

Article

Exploring Tangible and Intangible Heritage and its Resilience as a Basis to Understand the Cultural Landscapes of Saxon Communities in Southern Transylvania (Romania)

Ileana Pătru-Stupariu ^{1,2}, Marioara Pascu ³ and Matthias Bürgi ^{4,*} 

¹ Department of Regional Geography and Environment, Faculty of Geography, University of Bucharest, Bd. N. Bălcescu, 1, 010041 Bucharest, Romania; ileana.stupariu@geo.unibuc.ro

² Institute of Research of the University of Bucharest, ICUB; Transdisciplinary Research Centre Landscape-Territory-Information Systems, CeLTIS, Splaiul Independentei nr. 91–95, 050095 Bucharest, Romania

³ Faculty of Geography, Doctoral School Simion Mehedinti, University of Bucharest Bd. N. Bălcescu, 1, 010041 Bucharest, Romania; marioara_pascu@yahoo.com

⁴ WSL Swiss Federal Institute for Forest, Snow and Landscape Research, Research Unit Land Change Science, Zürcherstrasse 111, 8903 Birmensdorf, Switzerland

* Correspondence: matthias.buergi@wsl.ch

Received: 29 March 2019; Accepted: 21 May 2019; Published: 1 June 2019



Abstract: Landscape researchers tend to reduce the diversity of tangible heritage to physical aspects of cultural landscapes, from the wealth of intangible heritage they focus on land-use practices which have a direct and visible impact on the landscape. We suggest a comprehensive assessment of both tangible and intangible heritage, in order to more accurately assess the interconnection of local identity and the shaping of cultural landscapes. As an example, we looked at Saxon culture and cultural landscapes in southern Transylvania (Romania), where we assessed features of tangible and intangible cultural heritage, identified their resilience and the driving forces of their change. Our analysis, based on 74 interviews with residents in ten villages in southern Transylvania, showed a high resilience of tangible heritage and a low resilience of intangible heritage. A major factor responsible for changes in the Saxon heritage was a decline in the population at the end of the Cold War, due to migration, driven by political and economic factors. We conclude by discussing the specific merits of such an analysis for integrated landscape management.

Keywords: cultural landscape; tangible and intangible heritage; resilience; driving forces; Saxon population; Transylvania

1. Introduction

In recent years, landscape research has shown a growing interest in questions of cultural heritage, acknowledging for example, its relevance for biodiversity, recreational potential, aesthetics and the social fulfillment of cultural landscapes. Cultural landscapes with high heritage value are threatened today [1] by accelerated and drastic socio-economic and environmental changes at the local and global scale [2]. The close ties between heritage and cultural landscapes are also core to the European Landscape Convention [3]. However, landscape research has to date not addressed the diversity of aspects linked to heritage adequately, as much more attention has been given to tangible heritage, such as the remains of traditional agricultural landscapes and their spatial arrangements or structures, and much less so to intangible heritage, such as practice, knowledge, skills or traditions [4,5]. Such

activities and traditions are, however, important components of heritage [6], as they are reflecting the interactions between the people and their surrounding landscape. Thus, there is a need to improve and to deepen the assessment of non-material aspects of heritage in landscape research [7]. Starting from 2003, UNESCO has shown an increasing interest in the intangible aspects of the patrimony, by adopting the Convention on the protection of the immaterial cultural patrimony. The Convention underlines the importance of the immaterial heritage and the need for maintaining cultural diversity and for promoting sustainable development [8]. It is important to consider that tangible and intangible heritages are often interconnected: The former provides the physical support for the latter, while the latter could contribute to the preservation and conservation of the former [9].

The importance of studying heritage beyond merely the physical aspects visible in cultural landscapes becomes apparent, for example, in the declaration of Globally Important Agricultural Heritage Systems [10]. This initiative by the Food and Agriculture Organization of the United Nations [11] has led to the designation of multiple sites integrating “agricultural biodiversity, resilient ecosystems and a valuable cultural heritage” into landscapes of outstanding scenic beauty [11]. The initiative is based on the idea that cultural landscapes can only be preserved and maintained using the information on the practice of specific land uses. Cultural landscapes are shaped by land-use practices, which are characterized by rules, regulations, and local traditions that are kept alive, handed down and transformed in a locally specific cultural context.

The interconnection of traditions and values in the shaping of specific landscapes, and particular features therein, has repeatedly been acknowledged [12] and anthropogenic forces are recognized as a dominant factor in shaping geographical spaces [13,14]. Over the course of many generations, local people give a clear character and identity to a place or region [15]. Cultural landscapes have developed in a constant dialogue on resisting and absorbing external and internal forces and their resulting potential changes [16]. Conceptually linking intangible heritage, cultural landscape and identity provides the basis for a deeper understanding of communities and their interrelationships with the cultural landscape [17] and leads to a better understanding of the factors triggering landscape change, but also fostering landscape persistence [5,18,19].

The interrelationship between communities and their cultural landscape is dynamic as they both continuously evolve. A core term and concept in this context is resilience, i.e., “the capacity of a system to experience shocks while retaining essentially the same function, structure, feedbacks and therefore identity” [20]. Cultural landscapes are characterized by highly distinct elements and patterns, which depict different degrees of persistence. These landscape patterns provide services, such as cultural identity, heritage value, recreation and tourism, land-use diversity, biodiversity, or carbon sequestration [21]. The degree and extent to which cultural landscapes provide these services over longer periods of time depend on how resilient they are to external and internal changes. Human actions influence resilience [20], including a potential increase towards socially desirable resilience [1].

Understanding the human impact on the resilience of cultural landscapes requires insights into the interaction between societies and their surrounding environment. The systematic analysis of driving forces and actors of landscape change has increasingly been studied over the last decade [5,22,23]. Identifying the relevant actors and their specific roles in landscape changes remains a challenge [24], for which the perceptions of local people could provide valuable information [18,19]. Although it is simple to name actors with a direct impact on the land (e.g., farmers or investors) their actions, embedded in a social and cultural context, are much harder to assess in their relevance for a specific cultural landscape, its change and its resilience to change.

Saxons Communities in Transylvania: Brief History and Features of Their Cultural Landscape

We consider the situation of the Saxon population in southern Transylvania suitable to study tangible and intangible heritage and cultural landscapes, in an encompassing, people-centered approach, as they fulfill the preconditions for the persistence of cultural landscapes determined by Solymosi [25].

The appearance of the Saxon communities in Transylvania is related to the *Ostsiedlung*, a process of colonization of eastern-central Europe by German-speaking people [26]. The first Saxon settlers came to Transylvania in the middle of the 12th century [27]. They decided to move to Transylvania based on the guarantee that they would have the privilege to exercise their traditional rights, e.g., to live freely according to their own system of values, regulations, and beliefs. They were also granted the right to choose their management bodies, mayors, judges, and advisers [28]. These rights allowed Saxon communities to form and develop, such that they preserved their ethnic, linguistic, and history identities over centuries [29]. The traditional Saxon community was considered in [30] as a bidimensional, integrated ethnic and religious community, by stressing the unity between the Evangelical Church and the ethnic society for Saxons. The Transylvanian Saxons brought several contributions to the development of Saxon culture, for example, introducing compulsory primary schools from the Middle Ages, which was further developed until 1948 into a religious school network up to middle school and high school levels [31]. The Saxons formed an independent socio-ethnic entity in Transylvania, meaning a legal and linguistic community with high social cohesion, also called the “Saxon Nation” [29,32].

The Saxons left a significant mark in southern Transylvania in the built heritage, linked to a specific form of village planning [33]. The regular form of parallel streets, the layout of the fortified church in the center and the architecture of the houses were specific features of Saxon settlements. The preservation of a fortified church in the village’s territory and its location in the center of the settlement represents a specific manner of management of the territory [34]. Given the peculiarities of the territorial arrangement, the authenticity of the vernacular architecture, the integrity and outstanding value that they preserve [35], some representative Transylvanian villages with fortified churches (such as Biertan, Prejmer, Viscri, Dârjiu, Saschiz, Câlnic, Valea Viilor) were included in the World Heritage List of the United Nations Educational, Scientific and Cultural Organization [35].

The construction techniques of Saxon houses were orally passed on from father to son, supported by popular artisans. The features imposed by the Saxons in architecture are especially related to the form of the roof (triangular), the structure of the house and the existence of an “attic window” [36], which allowed ventilation. The most dominant architectural element, still visible today, is the Saxon gate model, the “wall gate”, which is unique in Romania [36]. The gate gave the houses an appearance of a mini citadel, with an increased degree of safety.

Another important Saxon influence on the cultural landscape is related to specific agricultural activities, as self-sustenance was the basis of the traditional Saxon household. The Saxons produced most household products through their own collective work [37]. Saxon communities in Transylvania followed specific internal rules based on the so-called principle of neighborhood [38]. For instance, administrative work was shared, and they divided their responsibilities (e.g., sweeping the streets on Saturdays, clearing snow), equipment, such as tractors and threshing machines, was also shared. Saxon schools were built in the same spirit, through a donation system: Some donated land, others donated construction materials, and the community worked together to build the schools.

Saxon communities persisted over many centuries, despite major historical and political turmoil at European or at the local scale. The 20th century however brought major changes including deportations, expropriations, and mass emigration. The latter phenomenon is specific for the Saxon people in Transylvania [39]. Mass emigration started in the 1980s [40] and continued after the fall of the communism, particularly at the beginning of the 1990s, when approximately 200,000 people of German ethnic background emigrated from Romania [41].

In this paper, we explore the tangible and intangible heritage in cultural landscapes of Saxon communities, with a specific focus on the resilience of heritage to various external and internal driving forces. The aim of the study is to investigate the following questions: (i) What are the main elements of tangible and intangible heritage perceived by the Saxon people? (ii) How resilient are these elements? (iii) What were the major driving forces causing important changes? We consider our methods as a contribution towards more encompassing analyses of interrelationships of societies

and landscapes, aiming towards a more comprehensive integration of issues related to heritage in sustainable landscape development.

2. Materials and Methods

2.1. Study Area

Transylvania is a province of Romania, located inside the Carpathian arc (Figure 1). The landscape of Transylvania was heavily shaped by Saxon settlers who, in the course of eight centuries, left long-lasting traces in architecture, settlement structure and agricultural landscapes [42].

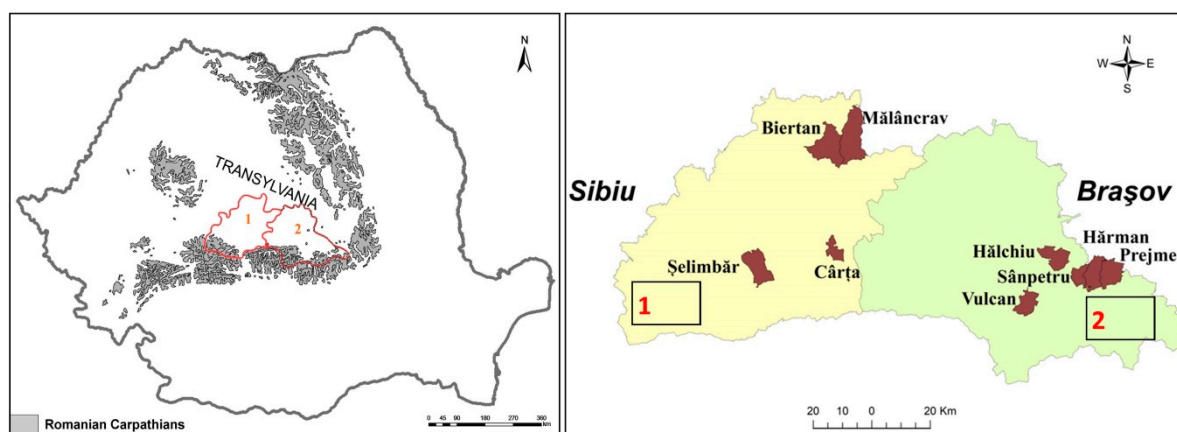


Figure 1. Study area. **Left:** map of Romania and locations of Sibiu County (No. 1) and Braşov County (No. 2). **Right:** location of the four study villages in Sibiu County and of the five study villages in Braşov County.

We selected nine villages in southern Transylvania which are recognized for preserving traditional Saxon cultural values and in which Saxon communities are still present. Four villages, i.e., Biertan, Cârţa, Mălâncrav, and Şelimbăr, are located in the Sibiu County (No. 1 in Figure 1), and five villages, i.e., Hălchiu, Hărman, Prejmer, Sânpetru, and Vulcan, are situated in the Braşov County (No. 2 in Figure 1). It is worth noticing that the villages Biertan (since 1993) and Prejmer (since 1999) are two of the seven villages with fortified churches in Transylvania included in the UNESCO World Heritage List. All villages are situated in a sub-mountainous region, where the favorable climate and fertile soils allowed the development of highly diversified agriculture. All villages have shown a distinct and more or less steady decline in the size of the Saxon population in the last century, shrinking from 50–80% in the first decades of the 20th century to single-digit numbers in the last period (Table 1 and Figure 2) [43–45].

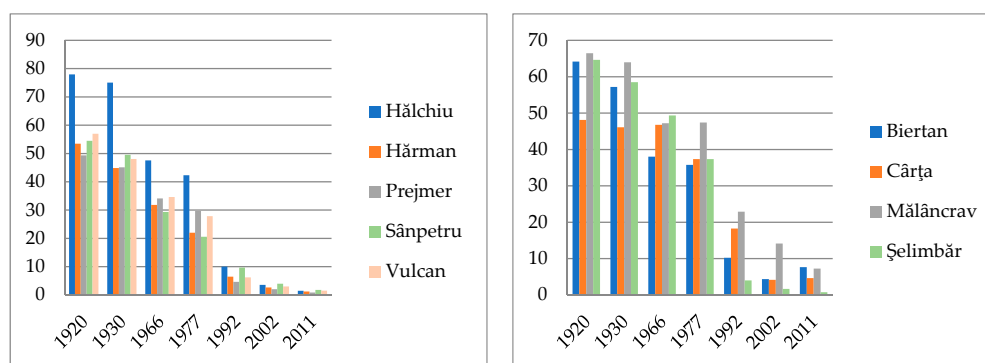


Figure 2. Development of the Saxon population in the villages of Braşov County (left) and Sibiu County (right).

Table 1. Development of the Saxon population in the villages (a) Braşov County and (b) Sibiu County studied: number of Saxon people and the related proportion of the total population in the period 1920–2015 (data taken from Varga, 2002, Nägler, 2003 and INS, 2015).

(a) Villages in Braşov County.																
Village	Name in Saxon Dialect	Founding Date	1920	%	1930	%	1966	%	1977	%	1992	%	2002	%	2011	%
Hălchiu	<i>Hältsdref</i>	1377	2171	77.92	2178	75.05	1635	47.52	1582	42.27	275	9.99	106	3.54	61	1.44
Härman	<i>Honigberg</i>	1240	1274	53.46	1331	44.84	1162	31.83	1129	21.96	242	6.45	102	2.63	66	1.22
Prejmer	<i>Tartelchen</i>	1240	2090	49.30	2293	45.09	1810	34.08	1741	29.73	225	4.64	101	2.04	71	0.83
Sânpetru	<i>Pittersbarch</i>	1240	1183	54.44	1288	49.50	1103	29.32	1033	20.54	319	9.64	137	3.97	84	1.74
Vulcan	<i>Wulkendref</i>	1377	1152	56.97	1241	48.06	1082	34.63	993	27.82	199	6.17	103	2.99	69	1.51

(b) Villages in Sibiu County.																
Village	Name in Saxon Dialect	Founding Date	1920	%	1930	%	1966	%	1977	%	1992	%	2002	%	2011	%
Biertan	<i>Biyertan</i>	1283	1232	64.16	1238	57.16	811	38.02	744	35.75	282	10.20	130	4.34	112	7.63
Cârţa	<i>Kerc</i>	1202	462	48.12	442	46.08	488	46.74	508	37.32	205	18.26	47	4.15	41	4.62
Mălâncrav	<i>Malmkrog</i>	1305	841	66.42	925	63.96	711	47.21	643	47.38	241	22.86	145	14.11	80	7.25
Şelimbăr	<i>Schellenberg</i>	1323	601	64.62	656	58.47	754	49.34	834	37.33	73	4.0	33	1.63	51	0.72

2.2. Research Methods

The methods combined qualitative and quantitative techniques. Information collected by conducting (i) structured and semi-structured interviews was analyzed using (ii) a statistical approach. Despite the limitations of the quantitative interpretation of qualitative data, such as the lack and inconsistency within the collected data [46], subjectivism and memory blind spots of interviewed subjects, the semi-structured interview remains a valid and realistic instrument [47].

(i) Interviews were performed in 2016 (20.08.–03. 12.) and 2017 (27.04.–25. 05.). A total of 74 interviews were conducted in the ten villages selected, with numbers per village ranging from 4 to 14 inhabitants. The interviews lasted on average 40 min and took place in various locations, including interviewee residences. All interviewees were of Saxon ethnicity, ranging in age from 45 to 93, as we preferred to interview people over 45 years of age who had lived in their native community their entire lives. Out of 74 interviewed persons, 66 were permanent residents, and eight had emigrated to Germany and were temporarily visiting their native village.

The interview consisted of a set of eight questions to determine how Saxon people perceive the resilience of their cultural landscape and their tangible and intangible heritage. The first question Q1—“How long have you been living here?” had an introductory character and referred to the responder’s personal relationship with the community. The questions Q2–Q8 (questionnaire included in the Supplementary Material) addressed the interviewees’ perception on the following topics:

- Characteristics of their cultural landscape and their tangible and intangible heritage.* The responders were asked to name traditional activities practiced in the past (Q2) and to indicate features of Saxon culture still present in their community, with reference both to tangible and intangible heritage (Q3).
- Irreversible changes that occurred in the past decades.* We asked about the features of Saxon culture that had completely disappeared (Q4) or with uncertain continuity (Q5). A separate question addressed changes in the traditional way of life (Q6).
- Threats to traditional elements of Saxon culture.* (Q7) referred to transformations which could disturb traditional features.
- What could be done to protect/enhance the traditional elements of Saxon culture.* The last question (Q8) focused on the potential to revitalize traditional activities, addressing both the involvement of the interviewee and the local authorities.

Based on the answers, we compiled lists of features of tangible and intangible heritage mentioned, their recent changes and the driving forces said to be responsible for these changes. Synthesizing

information regarding the continuity or disappearance of features of Saxon culture (Q3–Q5) with the specific changes and threats (Q6, Q7) and the community response to them (Q8), provided qualitative data on the resilience of heritage.

(ii) *Statistical approach.* First, groups were formed based on similarities and differences between responses [19,48]. We used hierarchical clustering to form groups of features of the cultural landscape and intangible heritage, considering their resilience towards the driving forces mentioned. Clusters were chosen based on a dendrogram, which allowed the distinction of three types of resilience, here referred to as high, low and no resilience.

Second, we performed a canonical correspondence analysis (CCA). Although frequently used by ecologists [49], this type of multi-variate statistics has recently penetrated sociological analysis [50,51]. The aim of the CCA is to establish how a group of variables (explanatory variables) determines the variation of another group of variables (response variables). Both groups of variables are assumed to be qualitative in nature and are coded with the values one and zero. In this study, the driving forces were the explanatory variables, while the response variables were the importance of features of tangible and intangible heritage. For each interviewee, we revised the list of driving forces and coded them as perceived by the respondent. Each driving force mentioned in the answer received the code 1 (present), while driving forces not mentioned received the code 0 (absent). The same rule applied for coding the importance of features of tangible and intangible heritage. To test potential differences in the attitudes of different age classes, the interviewees ($n = 74$) were divided into two categories: **STK1** representing local people ranging in age from 65 to 93 ($n = 53$), and **STK2** representing local people from 45 to 64 ($n = 21$). STK1 differs through vast life experience in the local environment that was essentially shaped by the Second World War and by the communist reforms of society, culture, economics, and politics. The professional profile of STK1 also differs greatly from STK2, as these interviewees had contributed to the perpetuation of many agrarian practices. Additionally, they had a deep attachment to religious practices. STK1 formed the majority within their communities and are characterized by a strong social cohesion. The individuals from the smaller STK2 group experienced a rather shorter period of time in connection with the traditional lifestyle. Dividing the interviewees into these two groups allowed analyzing separately people who were born and lived in a period when the Saxons were actively involved in preserving, maintaining and continuing to shape landscape features (STK1) and those who were born and lived in the communist period (STK2). The CCA enabled the assessment of whether these two groups differ regarding their perception of how and why heritage features have changed. Statistical analysis was carried out in R version 3.1.2, using the package *Vegan* for cluster analysis. The R function *rect.hclust* was used to visualize the cutting and the function *cutree* to make a classification vector with a certain number of classes [52]. The function *cca* was used for CCA.

3. Results

3.1. Outcomes of the Interviews.

Based on the interviews, we identified 25 features considered relevant for Saxon heritage (V1 to V25 in Table 2). The features referred both to elements of the cultural landscape (such as fortified Saxon churches) and to intangible heritage (such as cultural/recreational events).

Table 2. Assessment of the important features of the tangible and of the intangible heritage and the degree of their resilience to change. Crosses indicate which resilience class the features belong to.

<i>Inventoried Features</i>	<i>Loss</i>		<i>High Resilience</i>	<i>Low Resilience</i>
	<i>Full</i>	<i>On-going</i>		
V1. Traditional Feminine Activities (craft, sewing of traditional clothes)	x			
V2. Crafts practiced by men	x			
V3. House construction techniques	x			
V4. Local manufacturing of bricks	x			
V5. The Saxon educational model	x			
V6. Saxon schools with teaching in the mother tongue		x		
V7. Publications, newspapers, magazines				x
V8. Traditional cultural–recreational events such as Saint Catherine, recruits’ ball	x			
V9. Culinary recipes				x
V10. Youth confirmation festivity				x
V11. Traditional wedding style	x			
V12. Instrumental music bands	x			
V13. Saxon community choirs		x		
V14. Dances and popular songs	x			
V15. Fanfare	x			
V16. Saxon dialect				x
V17. Equipment/plants	x			
V18. Crops				x
V19. Animal rearing				x
V20. The Fashing/Korona Festival				x
V21. Religious mass			x	
V22. Ceremonies related to the death cult				x
V23. Religious Easter, Christmas ceremony				x
V24. Material heritage of the village/old Saxon houses with patrimonial value			x	
V25. Fortified Saxon churches			x	

Responses to Q3–Q5 revealed that eleven of the 25 features mentioned have completely disappeared and two are in the process of disappearing. Together these represent 52% of all features. Of the twelve remaining features, three (12%) continue in their traditional state (Table 2). They belong both to the tangible heritage (e.g., old Saxon houses with heritage value, fortified Saxon churches) and the intangible heritage (e.g., religious mass). Nine features (36%) continue with some changes, most of them belonging to intangible heritage (e.g., culinary recipes, religious ceremonies, the Saxon dialect). Overall, 12% of the features determined were of high resilience, and 36% were of low resilience.

The analysis of the answers to Q6, revealed major differences between the traditional way of life once practiced in the village and the present way of life. We identified changes in relation to traditional land use (Table 3a), traditional activities (Table 3b), and socio-cultural capital (Table 3c).

Nine driving forces, related to demographic, political, economic, historical, and external factors were determined (Table 4). Six driving forces (DFN1–DFN6) were perceived by local people to negatively affect features of heritage that they greatly value. Three driving forces (DFP7–DFP9) were considered as positive factors for maintaining local traditional values. An important finding from the interviews was that the main factor responsible for the transformations of the traditional Saxon landscape was the migration of the Saxons at the end of the Cold War. Interviewees linked the Saxon migration to changes in the traditional activities related to the identity, authenticity, and integrity of the traditional structure of the cultural landscape (Q7).

Table 3. Changes in (a) land use (b) traditional activities and (c) socio-cultural capital as determined from the interviews.

(a) Land Use.	
<i>In the Past</i>	<i>Currently</i>
The variety of the crops practiced by the Saxons	Decrease in crop variety: a. flax, hemp, millet, poppy, kohlrabies are no longer cultivated b. the surfaces cultivated with cabbage, potato, peas have been reduced c. new cultures have appeared: rape and soy
The three-year rotation of crops	This crop rotation is no longer practiced
The Saxons were landlords of high agricultural surfaces, 50–60 ha per family	The plotting of lands and allotment of small surfaces to peasants, which harms productivity
Irrigation systems	Disappearance of big irrigation systems
Intensive animal rearing	Drastic reduction of livestock and disappearance of buffalo rearing from the tradition
Fruit farming: the Saxons processed the fruit and produced juice and apple wine	The present population no longer practices fruit farming and no longer processes the fruit to obtain juice and apple wine
The Saxons practiced agriculture and supported a production society	The present population no longer practices agriculture in the tertiary and secondary sector and becomes a consumer society
(b) Traditional Activities.	
<i>In the Past</i>	<i>Currently</i>
Saxon traditional activities: handcrafts	Disturbances of the traditional Saxon activities as a consequence of social dynamics, some practices having completely vanished
Agricultural traditional practices	Displacement, some have been undertaken by the cohabitant population
House building technique	Alteration, new owners introduce modifications that reshape buildings and divert from original functions
Traditional construction materials	Transitions, replacement with new materials that do not preserve the same environmental features
Cultural and recreational activities	Changes, the adaptation within the current context, some being further promoted by Romanians for touristic and commercial reasons
Culinary traditions	Modification, they are developed by Romanians and Hungarians
(c) Socio-Cultural Capital as Determined from the Interviews.	
<i>In the Past</i>	<i>Currently</i>
The richness of the cultural capital	The cultural capital declines through the disappearance of socio-cultural elements
Group cohesion	Decrease in the group cohesion/individualism
Cultural diversion—multiculturalism	Decrease in the cultural diversity
The traditional landscape had authenticity, identity, and integrity	Disturbances in these variables

Table 4. Factors determined as important driving forces impacting the features of tangible and intangible heritage. The connotations ‘negative’ and ‘positive’ are based on opinions of the local population as revealed in the interviews.

<i>Driving Forces</i>	<i>Negative Driving Forces (DFN)</i>	<i>Positive Driving Forces (DFP)</i>
Demographic factor	Saxon migration (DFN1)	Group cohesion: local community and diaspora (DFP7)
Political factor	The communist regime (DFN2) Agricultural reform/nationalization (DFN3)	Uncertain property right (DFP9)
Economic factor	Evolution of the technique (DFN4) Industrialization (DFN6)	
Historical factor	Second World War (DFN5)	
External help		Urban planning/UNESCO (DFP8)

3.2. Statistical Approach

Based on the results of the hierarchical clustering (Figure 3), the cultural features were assigned to one of the three types of resilience determined, i.e., high, low and no resilience (Rhigh, Rlow, and Rloss), respectively (Table 2).

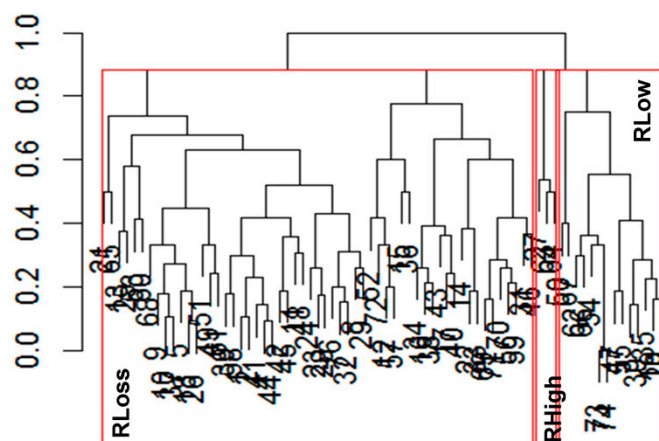


Figure 3. Cluster dendrogram indicating three clusters: **Rhigh**—high resilience, the persistence of the dominant features of tangible and intangible heritage of the Saxon cultural landscape over time, **Rlow**—low resilience, the attenuation of the dominant features of tangible and intangible heritage, and **Rloss**—loss resilience, the complete loss of the features of tangible and intangible heritage.

The CCA analysis was used to refine the clustering and gain an improved understanding of the relationship between driving forces and features of heritage as perceived by the interviewees. It was thus possible to determine the driving forces that contributed the most to the preservation or change of the values and to analyze potential related differences between the age groups STK1 and STK2. The outcomes of the CCA are represented in Figure 4 as a triplot, showing the projections of the observations (corresponding to the answers of respondents), the heritage values (represented as points) and the driving forces (explanatory variables, represented as arrows). Overall, of the 25 values identified, four were mentioned by both groups, 16 were mentioned only by respondents from STK1, showing a greater connection to Saxon heritage compared with STK2, who only identified five unique features (Table 5). To test that the statistical significance of the CCA analysis was not random [53], permutation tests were performed (999 permutations, alpha = 0.05) [51]. The variables that significantly contribute to understanding the resilience of the landscape are highlighted: DFN1 (with a weight of 0.98), DFN4 (weight 0.86), DFP7 (weight 0.56), and DFP9 (weight 0.54). These driving forces (see also Table 4) are mainly related to the demographic factor (DFN1—Saxon migration and DFP7—group cohesion), but also to economic (DFN4—evolution of the technique) and political factors (DFP9—uncertain

property rights). We conclude that the answers of the local people in the first category (STK1) were mostly related to variables which explained factors that led to the loss, preservation or modification of heritage features.

Table 5. Features of tangible and intangible heritage in relationship with driving forces, as perceived by the interviewed persons, grouped into the age categories STK1 and STK2. If a certain value was mentioned in the interview by a person belonging to the category STK1, then a check symbol ‘x’ is placed on the corresponding row and on the column STK1. Similarly for the category STK2. If a certain value was related to a driving factor by a respondent, then a check symbol ‘x’ is placed in the matrix, at the crossing between the corresponding row and column, respectively. The codes for driving forces are listed in Table 4.

Response Variables Inventoried Values	Appearance in Interviews		Explanatory Variables									
	STK1	STK2	Driving Forces Negative						Driving Forces Positive			
			DFN1	DFN2	DFN3	DFN4	DFN5	DFN6	DFP7	DFP8	DFP9	
V1. Traditional feminine activities (craft, sewing of traditional clothes etc.)	x		x							x		
V2. Crafts practiced by men	x											x
V3. House construction techniques	x			x						x		
V4. Local manufacturing of bricks	x											
V5. The Saxon educational model	x											
V6. Saxon schools (mother language)	x	x		x							x	
V7. Publications, newspapers, magazines		x									x	
V8. Traditional cultural/recreational events: Saint Catherine	x											
V9. Culinary recipes	x		x							x		
V10. Youth confirmation festivity	x							x				
V11. Traditional wedding style		x	x					x	x			
V12. Instrumental music bands	x											
V13. Saxon community choirs	x	x					x					
V14. Dances and popular songs		x	x							x		
V15. Fanfare	x											
V16. Saxon dialect	x											
V17. Equipment/plants	x											
V18. Crops		x	x					x		x		
V19. Animal rearing	x		x							x		
V20. The Fashing/Korona Festival	x	x					x					
V21. Religious mass	x	x	x								x	
V22. Ceremonies related to the death cult		x			x							
V23. Religious Easter, Christmas ceremony	x											
V24. Material heritage of the village/old Saxons houses with patrimonial value	x									x		x
V25. Fortified Saxon churches	x						x				x	

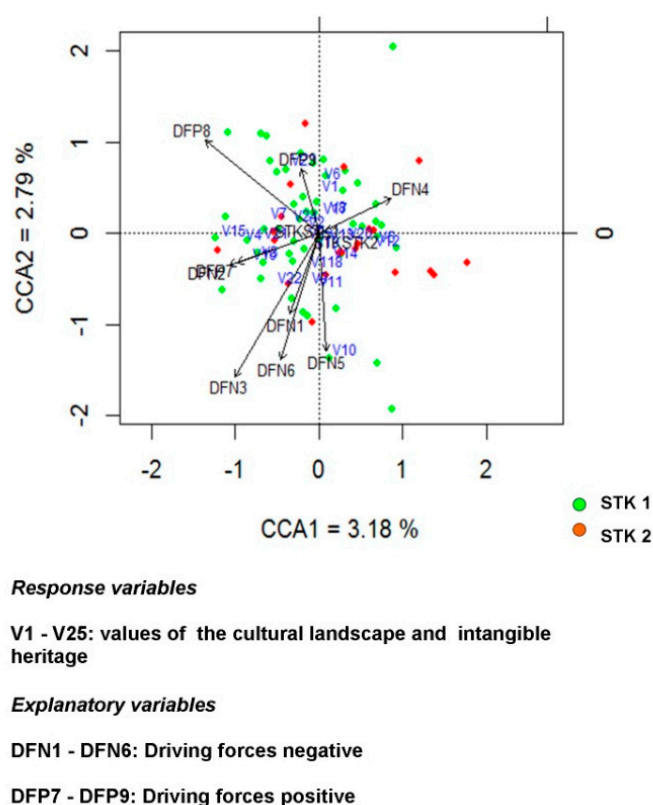


Figure 4. Triplot of canonical correspondence analysis (CCA) illustrating the relationship between individual answers, response variables (features of heritage), and explanatory variables (driving forces). The answers are plotted as green points for, STK1 (respondents aged between 65 and 93) and as red points for STK2 (respondents aged between 45 and 64). The response variables (see Table 2) are plotted as labels, while the explanatory variables (see Table 4) are represented as arrows.

4. Discussion

4.1. Loss and Preservation of Saxon Heritage

Following eight centuries of presence [39,54] and cohabitation in Transylvania [33], the resulting distinct Saxon cultural landscape fulfills the criteria of a traditional, historical landscape, co-evolved with a specific Saxon heritage [42]. The spiritual, symbolic (intangible) and tangible features identified in this study show great variability regarding their ability to persist, as 12% showed high resilience, 36% showed low resilience and 52% have already disappeared.

Moreover, our multivariate analysis showed that the Saxons are very attached to both features of tangible and intangible heritage and appreciate them in various ways. This was especially the case for the older age group assessed (STK1), who contributed to the shaping and maintenance of Saxon heritage and cultural landscapes through, e.g., agricultural practices. The younger generation group (STK2) was less aware of what had been lost or kept and mentioned much fewer specific features of tangible and intangible heritage (Table 5), nevertheless, they wish to keep these values for future generations.

4.2. High Resilience

Features of intangible heritage which have perpetuated in their traditional state are only to be found in the context of the religious tradition of Sunday mass. This continuity is fostered by the fact that the Church as an institution values tradition very highly [31], as the content and choreography of religious rituals continue in their original forms, and the penetration of modern influences is restricted. Sunday mass is, therefore, the most well-preserved tradition, which goes in parallel to the important

role of the church in the management, administration, and education of the Saxons as an ethnic group. This effect is particularly pronounced in the Mălăncrav village, whose intangible heritage showed a high resilience. The community has been served by the same evangelical priest (originating from Germany) since 1991. The village is characterized by its remote locality, a relatively low and late migration of the Saxons, the existence of a young population and high group cohesion within the Saxon community. These aspects correspond well with the preconditions for the persistence of cultural landscapes in Europe as determined by [25]—and we might add that they also seem to be important for explaining the high resilience of intangible heritage.

Tangible heritage. Saxons left visible marks on the landscape (Figures 5 and 6) through fortified citadels and churches and the architecture of the houses they built [33,55]. Fortified citadels and churches are historical monuments with a high cultural value [56,57] which deserve and receive preservation and protection measures [58] and thus have persisted. The fortified churches in southern Transylvania [59], including those of the analyzed villages Prejmer, Hărman, Biertan, Mălăncrav, and Vulcan, are very well preserved, unlike the one in Sânpetru, which needs extensive restoration work. The overall good condition of these churches illustrates well the interconnectedness of tangible and intangible heritage, i.e., religious practices. It is very likely that the Evangelic church, through its role in the spiritual life of the communities, contributed to the resilience not only of the intangible, but also and the tangible heritage and, consequently, the Christian beliefs and values contributed to the protection of the material patrimony of the Saxons. Today, a range of other values, such as memorial, historic, scientific, and architectural, become increasingly important for the preservation of the fortress-type churches.

The houses built in the Saxon architectural style and the traditional gates have most likely persisted due to their highly durable building materials (rocks, sand, and lime), specific construction techniques, the resistance of the buildings to earthquakes, their aesthetics and the registration of these houses on the list of historical monuments. Paradoxically, the element that contributed to the persistence of these buildings in their present form, especially in the communist period, was uncertain property rights—a factor highlighted in the CCA. These Saxon houses were nationalized and subsequently rented for decades, because the state did not have the right to sell the houses. As the tenants did not own the houses, they did not renovate the houses but maintained their integrity while awaiting the resolution of the legal status of these buildings. Their rightful owners were Saxons who had emigrated to Germany or East Germany before 1989. After the fall of communism in 1990 [2], they started to return to their villages and to claim their houses again. During the decades of uncertainty regarding the property rights, the Saxon houses remained relatively intact. Moreover, local people started to appreciate the patrimonial value of these houses, and they gradually became the symbol of the local communities. The local authorities in several communities (Prejmer, Hărman, Vulcan, Biertan, Cârța, and Mălăncrav) have established General Urban Plans [60] enforcing the maintenance of intact facades of Saxon houses by their owners. Another factor contributing to the continuity of the tangible heritage in the old centers of Saxon villages was their inclusion in the buffer area of sites classified on the UNESCO world heritage list, such as Strada Mare and the Fortified Citadel and Church in Prejmer. The status of the UNESCO protected the site of the Fortified Church of Prejmer [59,61–63] forced the local authorities in Prejmer to apply the management plan, with which the identity, authenticity, and integrity of the houses in the buffer area, in this case of those on Strada Mare, are preserved. The tourist attraction of the Saxon heritage contributed in equally to the preservation and persistence of the Saxon houses. Outside the perimeter of the UNESCO sites, prominent examples of the persistence of tangible heritage can also be found, for example in Hărman, where the authenticity and historical identity of the historical center and the Fortified Evangelical Church are very well preserved.



Figure 5. Examples of the Saxon cultural landscape (**Braşov County**): (a) The fortified citadel and church in the Hărman commune, (b) a Saxon house with a “wall gate”, Hălchiu commune, (c) Althaus, the oldest house in the Hărman commune, (d) construction detail—the beam of the Althaus house with the inscription of the construction year, 1822. Photo: Pascu Marioara.



Figure 6. Examples of the Saxon cultural landscape (**Sibiu County**): (a) The oldest house in Biertan village dates from 1799, (b) the interior of a traditional Saxon bedroom from Biertan village, (c) fanfare instruments—Prejmer, (d) the fortified church of Biertan. Photo: Pascu Marioara.

4.3. Low Resilience

Traditional activities. We determined nine elements of Saxon intangible heritage, which persist with some modern influences. (i) The Saxon dialect is currently spoken by very few Saxons, most

of whom are old; the few young people who come from mixed families declare themselves to be of Saxon ethnicity but no longer speak the dialect. As Mr. H.G. of Harman stated, “the Saxon dialect needed about 300 years to form and spread in the Saxon communities in Transylvania and very little to disappear”. (ii) The number of subscribers to Saxon publications in German is decreasing in parallel with the Saxon speaking population. (iii) The Fashing Festival in Prejmer is a Saxon tradition which continues to date thanks to the involvement of the local authorities and the Saxon communities. As recounted by Mr. W.T. of Prejmer, this festival is organized in February each year by the Saxons and consists of a parade on the village roads of horse-drawn carriages equipped with stoves on which pancakes are cooked. The carriages go from door to door and receive products from the citizens, such as eggs, flour, milk, sugar, and oil, and give pancakes in exchange. Overall, the importance of (iv) culinary recipes declined. (v) The cult of the dead and (vi) the Christmas/Easter ceremonies have a reduced resilience, mainly because of the loss of other intangible traditional aspects, such as fanfares, choirs, and pipe organs in the churches. (vii) The christening of young people and youth confirmation festivities continue with influences related to ethnicity, age, and time of officiating this religious ceremony. Regarding (viii) Crops and (ix) animal rearing, many changes occurred due to the spreading of new agricultural technologies, related to mechanization and motorization of agriculture. Additionally, after the fall of communism, subsistence agriculture became unprofitable, and livestock numbers and grassland areas have declined noticeably as in many areas throughout Eastern Europe [64].

4.4. Loss of Tangible and Intangible Heritage

Thirteen mostly intangible heritage features are no longer continued. For instance, the fanfare, an instrumental group that appears in religious ceremonies and plays, for example, traditional funeral music. The original two to three fanfares per village, are reduced today to only one semi-professional group, and the original repertoire changed. We additionally observe a decline in a series of traditional feminine activities (crafts, sewing of traditional clothes) as well as traditional masculine occupations (house construction techniques, the local manufacturing of bricks, manufacturing carts and cartwheels, ironwork, shoeing horses, masonry, and carpentry). The decline of these activities is due to social dynamics, technological developments, as well as to the before mentioned decline in Saxon population.

All the interviewed persons expressed feelings of great nostalgia for the past social climate. Due to the emigration of Saxons, villages lost part of their multicultural and multi-ethnic diversity and traditional identity. The interviewees display a strong feeling of nostalgia with regard to what Saxon villages used to represent, while also acknowledging a sense of concern regarding the preservation of heritage.

4.5. Fostering Resilience of the Saxon Tangible and Intangible Heritage

In a recent publication [7] present a framework for strategies to foster resilience—aspects of which can also be observed in the study region, as, e.g., by interviewees who are actively involved in the revitalization of the Saxon community’s social and cultural life. Mrs. U.C. stated “I am a professional musician and I get involved only in the cultural activities of the Saxon community. I organize shows with the children in the church, I accompany them with the piano, I play the organ every Sunday during the religious mass, in terms of gastronomy I have kept some recipes from my mother, I make cakes, jams, jelly”. Mrs. E. mentioned organizing Harvest Day and staging artistic shows for Christmas and Easter. A private entrepreneur of Swiss origin opened an organ repair workshop in Haman ten years ago because of the high numbers of repair-related requests—a consequence of all Saxon evangelist churches being very old, with old organs requiring repair.

Population decline poses a great threat to heritage preservation. Among the villages studied, the Saxon population amounts to an average of 64 inhabitants, corresponding to 2.7% of the respective total population (Table 1). The demographic decrease of Saxons threatens the continuation of the evangelical cult, as its practices have become increasingly difficult. Thus, despite financial support

from the diaspora (former members of the community who now live abroad) the declining number of community members is threatening the continuation of local traditions.

An important development supporting the preservation of the built tangible heritage is their inclusion on the historical monuments list [65]. The rural site Biertan has the protected status from UNESCO, being the first Romanian site included on the World Heritage List. The local authorities have managed to preserve the architectural integrity and authenticity for several streets of the village. Similarly, the nomination of the fortified citadel and church in Prejmer on the UNESCO World Heritage List encouraged the local authorities to preserve the buildings in the old center of the village. Overall, the UNESCO international protection status of the rural sites Biertan and Prejmer is a core element to increase heritage's resilience.

5. Conclusions

The Saxon cultural landscape was and still is vulnerable to historical and socio-economic changes. The results of interviews indicate a high persistence of tangible heritage in the cultural landscape, such as churches, citadels, and traditional houses, which are well preserved and can, therefore, persist for a long time. However, more than half of the heritage features mentioned by local people were reported to have disappeared, most of which were intangible forms of heritage. This loss is partly explained by the fact that they could not be passed on further, due to population decline. Therefore, the main factor responsible for changes in the Saxon cultural landscape was the mass emigration of the Saxons, driven by political and economic factors. Long term persistence of the remaining tangible and intangible Saxon heritage relies on the Saxon people who remain in the area and are willing to maintain and revitalize specific heritage features.

As stated in the introduction, landscape researchers tend to reduce the diversity of tangible heritage to physical aspects of cultural landscapes, and intangible heritage to land use practices which have a direct and visible impact on the landscape. Broadening the analysis to include additional forms of heritage is challenging but rewarding. We consider that by applying a more comprehensive view of people, landscape and heritage, it is possible to develop novel ways of (I) increasing the understanding of the role and relevance of the local landscape for local stakeholders, (II) engaging the local population in conservation measures, (III) jointly developing concepts for preserving and further developing various dimensions of cultural heritage and (IV) potentially increasing the resilience of socio-ecological systems under current scenarios of global change.

In the case study presented, we deliberately did not ask for specific landscape-related features but allowed respondents to choose what they considered a part of their heritage. In our view such a list of features, enriched with information regarding resilience and related driving forces, opens up the arena for community-based processes, e.g., using a joint learning circle procedure [66]. Our methods could be further developed by building specific direct and indirect links between the features assessed and the cultural landscape, in order to more fully understand dynamics in the past, drivers of change [67], and vulnerability and development potential for the future [68].

Supplementary Materials: The following are available online at <http://www.mdpi.com/2071-1050/11/11/3102/s1>—questions used in the interviews.

Author Contributions: Conceptualization, I.P.-S. and M.B.; methodology, I.P.-S. and M.P.; validation, I.P.-S.; formal analysis, I.P.-S.; investigation, M.P.; writing—original draft preparation, I.P.-S. and M.P.; writing—review and editing, I.P.-S., M.P. and M.B.; supervision, M.B.

Acknowledgments: The authors give special acknowledgments to all participating interviewees. For linguistic corrections, we could count on the support of Sarah Radford. This research was partially funded by the Doctoral School Simion Mehedinti, University of Bucharest. The authors give special acknowledgements to Alexandre Buttler for providing the scripts used in the statistical analyses.

Conflicts of Interest: The authors declare no conflict of interest.

References

1. Milcu, I.A.; Sherren, K.; Hanspacha, J.; Abson, D.; Fischer, J. Navigating conflicting landscape aspirations: Application of a photo-based Q-method in Transylvania (Central Romania). *Land Use Policy* **2014**, *41*, 408–422. [CrossRef]
2. MA-Millennium Ecosystem Assessment. *Ecosystems and Human Well-being: Synthesis Report*; Island Press: Washington, DC, USA, 2005.
3. CoE-Council of Europe. The European Landscape Convention, 2000. Available online: <https://www.coe.int/en/web/conventions/full-list/-/conventions/rms/0900001680080621> (accessed on 24 April 2019).
4. Palang, H.; Fry, G. *Landscape Interfaces: Cultural Heritage in Changing Landscapes*; Kluwer Academic Publishers: Dordrecht, The Netherlands, 2003.
5. Lieskovský, J.; Bürgi, M. Persistence in cultural landscapes: A pan-European analysis. *Reg. Environ. Chang.* **2017**, *18*, 175–187. [CrossRef]
6. Stephenson, J. The cultural values model: An integrated approach to values in landscapes. *Landsc. Urban Plan.* **2008**, *84*, 127–139. [CrossRef]
7. Plieninger, T.; Bieling, C. Resilience-based perspectives to guiding high-nature-value farmland through socioeconomic change. *Ecol. Soc.* **2013**, *18*, 1–15. [CrossRef]
8. UNESCO—United Nations Educational, Scientific and Cultural Organization. Convention for the Safeguarding of the Intangible Cultural Heritage. 2003. Available online: <https://ich.unesco.org/en/convention> (accessed on 5 January 2018).
9. Lekakis, S. Review: Poullos I, 2014. The past in the present. A living heritage approach—Metemora, Athens 2014. *AP Online J. Public Archaeol.* **2015**, *5*, 191–202. [CrossRef]
10. Hiroyuki, K.; Su, Z.; Wonhee, Y.; Qingwen, M. Concerns and opportunities around cultural heritage in east Asian globally important agricultural heritage systems (GIAHS). *Sustainability* **2018**, *10*, 1235.
11. FAO—Food and Agriculture Organization of the United Nations. Globally Important Agricultural Heritage Systems. Combining Agricultural Biodiversity, Resilient Ecosystems, Traditional Farming Practices and Cultural Identity. 2018. Available online: <http://www.fao.org/3/i9187en/I9187EN.pdf> (accessed on 1 June 2018).
12. Haaland, C.; Fry, G.; Peterson, A. Designing farmland for multifunctionality. *Landsc. Res.* **2011**, *36*, 41–62. [CrossRef]
13. Hart, T.J. *The Rural Landscape*; Johns Hopkins University Press: Baltimore, MD, USA, 1998.
14. Fellmann, J.D.; Getis, A.; Getis, J. *Human Geography. Landscapes of Human Activities*; McGraw-Hill Education: New York, NY, USA, 1999.
15. Antrop, M. Why landscape of the past are important for the future. *Landsc. Urban Plan.* **2005**, *70*, 21–34. [CrossRef]
16. Fisichelli, N.A.; Schuurman, G.W.; Hoffman, C.H. Is “Resilience” maladaptive? Towards an accurate lexicon for climate change adaptation. *Environ. Manag.* **2016**, *57*, 753–758. [CrossRef]
17. Caballero, G.V. Crossing Boundaries: Linking intangible heritage, cultural landscape and identity. In Proceedings of the pagtib-ong: UP Visayas International Conference on Intangible Heritage, Iloilo City, Philippines, 25–26 May 2017.
18. Bürgi, M.; Plieninger, T.; Palang, H.; Bieling, C. HERCULES Sustainable Futures for Europe’s Heritage in Cultural Landscapes: Tools for Understanding, Managing, and Protecting Landscape Functions and Values. 2016. Available online: http://www.hercules-landscapes.eu/tartalom/HERCULES_WP3_Deliverable_3.3.pdf (accessed on 1 June 2018).
19. Pătru-Stupariu, I.; Tudor, C.A.; Stupariu, M.S.; Buttler, A.; Peringer, A. Landscape persistence and stakeholder perspectives: The case of Romania’s Carpathians. *Appl. Geogr.* **2016**, *69*, 87–98. [CrossRef]
20. Walker, B.H.; Gunderson, L.H.; Kinzig, A.P. A handful of heuristics and some propositions for understanding resilience in social–ecological systems. *Ecol. Soc.* **2006**, *11*, 1–15. [CrossRef]
21. Oteros-Rozas, E.; Gonzales, J.; Lopez, M.; Lopez, C.; Montes, C. Ecosystem services and social–ecological resilience in transhumance cultural landscapes: Learning from the past, looking for a future. In *Resilience and the Cultural Landscape. Understanding and Managing Change in Human-Shaped Environments*; Plieninger, T., Bieling, C., Eds.; Cambridge University Press: Cambridge, UK, 2012; pp. 242–260.

22. Plieninger, T.; Höchtl, F.; Spek, T. Traditional land-use and nature conservation in European rural landscapes. *Environ. Sci. Policy* **2006**, *9*, 317–321. [CrossRef]
23. Bürgi, M.; Hersperger, A.; Schneeberger, N. Driving forces of landscape change—Current and new directions. *Landsc. Ecol.* **2004**, *19*, 857–868. [CrossRef]
24. Plieninger, T.; Draux, H.; Fagerholm, N.; Bieling, C.; Bürgi, M.; Kizos, T.; Kuemmerle, T.; Primdahl, J.; Verburg, P.H. The driving forces of landscape change in Europe: A systematic review of the evidence. *Land Use Policy* **2016**, *57*, 204–214. [CrossRef]
25. Solymosi, K. Indicators for the identification of cultural landscape hotspots in Europe. *Landsc. Res.* **2011**, *36*, 3–18. [CrossRef]
26. Szabó, P.; Šipoš, J.; Müllerová, J. Township boundaries and the colonization of the Moravian landscape. *J. Hist. Geogr.* **2017**, *57*, 89–99. [CrossRef]
27. Grimm, G.; Zack, K. *Die Deutschen in Ostmittel- und Südosteuropa*; Band 1 und 2.; Verlag Südostdeutsches Kulturwerk: München, Germany, 1995; pp. 15–16. (In German)
28. Wagner, F.P. Der Wandel der Lebensverhältnisse in Rumänien nach Ceausescu. In *Lebensverhältnisse in Osteuropa. Prekäre Entwicklungen und Neue Konturen*; Glatzer, W., Ed.; Campus Verlag: Frankfurt am Main, Germany, 1996; pp. 211–235. (In German)
29. Philippi, P. Cuvânt înainte. In *Deportarea Etnicilor Germani din România în Uniunea Sovietică—1945*; The Honterus Typography: Sibiu, Romania, 1994; pp. 5–14. (In Romanian)
30. Weber, G. *Beharrung und einfügung. Eine Empirisch-Soziologische. Analyse Dreier Siedlungen*; Studia Transylvanica, Band 1; Böhlau Verlag: Köln, Germany, 1968.
31. Poledna, R. *Transformări Sociale la Sașii Ardeleni După 194*; Presa Universitara Clujeana: Cluj, Romania, 2001. (In Romanian)
32. Toeroek, B.Z. Managing the past in urban portraiture in fin-de-siecle Saxon Transylvania. *J. Urban Hist.* **2017**, *43*, 651–660. [CrossRef]
33. Akeroyd, J.R.; Page, N. The Saxon villages of Southern Transylvania: Conserving biodiversity in a historic landscape. In *Nature Conservation: Concepts and Practice*. Akeroyd, J.R., Gafta, D., Eds.; Springer: New York, NY, USA, 2004; pp. 199–210.
34. ICOMOS—International Council on Monuments and Sites. Villages in Romania, no.596 bis, Advisory Body Evaluation. 1999. Available online: <http://whc.unesco.org/en/list/596/documents/> (accessed on 29 January 2019).
35. UNESCO—United Nations Educational, Scientific and Cultural Organization. UNESCO World Heritage List. 2010. Available online: <http://whc.unesco.org/en/list/596/documents/> (accessed on 11 January 2019).
36. Ciobanel, I.A.; Drogeanu, P. *Habitat Transylvania*; Etnologica Publishing House: Bucharest, Romania, 2011; Volume III.
37. Clipa, N. *Political Economics*; Sedcom Libris Publishing House: Iasi, Romania, 1999.
38. Schubert, H.A. *Nachbarschaft, Entfremdung und Protest. Welche Chancen Haben Gemeinschaftsinitiativen in Modernen Gesellschaften?* Verlag Karl Alber: Freiburg, Germany, 1977. (In German)
39. Koranyi, J.; Wittlinger, R. From diaspora to diaspora: The case of Transylvanian Saxons in Romania and Germany. *Natl. Ethnic Politics* **2011**, *17*, 96–115. [CrossRef]
40. Wolff, S. The Politics of Homeland: Irredentism and recognition in the policies of German federal governments and expellee organizations toward ethnic German minorities in Central and Eastern Europe, 1949–1999. In *The Heimat Abroad: The Boundaries of Germaneness*; O'Donnell, K., Bridenthal, R., Reagin, N., Eds.; The University of Michigan Press: Ann Arbor, MI, USA, 2005; pp. 287–313.
41. Roth, H. *Kleine Geschichte Siebenbürgens*; Böhlau: Köln, Germany, 2003. (In German)
42. Akeroyd, J. *The Historical Landscape of Saxon Villages in Southern Transylvania*; Art Group: Bucharest, Romania, 2006.
43. Varga, E.A. Brassó Megye Településeinek Etnikai (anyanyelvi/nemzetiségi) Adatai, 1850–2002. 2002. Available online: <http://www.kia.hu/konyvtar/erdely/erd2002/bvetn02.pdf> (accessed on 6 February 2019). (In Hungarian)
44. Nägler, T. Evoluția demografică a Biertanului. *Acta Terrae Septemcastrensis* **2003**, *II*, 167–175. (In Romanian)
45. NIS—National Institute of Statistics, Brasov County Statistics Office. *Territorial Directory of Braşov County 2009–2015*; Nis: Braşov, Romania, 2015; pp. 239–242.

46. Gill, P.; Stewart, K.; Treasure, E.; Chadwick, B. Methods of data collection in qualitative research: Interviews and focus groups. *Brit. Dent. J.* **2008**, *204*, 291–295. [[CrossRef](#)]
47. Dörnyei, Z. *Research Methods in Applied Linguistics: Quantitative Qualitative and Mixed Methodologies*; Oxford University Press: New York, NY, USA, 2007.
48. Rencher, A. *Methods of Multivariate Analysis*; John Wiley & Sons: New York, NY, USA, 2002.
49. Legendre, P.; Legendre, L. *Numerical Ecology*, 2nd ed.; Elsevier Science: Amsterdam, The Netherlands, 1999.
50. Greenacre, M. *Correspondence Analysis in Practice*; CRC Press: Boca Raton, FL, USA, 2010.
51. Niță, A.; Buttler, A.; Rozyłowicz, L.; Pătru-Stupariu, I. Perception and use of landscape concepts in the procedure of Environmental Impact Assessment; case study—Switzerland and Romania. *Land Use Policy* **2015**, *44*, 145–152. [[CrossRef](#)]
52. Oksanen, J. Multivariate Analysis of Ecological Communities in R: Vegan Tutorial. 2015. Available online: <http://cc.oulu.fi/~jarioksa/opetus/metodi/vegantutor.pdf> (accessed on 5 January 2018).
53. Torondel, B.; Ensink, J.H.J.; Gundogdu, O.; Ijaz, U.Z.; Parkhill, J.; Abdelahi, F.; Nguyen, V.-A.; Sudgen, S.; Gibson, W.; Walker, A.W.; et al. Assessment of the influence of intrinsic environmental and geographical factors on the bacterial ecology. *Microb. Biotechnol.* **2016**, *9*, 209–223. [[CrossRef](#)] [[PubMed](#)]
54. Süßner, H. Still yearning for the lost Heimat? Ethnic German expellees and the politics of belonging. In *ECPR Conference*; Philipps-Universität: Marburg, Germany, 2003.
55. UNESCO—United Nations Educational, Scientific and Cultural Organization. Convention Regarding the Protection of the World, Cultural and Natural Patrimony. 1972. Available online: <http://whc.unesco.org/archive/convention-en.pdf> (accessed on 29 January 2018).
56. Roth, V. *Geschichte der Deutschen Baukunst in Siebenbürgen*; Heitz: Strasbourg, France, 1905.
57. Rosemann, R.; Tartlau, H. *Kirchenburg*, in *Die Deutsche Kunst in Siebenbürgen*; Verlag nicht ermittelbar: Berlin, Germany, 1934; pp. 70–72.
58. Mitchell, N.; Rössler, M.; Tricaud, P.M. *Paysages Culturels du Patrimoine Mondial*; UNESCO: Paris, France, 2011.
59. Fabini, H. *The Church—Fortresses of the Transylvanian Saxons*; Publishing House Monumenta: Sibiu, Romania, 2007.
60. RG—Romanian Government. Lege nr. 350 din 6 iulie 2001 Privind Amenajarea Teritoriului și Urbanismul. 2001. Available online: http://www.cdep.ro/pls/legis/legis_pck.htp_act_text?id=28561 (accessed on 29 January 2018).
61. UNESCO World Heritage List, 1999. Available online: <http://whc.unesco.org/en/list/596/documents/> (accessed on 4 May 2018).
62. Nypan, T. *Safeguarding the Saxon Heritage in Transylvania*; PREM Project Final Report; Riksantikvaren: Oslo, Norway, 2006.
63. Tiplic, I.M. *The Fortified Churches of Transylvanian Saxons*; Media Print Publishing House: Bucharest, Romania, 2006.
64. Plieninger, T.; Bieling, C. *Resilience and the Cultural Landscape. Understanding and Managing Change in Human-Shaped Environments*; Cambridge University Press: Cambridge, UK, 2012.
65. CIMEC—Institute for Cultural Memory. Historical Monuments Proposed for Restoration, 1996–1998. Bucharest, 1998. Available online: <http://cimec.ro/scripts/monumente/id.asp?k=151> (accessed on 28 January 2019).
66. Bürgi, M.; Ali, P.; Chowdhury, A.; Heinemann, A.; Hett, C.; Kienast, F.; Kumar Mondal, M.; Raj Upreti, B.; Verburg, P.H. Integrating landscape approach: Closing the gap between theory and application. *Sustainability* **2017**, *9*, 1371.
67. Kizos, T.; Verburg, P.H.; Bürgi, M.; Gounaridis, D.; Plieninger, T.; Bieling, C.; Balatsos, T. From concepts to practice: Combining different approaches to understand drivers of landscape change. *Ecol. Soc.* **2018**, *23*, 1–11. [[CrossRef](#)]
68. Bürgi, M.; Bieling, C.; von Hackwitz, K.; Kizos, T.; Lieskovský, J.; Martin, M.G.; McCarthy, S.; Müller, M.; Palang, H.; Plieninger, T.; et al. Processes and driving forces in changing cultural landscapes across Europe. *Landsc. Ecol.* **2017**, *32*, 2097–2112. [[CrossRef](#)]

