«* also has influence on boosting cooperation among the group of stakeholders in the rural area and strengthening their advertising activities. From the viewpoint of the impacts of place branding, the place brand *»Babica in Dedek«* has created a development breakthrough in the competitive advantages of the Škofja Loka Hills, and it has contributed to better socioeconomic stability of the area.

The problem of the brand's sectoral limitation and its inaccessibility to all the stakeholders engaged is unsolved. Funding of the place brand remains unstable, and consequently the brand has to be adjusted to each tender specifically. Nobody is really committed to the development of the place brand full time, and a significant lack of a long-term vision and strategies has also been identified. From the point of this research, the place brand *»Babica in Dedek«* could not be considered an approach that could fully integrate and guide place management, as is presumed in Kavaratzis' definition (2005). The findings of this research could thus also imply broader development challenges of place brands in other areas with similar factors (a sparse population, a strong role of agriculture, and self-sufficiency). Thus, further comparative studies of place branding are needed.

Although *»Babica in Dedek«* has a two-decade history, it would be incorrect to characterize it as a success story of applying place branding to stimulate territorial development. It is better characterized as an example of a place brand with longevity and resilience: adaptation strategies to constant changes are the main feature of the brand *»Babica in Dedek«*.

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CERTIFICATION, LABELLING AND BRANDING IN TOURISM RESEARCH: SYSTEMATIC REVIEW

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Figure: UNESCO World Heritage List – is it a label, a certificate or a brand? Klavže water barrier in Idrija is part of this List.

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Certification, labelling and branding in tourism research: systematic review

ABSTRACT: The aim of this paper is to present a systematic review of tourism certification, labelling and branding research. To review the scientific literature, we followed the PRISMA methodological approach. We started by outlining the spatial and temporal distribution of research linked to certification, labelling and branding, carried out in the social sciences and humanities. In the second step, we extracted the theoretical definitions and characteristics of these three processes in tourism from a selected body of literature. We continued by analysing hierarchical and non-hierarchical relations between certification and branding, and by drawing conclusions linked to duality, or even contradictions that are emerging in this field of tourism research.

KEY WORDS: geography, business and economics, standards, label, hospitality, leisure, PRISMA method

Certificiranje, označevanje in znamčenje v raziskavah s področja turizma: sistematični pregled literature

POVZETEK: Namen prispevka je s sistematičnim pregledom literature osvetliti rabo izrazov certificiranje, označevanje (ang. labelling) in znamčenje. Za sistematični pregled literature je bil uporabljen metodološki pristop PRISMA. V prispevku najprej predstavimo prostorske in časovne lastnosti relevantnih raziskav na področju družboslovja in humanistike. Iz nabora teh raziskav nato izluščimo teoretske opredelitve in proučimo njihove vsebinske značilnosti. V naslednjem koraku analiziramo hierarhijo odnosov med opredelitvami certificiranja in znamčenja ter oblikujemo zaključke o prepoznanih dvoumnostih in nasprotjih, ki se pojavljajo pri teh izrazih na področju raziskav v turizmu.

KLJUČNE BESEDE: geografija, podjetništvo in ekonomija, standardi, označbe, gostinstvo, prosti čas, metoda PRISMA

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1 Introduction

Tourism, as a growing industry on a global level, is facing several challenges. For the purpose of this paper, we mention two of them. The first is increasing competitiveness in the sector, the need to be recognised, visible, to stand out in order to attract tourist flows and revenues (Lorenzini, Calzati and Giudici 2011). The second is the need to preserve natural and cultural resources, together with ensuring acceptable living conditions for the local community, including seamless operation of services and businesses (Petrevska and Cingoski 2017). Both challenges call for the development of quality tourism but, to achieve this, tourism destinations, whether national, regional or local, need to be managed as an integral whole – the unity of numerous actors who work in coherence within tourism development strategies and policies (Polajnar Horvat and Ribeiro 2019; Šmid Hribar, Razpotnik Visković and Bole 2020).

The topics of competitiveness and resource management of destinations are majorly represented in tourism research in a wide spectrum of disciplines, including geography, urban studies, business and economics, social issues, environmental sciences, ecology and sociology. Studies analyse the competitiveness of tourism destinations, their management and organisation, the process of building a territorial brand and actions for ensuring the necessary quality in the industry. Another focal point in these discussions is the formation of competitiveness clusters in tourism (Hawkins 2004; Yotsumoto and Vafadari 2021) in relation to different types of actors and different types of tourism models, e.g., traditional mass tourism vs. small-scale niche tourism (Mic and Eagles 2019). Such clusters are also built around different labels and certifications, e.g., UNESCO World Heritage List (Hawkins 2004; Yotsumoto and Vafadari 2021) or European quality scheme Protected designations of origin (Ledinek Lozej 2020; 2021).

Tourism plays a crucial role as an economic contributor to the majority of countries (Chin, Chin and Wong 2018), but also causes environmental degradation through irreversible infrastructural interventions in the landscape, extensive use of natural and cultural resources, increased energy and water consumption, and waste production (Nistoreanu, Aluculesei and Avram 2020; Sahin, Baloglu and Topcuoglu 2020). Not only the natural environment, societies living in tourism destinations are also negatively affected. Urban areas face cultural commodification and gentrification (de Vries, Go and Alpe 2018), while rural areas are often reduced to »staging«, with the purpose of creating an authentic, traditional, stereotypic tourism experience, sometimes far from a modern way of life in the concerned area (Mannon and Glass-Coffin 2019; Topole in Pipan 2020; Poljak Istenič and Fakin Bajec 2021).

Such contrasting effects of tourism require leadership through national and regional policies and regulations. Those are mandatory, but can intervene on very different levels: from guaranteeing only minimum protection of local resources (including the protection of human rights, e.g., prevention of child labour, eradication of sex tourism …) to providing a basic framework for the sector's operation (infrastructure, other public services to attract visitors) or more advanced interventions, such as absolute adaptation to a sustainable paradigm (Petrevska and Cingoski 2017; Razpotnik Visković 2020). The diversity of tourism challenges also calls for alternative voluntary approaches, which try to follow the expectations of public authorities, local communities, economic entities and visitors (Christian 2017). In this paper, we focus on branding, certification and labelling as three voluntary processes integrated into tourism strategies which address all abovementioned challenges in tourism.

Branding is a process through which a destination or business »actively seeks to create a unique and competitive identity to position itself, as best as possible on the home and foreign market«. (Cetinski, Perić and Smolčić-Jurdana 2006, 105) and communicates these points of difference internally and externally (Mearns 2007). Certification is a process in which an independent organization verifies whether a tourism product, process or service meets the particular standards. Verification is based on predefined criteria and standards (Razpotnik Visković 2020). The labelling process follows the certification process. It is a method of providing information about a product and it is a means of communication with the end users or visitors (Matus 2010). These are, however, only provisional and working definitions, since literature review shows inconsistent use of these terms and different roles they play within tourism strategies. The aim of this paper is therefore to provide a systematic overview of tourism certification, labelling and branding in the relevant scientific literature, namely their occurrence, terminology in use and observed interrelations. Firstly, we outlined the spatial and temporal distribution of the research linked to certification, labelling and branding, carried out in the social sciences and humanities. Secondly, we extracted the theoretical definitions and characteristics of these three processes. Finally, we analysed the evidence of hierarchical and

non-hierarchical relations between certification and branding, with a special focus on the complementarity and incompatibility of the two processes.

2 Methods

We used the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analysis) method in the review. This approach provides a systematic protocol for performing literature search, selection of papers, their overview and reporting of the results (Moher et al. 2009; Rigolon et al. 2018).

2.1 Definition of the basic search parameters

As a first step, we needed to set the basic selection parameters: the type of the literature we would review (articles, monographs, reports …), the search databases, and the language of the literature. We decided to review scientific papers published in periodical peer reviewed journals in the English language, which is the most commonly used language in academic literature and also the language of the majority of reviews (Rigolon et al. 2018). We did not set any limitations on the time period of the publication since analysing the temporal development of these topics was one of our research objectives. Similarly, we also did not set any limitations regarding the scientific disciplines. We wanted to identify and explore all fields in which research of certification, labelling and branding in the tourism sector is conducted. Moreover, we wanted to make sure not to exclude any interdisciplinary journals from our review process (de Jong et al. 2018).

Only digitally available sources were included in the review process. We scrutinised the Scopus, Web of Science, ScienceDirect and Emerald international databases. The first three are frequently used for searching the literature (Gusenbauer and Haddaway 2020; Zhu and Liu 2020), the latter was added due to its relevant tourism and hospitality journals. The reference date of the search was 15th March, 2021.

We consciously decided to exclude papers in other languages, scientific monographs, professional articles and gray literature in order to process manageable volume of texts.

2.2 Definition of the terms and search expression

In this step, we defined a search expression covering three main thematic groups: CERTIFICATION, BRANDING and TOURISM. For each group we selected key words that function as synonyms or as related terms (Table 1).

We searched through papers' title, key words and abstract. Each paper needed to contain at least one search key words from each thematic group. We built the following search expression: (»standard« OR »standardisation« OR »standardization« OR »standard*« OR »certificate« OR »certif* »OR »certification« OR »label« OR »label*« OR »labelling«) AND (»brand« OR »branding« OR »brand*«) AND (»tourism« OR »tourist« OR »touris*« OR »leisure« OR »hospitality«).

Table 1: List of key words that we used in the search expression.

Group	certification	branding	tourism
Search key words	certification certificate certif* labelling label label* standardisation standard standard*	branding brand brand*	tourism tourist touris* leisure hospitality

Keywords in group »certification« were selected based on our previous research of certification in sustainable tourism, which showed frequent overlapping of root terms certificate, label and standard, and its derivations (Razpotnik Visković 2020).

2.3 Selection process with the PRISMA approach

The PRISMA method comprises four steps of literature review: identification, screening, eligibility and inclusion. In Table 2, we present the results of each step. All actions, from reviewing the elemental paper components (title, abstract, key words), to first and second reading of full texts, were done independently by two researchers. After each step, we compared our coding and refined the list of papers that would be included in the next step.

The most common reason for the exclusion of papers in the screening phase was the lack of focus on our selected key words. Sometimes these key words were used only as »buzz words«, but no real content was linked to them. The word labelling/label has several meanings, one of them being also »etiquette« or »naming« – this connotation was not relevant for our research scope. The word »standard« was also used in other contexts e.g., standard deviation, standardised regression coefficients, standard indicators, effect regression with robust standard errors, standardised method. Some articles were not really related to tourism and hospitality; instead they focused on the tobacco industry, textiles or medicine.

In the second elimination step (eligibility), which required a full-text revision, we faced additional content-related shortcomings: the lack of focus on any of certification, branding or tourism. Some papers were not published entirely in the English language, while some of them were not published in periodical journals.

2.4 Content analysis of the reviewed papers

After the PRISMA selection process, we created a codebook, which was necessary to perform further analyses. The first part of the coding was descriptive:

- year of release,
- discipline(s),
- topic(s),
- geographical scope of the research,
- method(s).

For determining the disciplines, we relied on nomenclature used by the Web of Science database. We did not by default choose the discipline in which the journal is officially listed. Rather than that, we verified the actual content of each individual paper and selected the discipline accordingly. Topics were already identified during the first full reading of the papers in the previous step. A maximum two prevailing topics

Table 2: Results of the PRISMA approach.

PHASE	RESULT			
Identification	Web of Science 136	ScienceDirect 11	Scopus 222	Emerald 27
	Total papers 396	Unique papers 167	Duplicate papers 83	Tripled papers 21
Screening	Papers after duplicates removed 271		Papers excluded based on title, abstract and keywords screening 216	
Eligibility	Full-text papers assessed for eligibility 55		Full-text papers excluded, with reasons 29	
Included	Papers with relevant full-text 26			

Table 3: Final list of selected papers.

Title	Authors	Journal	Year
The natural state: Nature-Based Tourism and Ecotourism Accreditation in Tasmania, Australia	Matysek and Kriwoken	Journal of Quality Assurance in Hospitality and Tourism	2003
Sustainable tourism competitiveness clusters: Application to World Heritage Sites network development in Indonesia	Hawkins	Asia Pacific Journal of Tourism Research	2004
»Brandscaping«: From traditional cultural landscapes to »label regions«: A strategic scheme to achieve sustainable regional development in the Swiss Alps	Boesch, Renner and Siegrist	Mountain Research and Development	2008
Environmental management in Slovenian tourist enterprises	Jurinčič and Bojnec	International Journal of Sustainable Development and Planning	2009
The benefits and challenges of sustainable tourism certification: A case study of the green tourism business scheme in the West of England	Jarvis, Weeden and Simcock	Journal of Hospitality and Tourism Management	2010
Territorial brands for tourism development: A statistical analysis on the Marche Region	Lorenzini, Calzati and Giudici	Annals of Tourism Research	2011
Analyzing Social Responsibility as a Driver of Firm's Brand Awareness	Mattera, Baena and Cerviño	Procedia – Social and Behavioral Sciences	2012
Culinary Tourism Packages and Regional Brands in Czechia	Spilková and Fialová	Tourism Geographies	2013
World Heritage site as a label in branding a place	Azizul and Mizan	Journal of Cultural Heritage Management and Sustainable Development	2015
Enhancement of the »Blue Flag« Eco-label in Italy: an empirical analysis	Pencarelli, Splendiani and Fraboni	Anatolia	2016
Protecting tourism labor? Sustainable labels and private governance	Christian	GeoJournal	2017
Confronting sustainable development in two rural heritage valorization models	Ducros	Journal of Sustainable Tourism	2017
Branding the green tourism in Macedonia [Brendiranje zelenog turizma u Makedoniji]	Petrevska and Cingoski	Sociologija i Prostor	2017
Expectations of residents and tourists of agriculture-related certification systems: analysis of public perceptions	Uchiyama, Tanaka, Matsuoka and Kohsaka	Journal of Ethnic Foods	2017
Altruism or entrepreneurialism? The co-evolution of green place branding and policy tourism in Vaxjo, Sweden	Andersson and James	Urban Studies	2018
New Zealand Winegrowers attitudes and behaviours towards wine tourism and sustainable winegrowing	Baird, Hall and Castka	Sustainability	2018
The Implementation of Green Marketing Tools in Rural Tourism: The Readiness of Tourists?	Chin, Chin and Wong	Journal of Hospitality Marketing and Management	2018
The Necessity for a Local Level of Gastronomic Tourism Standardization: The Case of Torino's City Branding	De Vries, Go and Alpe	Modeling Innovation Sustainability and Technologies	2018
Habiba Community: brand management for a family business	Hamed	Emerald Emerging Markets Case Studies	2019
Do green awards and certifications matter? Consumers' perceptions, green behavioral intentions, and economic implications for the hotel industry: A Sri Lankan perspective	Lee, Lee and Gunarathne	Tourism Economics	2019
Cooperative branding for mid-range ecolodges: Costa Rica case study	Mic and Eagles	Journal of Outdoor Recreation and Tourism	2019
Analysis of green marketing tools on tourist satisfaction of staying in Bali village	Kartika, Sumada, Sasmita and Komara	International Journal of Psychosocial Rehabilitation	2020
Is green marketing a label for ecotourism? The Romanian experience	Nistoreanu, Aluculesei and Avram	Information	2020
The Influence of Green Message Types on Advertising Effectiveness for Luxury and Hotel Segments	Sahin, Baloglu and Topcuoglu	Cornell Hospitality Quarterly	2020
Antecedents to the creation of 'Thai Select Unique' restaurant brand equity	Sornsaruht	African Journal of Hospitality, Tourism and Leisure	2020
Comparing cultural world heritage sites and globally important agricultural heritage systems and their potential for tourism	Yotsumoto and Vafadari	Journal of Heritage Tourism	2021

were assigned for each paper. For analysing geographical scope, we identified the concrete location of study cases (where relevant) and geographical scale (global, national, regional, local). In the methodology section, we categorised methods into basic qualitative and quantitative groups and identified the main sources of data (official or internal documents, websites, interviews or surveys with tourists, managers, certificate holders, statistical databases, articles).

The second part of the codebook was open-ended. We focused on the use of terminology and definitions of certification, labelling and branding; and searched for links established among them.

Analysis of content was also conducted with the use of the Atlas.ti computer program. This software enables analysis by coding the information in text (Urbanc 2008). Those codes could be treated as a category of answers to proceed data segmentation on the basis of research questions (Kozina, Bole and Tiran 2021). In such way quantification of several results of literature review were done (i.e., categorisation into disciplines and topics, analysis of methods used, year of publication, country and spatial level of research) as well as a qualitative analysis of papers' content (i.e., definitions of terms and identification of linkages and (non)hierarchical relations between certification and branding, identification of reasons for certification and standardisation inclusion into branding strategies).

3 Results

3.1 Brief descriptive analysis

Selected papers were categorised into six disciplines according to the Web of Science classification. Three papers were classified into two disciplines and the remainder into one. Certification and branding were most often studied in Business and Economics (16), followed by Geography (7). Being present also in other disciplines (Social Issues, Environmental Sciences and Ecology, Sociology and Urban Studies) indicates that tourism research is interdisciplinary oriented. Articles that were classified into two fields of research were always combined with Business and Economics – this is the discipline in which newest scientific knowledge about tourism branding and certification is currently concentrated.

Selected papers addressed several interrelated topics. Based on papers' keywords and content we identified ten. In most cases, studies referred to sustainable development (9) and territorial development of rural areas, cities and tourist destinations (8). Seven papers were related to visibility aspects, i.e., to be more recognised or differentiated. Governance, environmental management, tourist perception, customer perception and behaviour of visitors were addressed by three papers. Authenticity and competitive clusters were addressed once. All these topics reveal the diverse contexts of the integration of certification and branding into tourism strategies and their role in governance.

The most common method used in the selected studies was literature desk review (including web pages and social media contents, gray literature and similar non-scientific sources), which was used in 11 papers. A questionnaire or survey was used in 8 papers and interviews were carried out in 7 studies. Respondents in these cases were most commonly the representatives of different groups of stakeholders: visitors, members of associations, representatives of governance structure etc. Qualitative methods prevailed over quantitative methods. Qualitative analysis of texts was conducted either by software programmes or manually, altogether it was used in 6 cases. Statistical analyses such as the multiple regression method or multivariate analysis of covariance were used in 4 papers. Other less used methods were the descriptive method, case study or sampling method.

Temporal analysis of the publication revealed increased interest in this topic in recent years. Selected papers were published from 2003 to 2020, with different dynamics. At the beginning, we recorded a small number of publications (one per year and not even in all years), but trends changed. Out of 26 papers, 16 of them were published in the period from 2017 to 2020 (Figure 2).

In the analysed papers, most of the research was conducted on national (11) and local levels (10). Studies on a regional level were presented in 4 cases, while one paper covered the findings on a global level. Most of the studies were focused on Eurasia (13 studies in Europe and 7 in Asia). Other articles cover areas in North and Central America, Africa and Oceania.

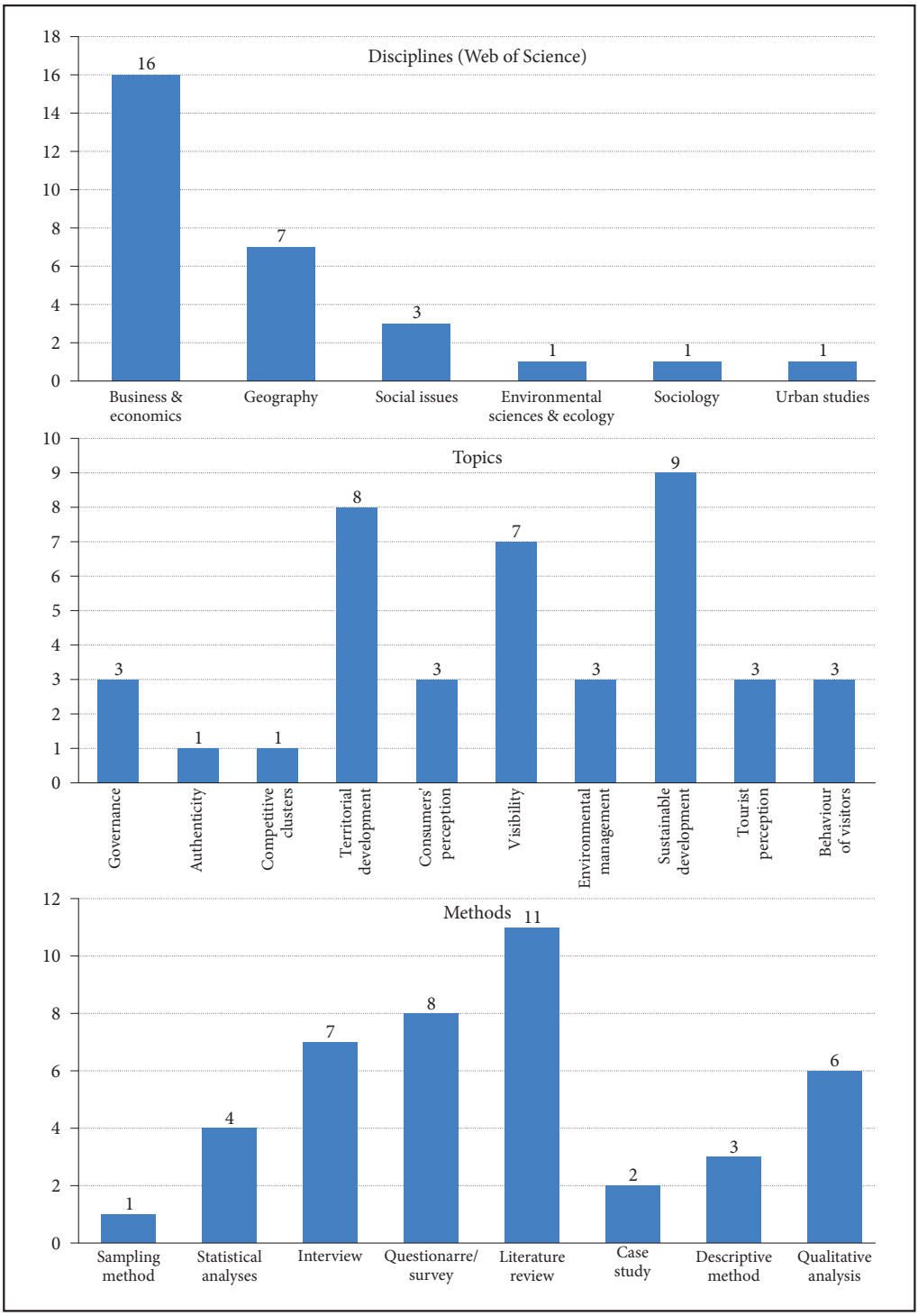

Figure 1: Representation of discipline, topics and methods in selected papers.

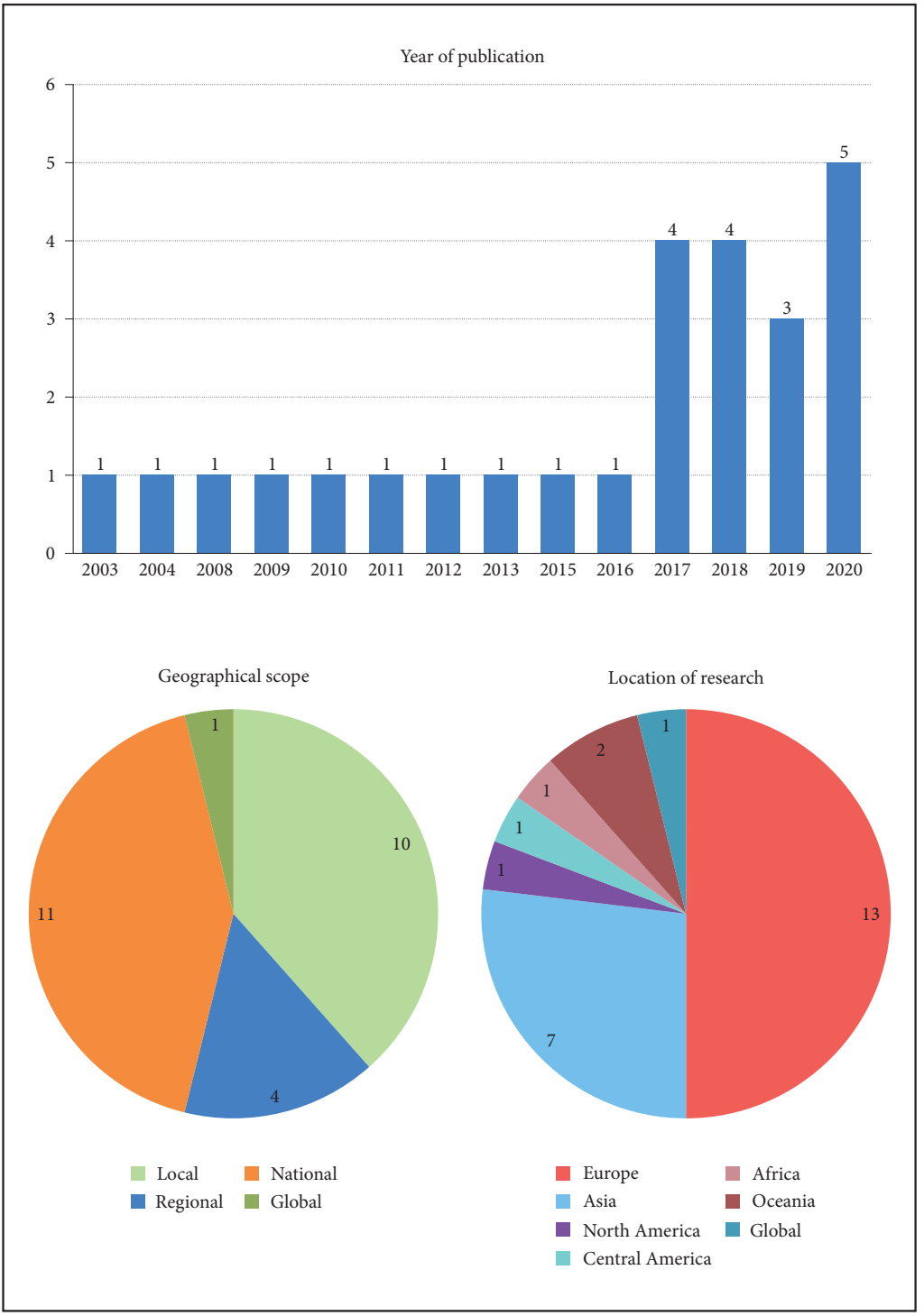

Figure 2: Temporal and spatial distribution of the studies.

3.2 Definitions of the terms

The qualitative analysis of terms branding, certifications and labelling showed that they were most commonly referred to as a marketing tool or governance method (8, 4 and 4 times respectively). Certification and labelling were also used as an assurance of the quality of products and services (8 times each). The term labelling was used as an indicator of quality or achieving developmental goals (9), while the term certification was recognised as a guideline for achieving concrete strategic goals (7). Certification was also frequently used as an approach to image improvement (4) and as a decision-making tool (4).

Content analysis revealed that branding had a strong processual component, emphasised in the fields of marketing, governance, adding value and differentiation. For example, in selected papers branding was defined as:

- a value-added process leading to the creation of the customers' experiences (Mattera, Verónica and Cerviño 2012),
- a method of product differentiation and marketing (Christian 2017) or
- an approach in which corporate branding is used to express core values, beliefs, organisational cultures; the objective of place branding is thus usually to attract visitors, new residents and business investments (Andersson and James 2018).

On the other hand, labelling had a more static or even symbolic meaning – it was often perceived as evidence of assurance or an indicator for either quality or developmental goals:

- a statement label that showed environmental aspects and one of the tools in the framework of environmental management (Kartika et al. 2020),
- an external mark to show the type of protection (Yotsumoto and Vafadari 2021) or

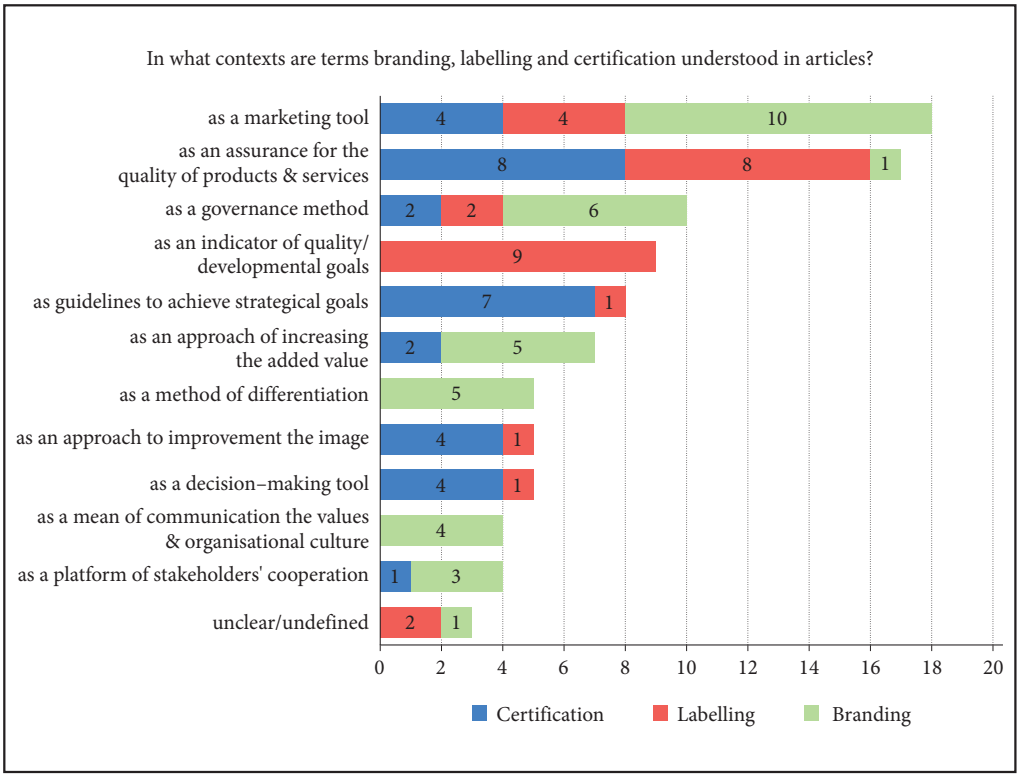

Figure 3: The contexts in which branding, certifications and labelling were understood in the papers.

- an indicator for quality assurance, sending important signals to the market about the offer achieving high quality standards and about the existence of control that procedures are undertaken by independent authorities (Pencarelli, Splendiani and Fraboni 2016).

Certification was used as a guarantee of quality and a guideline for reaching specific developmental goals. According to definitions provided in papers, certification:
- provided guidance to those who recognized that respect for society and environment was a critical success factor (Mattera, Verónica and Cerviño 2012),
- was the process of providing documented assurance that a product, service or organisation complied with a given standard (Jarvis, Weeden and Simcock 2010) or
- was a means of achieving an innovative development scenario (Boesch, Renner and Siegrist 2008).

3.3 Link between certification, labelling and branding

Certification can be a part of branding strategy. In 17 out of 26 papers, studies revealed that certification (and standardisation) formed an integral part of building a brand or developing a branding strategy. The purpose of this integration is threefold (Boesch, Renner and Siegrist 2008; Sahin, Baloglu and Topcuoglu 2020):
- boosting a green and sustainable image and reputation (certification became a principal indication of sustainability in the strategy),
- emphasising the excellence of the branded entity (destination, business, product) and
- reinforcing the credibility of a brand by using the system of criteria.

Hamed (2019), for example, recognizes certification as an initial but temporary tool for building trust in the brand. After a period of time, certification is no longer needed – the brand becomes trustworthy on its own. Certification can also have a more operational role. This can be demonstrated in the case of a corporate social responsibility, whereby certification doesn't serve only as a tool for raising awareness of a brand but also provides concrete guidance to achieve this objective. Other authors similarly argue that certification and standardisation increase the quality of a service or product (Lorenzini, Calzati and Giudici 2011) and demonstrate the existence of sustainability practices (Boesch, Renner and Siegrist 2008) or environmental management systems (Petrevska and Cingoski 2017). Some tourism providers are aware of the threat of greenwashing or »empty« green marketing and see certification as protection against the abuse of green initiatives/practices (Andersson and James 2018; Hamed 2019). Certifications, labels or awards are also used as a means of communication with visitors and other businesses (Lee, Lee and Gunarathne 2019). This role is increasing since, according to Sahin, Baloglu and Topcuoglu (2020), a green orientation is »a new normal« for tourists. The rise of private initiatives, both in the area of certification supply and demand, indicates an important shift from mission-driven motives (aspiration for environmentally friendly operation, ethical reasons, responsibility) to market-driven motives (boosting the green image and reputation). Moreover, private governance is taking over fields traditionally under the supervision of public governance (e.g., working conditions, social responsibility), because it's marketable (Christian 2017). With certification, tourism businesses go beyond minimum legal requirements, because this becomes a marketable feature that induces a positive perception by tourists and other businesses (Mattera, Verónica and Cerviño 2012).

Certification can also be an alternative to branding in tourism. Some authors of the reviewed papers see certification and branding as two incompatible concepts. Certification, which is based on the standardisation and unification of criteria, can vouch for a certain level of quality, comparability and can help visitors to set their expectations regarding the services and offer in advance (Andersson and James 2018). However, there is also concern that such »generalisations« are not emphasising the uniqueness of businesses and destinations. Due to the lack of differentiation, the visibility of the destination could be contested (Mic and Eagles 2019). De Vries, Go and Alpe (2018) ask a similar question: how to create a brand, based on authenticity and standardisation; are those concepts compatible, in conflict or even contradictory? Authenticity has become a powerful marketing and branding tool. Any form of standardisation can limit »the expression of local identity, a key driver of authenticity and branding« (Mic and Eagles 2019, 210).

Certification and branding can be seen as two alternative or even opposing processes of tourism management. Branding is understood as an open process, which allows co-creation and wider engagement of the directly involved actors, while in the case of certification, due to following predefined standards and

criteria set by a third-party organisation, possibilities for co-creation are very limited (Baird, Hall and Castka 2018; Mic and Eagles 2019).

Chin, Chin and Wong (2018) presented a triangular model of green marketing tools, in which eco-labelling and certification, eco-branding and environmental advertising interplay as three individual but interlinked elements. According to the authors, eco-branding is »a name, symbol, or design of products that is environmentally harmless« (Chin, Chin and Wong 2018, 264). The features of eco-brands allow consumers to differentiate them from other non-green products. Eco-label communicates the product's collective environmental performance while green advertising »promotes a green lifestyle with or without highlighting a product or service, or which reveals an environmentally responsible corporate image« (Chin, Chin and Wong 2018, 265).

Numerous authors treat certification, labelling and branding either as synonyms or as hierarchically equivalent but not competitive nor interlinked concepts. In these papers, clear definitions of terms are usually not provided or distinctions are perceived as faint. Kartika et al. (2020), for example, mention eco-labelling and eco-branding separately; eco-labelling in the context of preserving the environment, the quality, cleanliness and beauty of the environment, while eco-branding as something linked to tradition, as eco-friendly or using local materials.

Table 4: Reasons why certification and standardisation are part of branding strategies – evidence from the studies.

Contribution	Entity	Paper
to achieve sustainability and to demonstrate it	area – region; business – service sector; heritage sites	Boesch, Renner and Siegrist 2008; Mattera, Verónica and Cerviño 2012; Azizul and Mizan 2015
to support regional/urban/ rural development	area – region; city; villages; ecomuseums; area and products	Boesch, Renner and Siegrist 2008; Ducros 2017; Uchiyama, Tanaka, Matsuoka and Kohsaka 2017; Andersson and James 2018
to apply/compete for public funding (federal, sectorial)	area – region	Boesch, Renner and Siegrist 2008
to assure credibility, transparency, comparability and consistent handling	area – region; business – accommodation; hotels	Boesch, Renner and Siegrist 2008; Azizul and Mizan 2015; Petrevska and Cingoski 2017
to reach a certain level of quality	area – region; beaches, marinas; destinations	Boesch, Renner and Siegrist 2008; Lorenzini, Calzati, and Giudici 2011; Pencarelli, Splendiani and Fraboni 2016
to improve image/visibility/reputation	area – city; business – general; service sector; lodge; accommodation; beaches, marinas; businesses; area and products; destinations; heritage sites	Jurinčič and Bojnec 2009; Lorenzini, Calzati and Giudici 2011; Mattera, Verónica and Cerviño 2012; Azizul and Mizan 2015; Pencarelli, Splendiani and Fraboni 2016; Christian 2017; Uchiyama, Tanaka, Matsuoka and Kohsaka 2017; Andersson and James 2018; Hamed 2019; Lee, Lee and Gunarathne 2019; Mic and Eagles 2019
to help achieving corporate social responsibility (CSR)	business – service sector	Mattera, Verónica and Cerviño 2012
guidance for implementing an environmental management system (EMS)	area – region; business – general; accommodation	Boesch, Renner and Siegrist 2008; Jurinčič and Bojnec 2009; Petrevska and Cingoski 2017
excellence	area – villages; ecomuseums; heritage sites	Azizul and Mizan 2015; Ducros 2017
environmental tool, environmental commitments	business – general; lodge; destinations	Jurinčič and Bojnec 2009; Lorenzini, Calzati, and Giudici 2011; Hamed 2019; Mic and Eagles 2019
communication with the outside world	business – accommodation; service providers	Christian 2017; Hamed 2019
direct economic benefit: to add value; to receive pay premium, to increase the volume of tourism visits	business – accommodation; beaches, marinas; products; heritage sites	Azizul and Mizan 2015; Pencarelli, Splendiani and Fraboni 2016; Uchiyama, Tanaka, Matsuoka and Kohsaka 2017; Lee, Lee and Gunarathne 2019
to raise awareness, to educate	beaches, marinas	Pencarelli, Splendiani and Fraboni 2016,
to fight against greenwashing and empty green marketing	business – general; area – city	Andersson and James 2018; Hamed 2019

The use of terms strictly as synonyms is not rare (Spilková and Fialová 2013; Mic and Eagles 2019; Nistoreanu, Aluculesei and Avram 2020; Sornsaruht 2020). This is especially common in the papers dedicated to the UNESCO World Heritage List. The list is sometimes called a brand, a label or even certification, with no real attention given to differentiation of these terms (Hawkins 2004; Azizul and Mizan 2015; Yotsumoto and Vafadari 2021). Ducros (2017) similarly states that in the case of The Association of the Most Beautiful Villages in France, the label is a brand, but standardised, subjected to an evaluation process or respect for the collective charter.

Lorenzini, Calzati, and Giudici (2011) see eco-labels and sustainable certification as one form of territorial branding but, at the same time, mention that certification is often linked to quality and meeting standards, thus becoming part of branding when quality needs to be emphasised. In this case, the hierarchical relation between terms is not always comprehensible.

Certification or label can also be seen as a brand on its own. The branding of certification or label defines its visibility, success and benefits for certified entities and requires all elements of branding, such as visual identity, logos and websites (Hawkins 2004; Jarvis, Weeden and Simcock 2010). Entities (destinations, businesses, sites) that join certification schemes have certain expectations regarding the benefits that certification brings. They count on increased media attention, the advertising of a whole cluster and its individual members and access to the knowledge and experiences of other members of a cluster (Hawkins 2004). They also express criticism when these expectations are not met. On the other hand, members of these clusters share the responsibility to maintain the good reputation of the certification (together with the auditing process) by respecting the standards of quality and rules of communication e.g., use of logos, images, fonts (Jarvis, Weeden and Simcock 2010).

4 Discussion

In this chapter, we draw some findings linked to duality or even contradictions emerging in the field of tourism certification, labelling and branding research. We also discuss review limitations and implications for future tourism development.

The review of the scientific literature showed that certification, labelling and branding are not three distinct processes with clear definitions and roles in tourism development. We observed an inconsistent use of the terminology and lack of definitions for each term (Hawkins 2004; Azizul and Mizan 2015; Kartika et al. 2020; Yotsumoto and Vafadari 2021). Only a few papers provide a definition, but these definitions differ (see chapter 3.2). It must be noted that only English papers were included in the review. Adding other languages (French, Spanish …) could reveal even larger terminological inconsistency.

In the review, we identified the variety of different roles that certification can have on tourism development and the complementarity of certification and branding (Table 1). De Vries, Go and Alpe (2018), however, have the opposite view on this complementarity and pose a question as to whether standardisation (as a basis for certification and labelling) could become a threat to establishing destination brand uniqueness. The result of this dilemma is the demand for differentiation – adaptation of standard for different entities, e.g., hotel vs. cottage (Mic and Eagles 2019). These observations raise two questions. Firstly, are certification and branding two compatible processes (de Vries, Go and Alpe 2018). Secondly, when taking into consideration the cluster of entities owning the same certification, where is the compromise between cooperation and competition, the balance between following the standards and standing out?

In this conceptual review we included papers that addressed different certified, labelled and branded entities, showing at the same time the richness of the research and also the extent to which these concepts are applied: territories (destinations) and variety of hospitality businesses (accommodation, catering, winemakers, tour operators). Data were gathered from the point of view of label/certificate/brand owner (private entities or public officials), users (managers, owners, employees of certified entities) and visitors. This brings some comparative advantages (insights into visibility and benefits of, e.g., inclusion in certification, discrepancy between expectations of the businesses and actual perception of the visitors). However, variety also has limitations, since different perspectives (e.g., owners', users' and visitors' points of view) are not integrated into a single study.

The public versus private role in certification and branding shows an important duality as well. We observed a reluctance about mandatory, often nationally led certification and branding initiatives, which are primarily

linked to marketing activities abroad, e.g., winegrowing in New Zealand (Baird, Hall and Castka 2018). In contrast, voluntary, privately led governance is taking over fields that were traditionally under the supervision of public governance, e.g., environmental standards, working conditions, social responsibility (Christian 2017). One reason could be found in the flexibility, adaptability and possibility of meeting the expectations of different providers. Certified entities, either destinations or tourism providers, are also sensitive to the question of whether standards and criteria are result- or progress-oriented (Jurinčič and Bojnec 2009). More and more certificates are progress-oriented (Foh Lee 2001), their standards are being modified according to technological development and customer requirements (e.g., EU Ecolabel, Blue Flag, Green Key) or new initiatives are being created (e.g., TravelLife, Booking.com – Travel sustainably), which respond to new requirements.

5 Conclusion

This paper provides a systematic overview of tourism certification, labelling and branding in relevant scientific literature. Despite being omnipresent in tourism research (or because of it), the three terms are inconsistently used. The review revealed the complexity of the hierarchical/non-hierarchical and complementary/contested relations among certification and branding. Despite the dilemma about the complementarity of standardisation and uniqueness, the first represents the base for achieving quality, credibility and responsibility in one of the world's fastest growing industries. The benefits of certification, when taking part in branding strategies, have been identified in numerous papers and thus confirm the strong link and co-habitation of the two processes in practice. This link is especially important and viable in the implementation of sustainable tourism and its adaptation to climate change at different territorial levels.

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Unsolicited or invited original research articles and review articles are accepted. Articles and materials or sections of them should not have been previously published or under consideration for publication elsewhere. The articles should cover subjects of current interest within the journal's scope.

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Research articles should have the following structure:

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- **Discussion:** interpret the results, generalize from them, and present related broader principles and relationships between the study and previous research. Critically assess the methods and their limitations, and discuss important implications of the results. Clarify unexpected results or lacking correlations.
- **Conclusion:** present the main implications of the findings, your interpretations, and unresolved questions, offering a short take-home message.

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- **Conclusions:** provide implications of the findings and your interpretations (separate from facts), identify unresolved questions, summarize, and draw conclusions.

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If a text is unsatisfactory, the editorial board may return it to the author(s) for professional copyediting or reject the article. See the section on the peer-review process (available at https//ags.zrc-sazu.si) for details. Author(s) may suggest reviewers when submitting an article.

4.2 Language

Articles are published in English.

Articles can be submitted in English or Slovenian.

Authors must take care of high-quality English text. In the case of poor language, the article is copyedited/translated after acceptance by a professional chosen by the editorial board. In such a case, the translation or copyediting costs are borne by the author(s) and must be paid before layout editing.

All articles should have English and Slovenian abstracts.

4.3 Supplementary file submission

Supplementary files (figures) can be submitted to the OJS packed in one zip file not exceeding 50 MB.

4.4 Submission date

The journal publishes the submission date of articles. Please contact the editorial board (ags@zrc-sazu.si) with any questions.

5 Citations

Examples for citing publications are given below. **Citing »grey literature« is strongly discouraged**.

5.1 Citing articles

- Bole, D. 2004: Daily mobility of workers in Slovenia. Acta geographica Slovenica 44-1. DOI: https://doi.org/10.3986/AGS44102
- Fridl, J., Urbanc, M., Pipan, P. 2009: The importance of teachers' perception of space in education. Acta geographica Slovenica 49-2. DOI: https://doi.org/10.3986/AGS49205
- Gams, I. 1994a: Types of contact karst. Geografia Fisica e Dinamica Quaternaria 17.
- Gams, I. 1994b: Changes of the Triglav glacier in the 1955-94 period in the light of climatic indicators. Geografski zbornik 34.
- Van Hall, R. L., Cammeraat, L. H., Keesstra, S. D., Zorn, M. 2016: Impact of secondary vegetation succession on soil quality in a humid Mediterranean landscape. Catena, In press. DOI: https://doi.org/10.1016/j.catena.2016.05.021 (25. 11. 2016).
- De Kerk, G. V., Manuel, A. R. 2008: a comprehensive index for a sustainable society: The SSI – The Sustainable Society Index. Ecological Economics 66-2,3. DOI: https://doi.org/10.1016/j.ecolecon.2008.01.029
- Perko, D. 1998: The regionalization of Slovenia. Geografski zbornik 38.
- Urry, J. 2004: The 'system' of automobility. Theory, Culture and Society 21-4,5. DOI: https://doi.org/10.1177%2F0263276404046059
- Yang, D. H., Goerge, R., Mullner, R. 2006: Comparing GIS-based methods of measuring spatial accessibility to health services. Journal of Medical Systems 30-1. DOI: https://doi.org/10.1007/s10916-006-7400-5

5.2 Citing books

- Cohen, J. 1988: Statistical power analysis for the behavioral sciences. New York.
- Fridl, J., Kladnik, D., Perko, D., Orožen Adamič, M. (eds.) 1998: Geografski atlas Slovenije. Ljubljana.
- Hall, T., Barrett, H. 2018: Urban geography. London. DOI: https://doi.org/10.4324/9781315652597
- Hall, C. M., Page, S. J. 2014: The geography of tourism and recreation: Environment, place and space. New York. DOI: https://doi.org/10.4324/9780203796092
- Luc, M., Somorowska, U., Szmańda, J. B. (eds.) 2015: Landscape analysis and planning, Springer Geography. Heidelberg. DOI: https://doi.org/10.1007/978-3-319-13527-4
- Nared, J., Razpotnik Visković, N. (eds.) 2014: Managing cultural heritage sites in southeastern Europe. Ljubljana. DOI: https://doi.org/10.3986/9789610503675

5.3 Citing chapters of books or proceedings

- Gams, I. 1987: A contribution to the knowledge of the pattern of walls in the Mediterranean karst: A case study on the N. island Hvar, Yugoslavia. Karst and Man, Proceedings of the International Symposium on Human Influence in Karst. Ljubljana.
- Hrvatin, M., Perko, D., Komac, B., Zorn, M. 2006: Slovenia. Soil Erosion in Europe. Chichester. DOI: https://doi.org/10.1002/0470859202.ch25
- Komac, B., Zorn, M. 2010: Statistično modeliranje plazovitosti v državnem merilu. Od razumevanja do upravljanja. Naravne nesreče 1. Ljubljana.
- Zorn, M., Komac, B. 2013: Land degradation. Encyclopedia of Natural Hazards. Dordrecht. DOI: https://doi.org/10.1007/978-1-4020-4399-4_207

5.4 Citing expert reports, theses, dissertations and institutional reports

- Breg Valjavec, M. 2012: Geoinformatic methods for the detection of former waste disposal sites in karstic and nonkarstic regions (case study of dolines and gravel pits). Ph.D. thesis, University of Nova Gorica. Nova Gorica.

- Holmes, R. L., Adams, R. K., Fritts, H. C. 1986: Tree-ring chronologies of North America: California, Eastern Oregon and Northern Great Basin with procedures used in the chronology development work including user manual for computer program COFECHA and ARSTAN. Chronology Series 6. University of Arizona, Laboratory of tree-ring research. Tucson.
- Hrvatin, M. 2016: Morfometrične značilnosti površja na različnih kamninah v Sloveniji. Ph.D. thesis, Univerza na Primorskem. Koper.
- Šifrer, M. 1997: Površje v Sloveniji. Elaborat, Geografski inštitut Antona Melika ZRC SAZU. Ljubljana.
- World commission on environment and development 1987: Our common future: Brundtland report. Oxford.

5.5 Citing online materials with authors

- Tiran, J. 2021: Slovenija se je v celoti odela v modro. Metina lista. Internet: https://metinalista.si/slovenija-se-je-v-celoti-odela-v-modro/ (3. 11. 2021).
- Davies, G. 2017: The place of data papers: Producing data for geography and the geography of data production. Geo: Geography and Environment. Internet: https://blog.geographyandenvironment.com/2017/09/27/the-place-of-data-papers-producing-data-for-geography-and-the-geography-of-data-production/ (8. 11. 2021).

5.6 Citing websites without authors (e.g. websites of projects and institutions)

Use in-text citations only. It is not necessary to include a citation in the reference list. The in-text citation should include the URL.

5.7 Citing publicly archived data (e.g. statistical data)

Use in-text citations only. It is not necessary to include publicly archived datasets in the reference list. The in-text citation should include the name of the dataset, the institution providing the data and the time frame of the data used.

When the data you cited were published as a report, add it to the reference list and use the following format:

- Popis prebivalstva, gospodinjstev, stanovanj in kmečkih gospodarstev v Republiki Sloveniji, 1991 – končni podatki. Zavod Republike Slovenije za statistiko. Ljubljana, 1993.
- Agriculture, forestry and fishery statistics. 2020 edition. Publications Office of the European Union. Luxembourg, 2020.

5.8 Citing geospatial data and cartographic materials

Geospatial data used in maps should be cited in the colophon on the map (see the Table and Figures section of the Authors' Guidelines). It is not necessary to include geospatial data in the reference list.

When cartographic materials are published as an independent monograph, add it to the reference list and use the following format:

- Buser, S. 1986: Osnovna geološka karta SFRJ 1 : 100.000, list Tolmin in Videm (Udine). Savezni geološki zavod. Beograd.
- Državna topografska karta Republike Slovenije 1 : 25.000, list Brežice. Geodetska uprava Republike Slovenije. Ljubljana, 1998.
- Franciscejski kataster za Kranjsko, k. o. Sv. Agata, list A02. Arhiv Republike Slovenije. Ljubljana, 1823–1869.
- The vegetation map of forest communities of Slovenia 1:400,000. Biološki inštitut Jovana Hadžija ZRC SAZU. Ljubljana, 2002.

5.9 Citing legal sources

Use in-text citation. It is not necessary to include a citation in the reference list. The in-text citation should include the title of legal document and the year.

5.10 In-text citation examples

All references in the reference list are cited in the text. In-text citations should include the last name of the author(s) or the name of the institution, and the year of publication. Separate individual citations by semicolons, arrange citations by year of publication, and separate the page information from author(s)' names and years by a comma; for example: (Melik 1955), (Melik, Ilešič and Vrišer 1963; Gams 1982a; Gams 1982b; World Commission on Environment and Development 1987). For references with more than three authors, cite only the first, followed by et al.: (Melik et al. 1956). Give page numbers only for direct quotations. Narrative citations: Perko (2016, 25) states: »Hotspots are …« or parenthetical citation (Kokole 1974, 7–8).

When citing online materials without authors, such as project or institutional websites, the URL should be included, for example: »The aim of the LABELSCAPE project is to develop mechanisms for integrating sustainability labels into tourism policy (https://labelscape.interreg-med.eu).«

When citing publicly archived data, such as statistical data, inform the reader in the text with the name of dataset, the time frame, and the institution that provides the data: »The 2000–2020 population data used in the analysis were provided by the Eurostat«. If the statistical data were published as a report, cite the document, e.g. (Popis prebivalstva … 1993).

When citing legal sources such as legislative acts, white papers, etc., you should provide (short formal) title and the year, for example: »… The European Commission's White paper on transport (2011) sets out ten strategic goals for a competitive and resource-efficient transport system: …«

5.11 Reference list

Arrange references alphabetically and then chronologically if necessary. Identify more than one reference by the same author(s) in the same year with the letters *a*, *b*, *c*, etc., after the year of publication: (1999a; 1999b). Use this format for indirect citations: (Gunn 2002, cited in Matei et al. 2014).

Include the Digital Object Identifier (DOI) in the reference if available. Format the DOI as follows: https://doi.org/… (for example: https://doi.org/10.3986/AGS.1812).

6 Tables and figures

Number all tables in the article uniformly with their own titles. The number and the text are separated by a colon, and the caption ends with a period. Example:

Table 1: Number of inhabitants of Ljubljana.

Table 2: Changes in average air temperature in Ljubljana (Velkavrh 2009).

Tables should contain no formatting and should not be too large; it is recommended that tables not exceed one page.

Upload figures to the OJS as separate supplementary files in digital form. If the graphic supplements prepared cannot be uploaded using these programs, consult the editorial board (ags@zrc-sazu.si) in advance.

Number all figures (maps, graphs, photographs) in the article uniformly with their own titles. Example:

Figure 1: Location of measurement points along the glacier.

All graphic materials must be adapted to the journal's format. Illustrations should be exactly 134 mm wide (one page) or 64 mm wide (half page, one column), and the height limit is 200 mm.

To make anonymous peer review possible, include the name of the author(s) with the title of the illustration in the supplementary file metadata, but not in the article text.

Maps should be made in digital vector form with Corel Draw, Adobe Illustrator, or a similar program, especially if they contain text. They can exceptionally be produced in digital raster form with at least 300 dpi resolution, preferably in TIFF or JPG format. For maps made with *CorelDraw* or *Adobe Illustrator*, two separate files should be prepared; the original file (.cdr or .ai format) and an image file (.jpg format).

For maps made with ArcGIS with raster layers used next to vector layers (e.g., .tif of relief, airborne or satellite image), three files should be submitted: the first with a vector image without transparency together

with a legend and colophon (export in .ai format), the second with a raster background (export in .tif format), and the third with all of the content (vector and raster elements) together showing the final version of the map (export in .jpg format).

Do not print titles on maps; they should appear in a caption.

Save colors in CMYK, not in RGB or other formats.

Use Times New Roman for the legend (size 8) and colophon (size 6). List the author(s), scale, source, and copyright in the colophon. Write the colophon in English (and Slovenian, if applicable). Example:

Scale: 1:1,000,000
Content by: Drago Perko
Map by: Jerneja Fridl
Source: Statistical Office of the Republic of Slovenia 2002
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Graphs should be made in digital form using *Excel* on separate sheets and accompanied by data.
Photos must be in raster format with a resolution of 240 dots per cm or 600 dpi, preferably in .tif or .jpg formats; that is, about 3,200 dots per page width of the journal.

Figures containing a screenshot should be prepared at the highest possible screen resolution (Control Panel\All Control Panel Items\Display\Screen Resolution). The figure is made using Print Screen, and the captured screen is pasted to the selected graphic program (e.g., *Paint*) and saved as .tif. The size of the image or its resolution must not be changed.
Examples of appropriate graphic data formats: see the templates of maps in cdr and mxd files (available at https://ags.zrc.sazu.si) for a full-page map in landscape layout and an example of the correct file structure (available at https://ags.zrc.sazu.si) for submitting a map created with *ESRI ArcGIS*.

SUBMISSION PREPARATION CHECKLIST

As part of the submission process, authors are required to check off their submission's compliance with all of the following items, and submissions may be returned to authors that do not adhere to these guidelines.

- I, the corresponding author, declare that this manuscript is original, and is therefore based on original research, done exclusively by the authors. All information and data used in the manuscript were prepared by the authors or the authors have properly acknowledged other sources of ideas, materials, methods, and results.
- Authors confirm that they are the authors of the submitting article, which is under consideration to be published (print and online) in the journal *Acta geographica Slovenica* by Založba ZRC, ZRC SAZU.
- All authors have seen and approved the article being submitted.
- The submission has not been previously published, nor it is under consideration in another journal (or an explanation has been provided in Comments to the Editor). Authors have disclosed any prior posting, publication or distribution of all or part of the manuscript to the Editor.
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- All the necessary permits to work with people have been obtained in the research related to the article (in accordance with the applicable laws and institutional guidelines and approved by the relevant institutions).
- The journal policies and guidelines have been reviewed and followed.

- The metadata (title, abstract, key words, authors, affiliation, ORCiD, etc.) are provided in English (Slovenian authors must provide the metadata also in Slovenian language).
- The list of authors is complete. Failure to do so may result in co-authors not being listed on the article at publication.
- The submission is in Microsoft Word format and the document template was used (single-spaced text, 12-point font, no formatting except italics and bold).
- The article has been checked for spelling and grammar.
- Figures are not embedded in the Word file and are provided as a supplementary file: editable vector format (e.g., cdr, ai) for maps and illustrations; tif for photographs; xlsx for graphs. The Word file includes only figure captions.
- Tables are placed in the Word file with text at the appropriate place.
- The reference list was prepared following the guidelines.
- All references in the reference list are cited in the text.
- Where available, URLs and DOI numbers for references are provided.
- Supplementary files are in one .zip file.
- Authors agree that any costs of English proofreading are borne by the author(s). No additional costs are associated with the submission.
- The instructions for ensuring a double-blind review have been followed.

ACTA GEOGRAPHICA SLOVENICA EDITORIAL REVIEW FORM

This is a review form for editorial review (version 14) of an article submitted to the AGS journal.

This is an original scientific article.
(The article is original and the first presentation of research results with the focus on methods, theoretical aspects or a case study.)

- Yes
- No

The article follows the standard IMRAD/ILRAD scheme.

- Yes
- No

The article's content is suitable for reviewing in the AGS journal.
(The article is from the field of geography or related fields of interest, the presented topic is interesting for the readers of *Acta geographica Slovenica* and well presented. In case of negative answer add comments below.)

- Yes
- No

Editorial notes regarding the article's content.

The reference list is suitable (the author cites previously published articles with similar topics from other relevant geographic scientific journals).

- Yes, the author cited previously published articles on a similar topic.
- No, the author did not cite previously published articles on a similar topic.

Notes to editor-in-chief regarding previously published scientific work.

Is the language of the article appropriate and understandable?

RECOMMENDATION OF THE EDITOR

- The article is accepted and can be sent to the review process.
- Reconsider after a major revision (see notes).
- The article is rejected.

ACTA GEOGRAPHICA SLOVENICA REVIEW FORM

This is *Acta geographica Slovenica* review form (version 7).

1 RELEVANCE

Are the findings original and the article is therefore a significant one?

- yes
- no
- partly

Is the article suitable for the subject focus of the AGS journal?

- yes
- no

2 SIGNIFICANCE

Does the article discuss an important problem in geography or related fields?

- yes
- no
- partly

Does it bring relevant results for contemporary geography?

- yes
- no
- partly

What is the level of the novelty of research presented in the article?

- high
- middle
- low

3 ORIGINALITY

Has the article been already published or is too similar to work already published?

- yes
- no

Does the article discuss a new issue?

- yes
- no

Are the methods presented sound and adequate?

- yes
- no
- partly

Do the presented data support the conclusions?

- yes
- no
- partly

4 CLARITY

Is the article clear, logical and understandable?

- yes
- no

If necessary, add comments and recommendations to improve the clarity of the title, abstract, keywords, introduction, methods or conclusion:

5 QUALITY

Is the article technically sound? (If not, the author should discuss with the Editorial Board [ags@zrc-sazu.si] for assistance.)

- yes
- no

Does the article take into account relevant current and past research on the topic?

- yes
- no

Propose amendments, if no is selected:

Is the references list at the end of the article adequate?

- yes
- no

Propose amendments, if no is selected:

Is the quoting in the text appropriate?

- yes
- no
- partly

Propose amendments, if no is selected:
Which tables are not necessary?
Which figures are not necessary?

COMMENTS OF THE REVIEWER

Comments of the reviewer on the contents of the article:
Comments of the reviewer on the methods used in the article:

RECOMMENDATION OF THE REVIEWER TO THE EDITOR-IN-CHIEF

Please rate the article from 1 [low] to 100 [high] (this will NOT be presented to the author):
Personal notes of the reviewer to the editor-in-chief (this will NOT be presented to the authors):

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JOURNAL HISTORY

Acta geographica Slovenica (print version: ISSN: 1581-6613, digital version: ISSN: 1581-8314) was founded in 1952. It was originally named *Geografski zbornik / Acta geographica* (print ISSN 0373-4498, digital ISSN: 1408-8711). Altogether 42 volumes were published. In 2002 *Geographica Slovenica* (ISSN 0351-1731, founded in 1971, 35 volumes) was merged with the journal.

Since 2003 (from volume 43 onward) the name of the joint journal has been *Acta geographica Slovenica*. The journal continues the numbering system of the journal *Geografski zbornik / Acta geographica*.

Until 1976, the journal was published periodically, then once a year, from 2003 twice a year and from 2019 three times a year.

The online version of the journal has been available since 1995. In 2013, all volumes of the magazine were digitized from the beginning of its publication to 1994 inclusive.

All articles of the journal are available free of charge in digital form on the journal website http://ags.zrc-sazu.si.

Those interested in the history of the journal are invited to read the article »The History of *Acta geographica Slovenica*« in volume 50-1.

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