

Article

# Management of a Tourist Village Establishment in Mountainous Area through Analysis of Costs and Incomes

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**Abstract:** The popularity of rural areas and especially the mountainous ones, as a possibility to spend the vacation has increased in most countries. Almost all mountain areas can provide great opportunities for the development of various forms of rural tourism, there being many examples according to which many mountain areas, through appropriate and effective strategies of capitalizing the resources through the forms of rural tourism, start from the pioneer stage to a real valuable alternative in socio-economic terms for the rural area. One of the concepts that are increasingly used is the "tourist village", its main issue, consisting in the return of the investment, an aspect that we will discuss in this paper. The paper presents an analysis of the way in which the occupancy degree affects the period of amortization of the initial investment. Concretely, in the case of the medium-sized tourist village, the minimum occupancy degree for the amortization of the initial investment, starts from about 25% for the investment without a loan, but subsidy in proportion of 50% and reaches at about 85% in the case of an investment with loan, for a period of 10 years, without advance or subsidy and with an interest of 7%. Initial investments were established for a holiday village in the Romanian countryside.

**Keywords:** rural tourism; tourist village; mountain area; costs and incomes

## 1. Introduction

In the last period, the involvement of local rural community in the local policy-making has gained increasing attention as an alternative approach to the rural development in the European Union (EU), particularly in the context of the complementary sectors of agriculture such as tourism [1,2] Many specialists notice the need to diversify the traditional agricultural activities from mountainous rural areas, taking into consideration the idea of starting farms-based tourism businesses [1].

The popularity of rural tourism forms has increased in recent years. A real leisure alternative has been reached from the individual character initiatives [3]. This is because the authenticity of rural areas is a quality that becomes more in demand in terms of current life. There are many studies about Romanian rural tourism, which highlight the importance of this type of tourism for the local economic development of rural communities Thus, according to many specialists, rural tourism business will be successful in the future, for the following reasons [4,5], [6–8]: rural tourist areas are increasingly

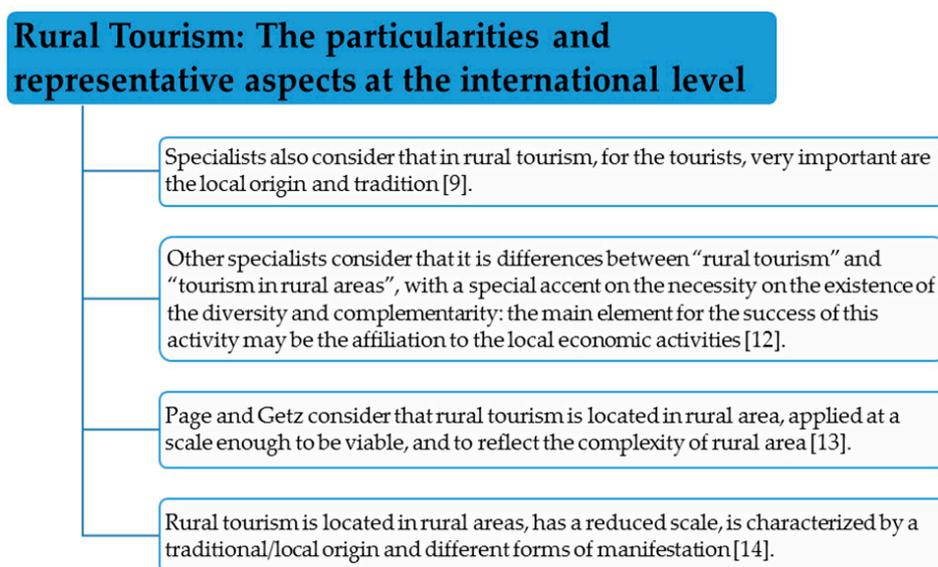
required by the city dwellers and tourists; travel of 30–50 km from the cities become competitive with long-distance journeys abroad; and most city dwellers prefer to spend leisure and weekend days in a quiet, green and clean environment.

Rural tourism can be a source of income for the rural population. The traditional products and resources that can be capitalized through this form of tourism are: traditional architecture, traditional objects, folk costumes, folk sculpture, traditional folk instruments, folklore manifestations, various traditional gastronomic, and eco-friendly products; in other words, the specific rural way of life, with multiple benefits for all participants to this activity. In order for rural tourism to have a high value, it is necessary that the economic value of adjacent activities to take place at a high level, so for this reason a rural tourist village could help.

*The aim of the paper.* The idea of this paper starts from the existence of numerous locations with tourism potential. Many of these locations can be found in the countryside, so the idea of rural tourism is brought to the fore. In other words, the aim is to combine local economic interests, the development of communities, with those aiming at the conservation of tourism resources. The motivation for choosing a tourist village is that it could be the center of generating profit when it “sells” rooms at a higher price than operating costs. The purpose of the paper is to highlight and study the concrete situation regarding the investments in developing a holiday village that contains 20 rooms, possibly located in Apuseni Mountains. The research objective is a tourist village built from scratch, so the purpose of the paper is firstly to estimate the amount necessary for the initial investment in accordance with the market prices in real estate, of the constructions and of services from Romanian market at the level of 2015–2016; secondly to highlight a simple example of maximum revenue generated by the holiday village; and then to determine the annual income generated by the holiday village on higher occupancy degree and period of investment amortization.

## 2. Literature Review

Rural tourism, with its specific aspects [9] (Figure 1), is not a new phenomenon as the accommodation of tourists in villages has been pursued for centuries in countries of the European Union (EU), but has been manageable only from the 19th century [10,11].

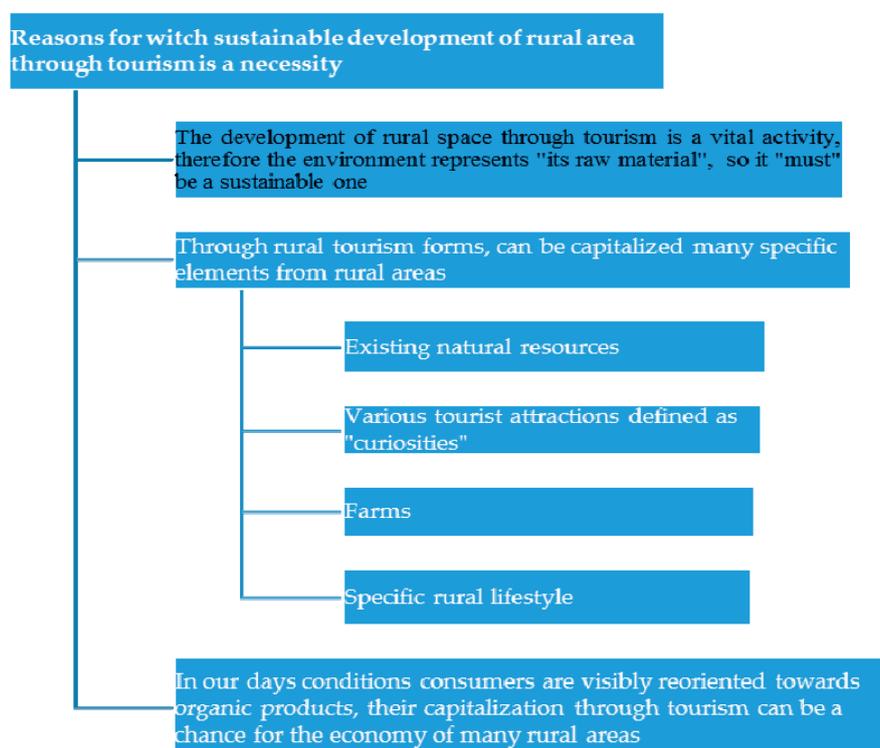


**Figure 1.** Rural Tourism: The particularities and representative aspects at the international level [12–14]. Adapted from Hall and Kirkpatrick [9].

The point of Figure 1 is first to underline the major concerns of different authors to establish the representative aspects of rural tourism, to emphasize the continuous improvement of the concerns

towards clarifying the particularities of this form of tourism, following the evolution in time of the definitions/preoccupations as the concrete activity is developed in the territory and the identification of the main determinant aspects. Speaking about typology, it can be noticed that if at first it was sufficient for this form of tourism to be located in rural areas, on measure of evolution leads to an emphasis on the originality/"wilderness" of the areas. In terms of the function of this form of tourism, there is a need for the existence of specialists in the field, as well as the differentiation of "rural tourism" and "tourism in rural areas". The scale to which it applies is a low one, and researchers point out the need for diverse collaboration to support the development of this form of tourism. The origin must be local and traditional, this type of tourism recommending the capitalization of the products resulting from the various local economic activities, the benefits remaining in the area. Regarding the form, rural tourism has evolved into several sub-forms, but has not reached the same complexity as urban tourism.

According to some authors, European rural areas represent 91%, meaning a vast territory, and 59% population involved [15,16]. According to European Parliament [17], rural areas represent 80% of the European Union's territory. Moreover, the impressive variety and beauty of landscapes give the EU its unique character—from the mountains to the steppe, from large forests to extensive fields. [17] So, rural territories can be sustainably supported by rural tourism (Figure 2) [18]. In the overall global economy of tourism, rural tourism represents the tourist capitalizing of rural areas, natural resources, cultural heritage, village traditions, and agricultural products by means of consecrated products that would cover the consumers needs in terms of reception, food, recreational activities, entertainment and miscellaneous services for the purpose of a local sustainable development, and of an adequate response to the needs of modern society recreation [19,20].



**Figure 2.** Reasons for which, sustainable development of rural area through tourism, is a necessity. Adapted from Istrate et al. [20].

The mountains of the European continent of Earth's land surface, at UE 15 level and about 25.2% at UE 29 (together with Norway) level, a percentage of 18% from the European farms, about 15% from the used agricultural area and 15% from the agricultural workforce in Europe. The European Commission

in partnership with several European organizations has defined the mountainous areas [21,22]. Therefore, those areas that meet the following conditions are considered as mountainous areas: altitude between 0 and 2500 m. Settlements are considered mountainous if 50% or more of their surface is covered by mountains. Agriculture plays an essential role in mountain areas [22], even if they are more disadvantaged, so more developed are:

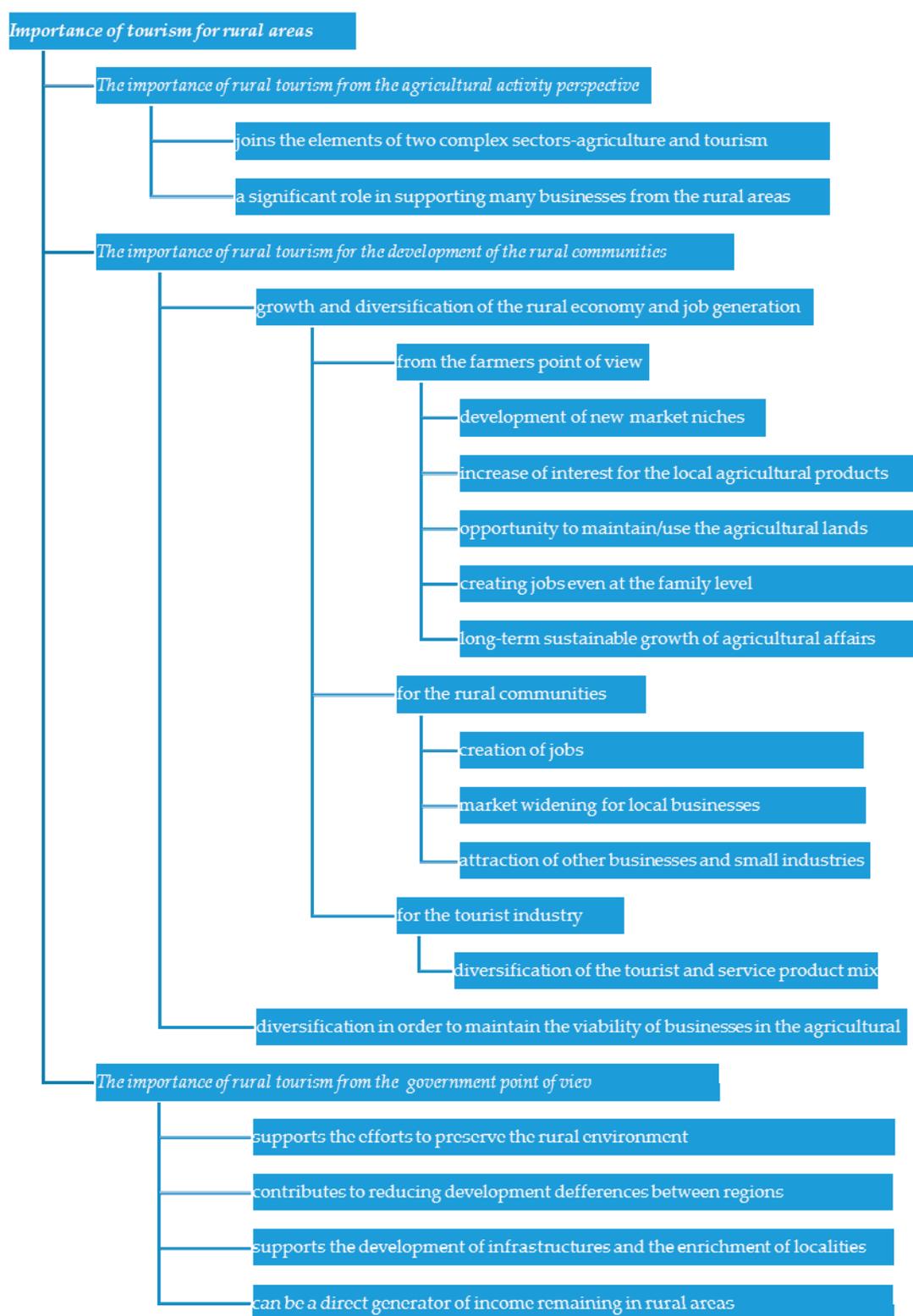
- animal husbandry. European mountain areas are representative through some aspects: about 25% of cattle production, 29% of dairy cows, 32% of sheep and 67%;
- and forestry.

In socio-economic terms, the European mountain areas have an essential importance, for the population of the continent, [22–24] taking into account the insurance of necessary of water, insurance the biodiversity, the sustainability, insurance of raw material for different types of tourism activities.

Mountain rural area is more disadvantaged in terms of agriculture but it has also advantages. Due to these advantages, complementary activities, may occur in rural areas. Among these possible activities rural tourism and agro-tourism can be included [23,24], so, for mountain areas, one of the solutions of capitalizing the existent resources is to develop tourism activities [25], especially rural ones.

Tourist's accommodation in rural tourism villages is not a new phenomenon; it has been practiced for decades in the European Union (EU) [24–26].

The idea of tourist villages [27,28] started from France, a country with long traditions of organizing and promoting rural tourism forms to the fullest. The rustic homes are controlled, approved and reserved by “La Federation Nationale de Gites de France (FNGF)”, which comprises 37,000 permanent settlements. In 1970, “Tourisme en espace rural” (TER) came into existence and consisted in 4000 villages, scattered in over 80 departments. Switzerland is also one of the pioneers of rural tourism, about the “tourism adventure”, as it was called in an initial stage of development, there exist testimonies from 1840. Recently, Switzerland has studied and encouraged the transformation of some villages into tourist villages. In Switzerland, two out of three inhabitants from rural area obtain their revenue from agro-tourism activities as it has an annual contribution of 5.6% in GDP and ensures 300,000 jobs. Ever since the last decade, two notions have appeared in Austria, “recreational tourist village” and “rest resort”, thereby the tourist movement increased significantly. The remaining places must meet the requirements specified and were aided in their development for receiving visitors. The Austrian “recreational tourist villages” have a predominantly rural character as the tourist can spend the vacation in seclusion and serenity and at the same time the tourist can learn about the customs and folklore wealth specific to the area. In Germany the citizens' vacation in villages began in 1965, when the first city dwellers vacations were organized in villages. Initially, two German organizations of agricultural producers—the “German agricultural society (DLG)” and “Organization for the public opinion stimulation” (IMA)—have organized the availability of agricultural farms to receive tourists. The accommodation of tourists in Polish rural area began more than three decades ago. Since the basis for accommodation in tourist centers was overcrowded and could not meet the accommodation demand of the foreign and local tourists, almost 3000 tourist villages are currently in this country, of which over 200 localities are highlighted through an intense tourist activity. As far as Romania is concerned, starting from 16 July 1973, through the Order of the Ministry of Tourism number 744/1973, 14 localities have been experimentally declared as villages of tourist interest, referred to as “tourist villages” [29]. In Figure 3, we try to illustrate the importance of rural tourism for rural area from anywhere, processing many opinions of the specialists.



**Figure 3.** The importance of tourism for rural area.

The Romanian area is among the few in Europe where the traditional, spiritual valences, especially the ethno-folkloric ones, social and economic life and the environment, are still preserved and unaltered, and through these qualities, the rural area offers conditions favorable to development [29]. The Romanian villages have tourist resources of great variety: ethno-folkloric traditions and values,

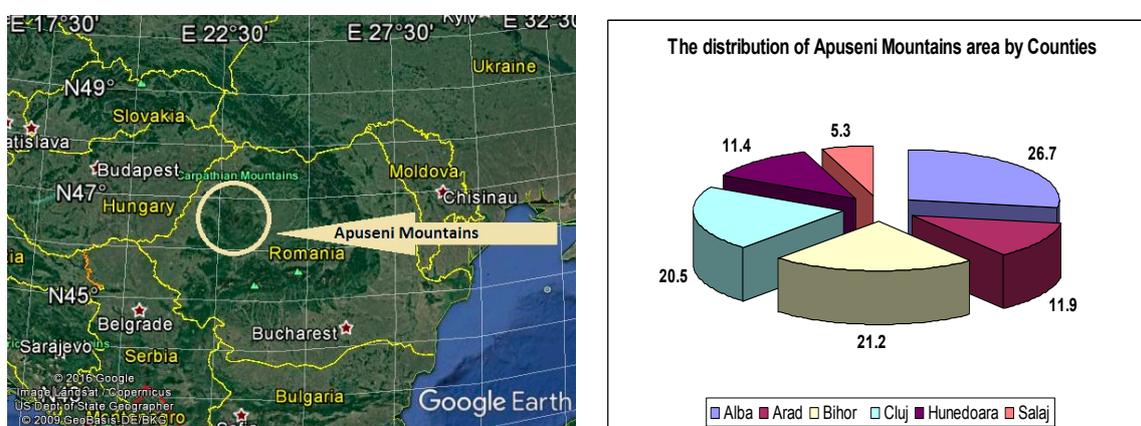
historical and art monuments, unpolluted natural environment and diverse potential [29,30]. Thus, an essential requirement of the tourist activity can be solved, namely that of the tourist potential. In Romania, until recently, 43% of the population practices the subsistence type of farming; the landowners owning surfaces between 0.5 to 3 hectares and a few domestic animals for their own consumption or for sale in small quantities on the market. In this case, the inhabitants of rural areas must be directed to: direct selling of traditional products; eco-friendly products; certification of their personal traditional products; and the orientation towards different forms of rural tourism. Today, rural tourism is an active presence in many households, especially in the pre-mountain and mountain area of Romania [28,31]. However, the issue related to the accommodation conditions remains open, in which context we believe that the design of a tourist village in the mountain area would be appropriate. The development of tourism in the rural area could have multiple consequences as direct impact on villages [32,33]:

- improvement of general infrastructure on which the revitalizing of the rural economy depends (roads, water network, sewerage, telecommunication, electricity);
- arranging some farms, pensions, and model tourist households, as well as equipment and organization of activity, but with the compliance with the local traditions and architecture, avoiding the kitsch, or transfer of urban construction into the rural areas;
- identification, inventory and capitalization of tourist and surrounding resources; development and modernization of those placed in the tourist circuit with particular emphasis on entertainment, animation, recreation and sport practicing; and
- drawing up a register of the main events in the life of the village (cultural, religious, traditions, exhibitions, fairs, etc.), memorials, local artisans and rhapsodies, in order to present some authentic tourist and of definite value programs (personalized to the area).

### 3. Materials and Methods

The study was conducted and placed in the area of the Apuseni Mountains, an area with a high potential for rural tourism, which could offer a great variety of unique tourist products to the tourists. If the tourist appreciates more and more the authenticity of the life in the countryside, a possible tourist village could bring this area in the interest of the tourist, as well as other areas from the country and abroad.

*Territory and its characteristics.* The surface of Apuseni Mountains region (Figure 4) represents 7% of Romania and extends across six counties: Alba, Arad, Bihor, Cluj, Hunedoara and Salaj. The degree of area urbanization is low, about 30%, which is an excellent condition for rural tourism.



**Figure 4.** The location and the distribution of Apuseni Mountains from Romania by Counties. Adapted from Google Earth [34].

As human habitat, the area grouping 16 towns, 1253 villages, the characteristic element being the absolute dominance of small villages and towns, namely 348 villages have below 100 inhabitants, of which 42 villages have less than 20 people.

The number of villages with 100–499 people is 578 [35]. Many of the villages from this area are great preservers of traditions. Most are located in the Apuseni Natural Park (Albac Arieseni, Scarisoara, Garda de Sus, Pietroasa, Giulesti Mătișești, etc.). The villages that have realized their tourist opportunity and have used it successfully in recent years are Sâncraiu, Rimetea, Marisel [36,37].

The motivation for selecting the Apuseni Mountains derives from the fact that the area has a high potential for rural tourism [37,38]; the special/unique items (mentioned in Figure 5) that builds its unique tourist image include:

- (1) wonderful natural landscape (mountains, forests, clean air, rivers and lakes) and also wildness (the influence of human factor is as visible as in other developed tourist mountain areas);
- (2) well preserved ancestral traditions and crafts; and
- (3) the interweaving of the traditional with the modern and new: cultural-ethnographic archeology, architectural treasure, or the opportunity to practice skiing, golf and extreme sports.

Thus, the customs and traditions of these three villages added to the mountain natural resources and traditional products results in a valuable tourist product, which could help to “cure” to many of the area’s problems [3].

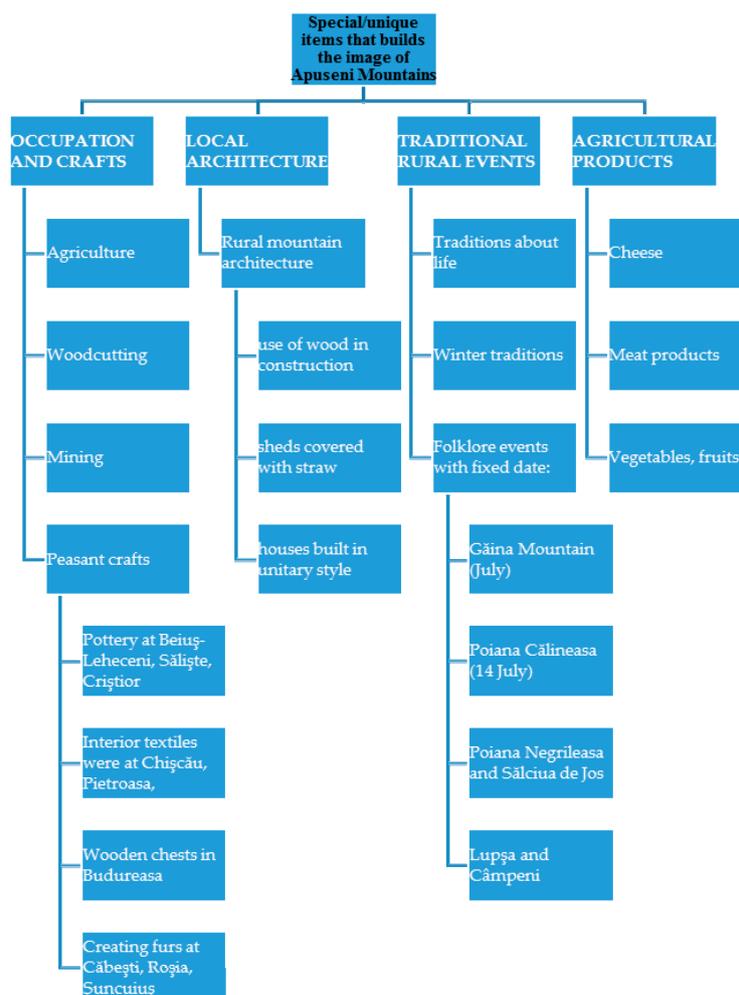


Figure 5. Special/unique items that builds rural tourist image of Apuseni Mountains [38].

Mainly due to the stiff competition, convincing a prospective customer to rent the accommodation place is not exactly easy. The customer can choose from a huge variety of offers and choices that he/she can make. The rural tourist products existing on the market have diversified and specialized based on a strict segmentation of the demand. The recent complex tourist products focus on traditional objectives or close to the term “bio”, or just these products can be found in abundance in this region, but they are not popular.

The tourist potential of the area is currently exploited in a small part only, in terms of tourist activities, the number of accommodations units from the area, according to INSSE, highlighting the existence of a number of:

- 12 hotels, classified with one-three stars;
- 20 villas, categorized by one-four stars;
- 6 motels with one and two stars;
- 16 cottages, classified in the category one-three stars;
- 3 holiday villages located in: Boga, Fantanele, Vartop.

Referring strictly to rural tourism activity, the accommodation units across the Apuseni Mountains area totals, according to statistics from the six counties, about 182 households, spread almost uniformly across counties components of Apuseni Mountains, as follows: 60 households belong to Cluj County, 44 houses are found within the Bihor County, Alba County has 48 households approved for rural tourism, Arad has seven households approved for rural tourism and within the Salaj County are found 23 households approved for rural tourism.

*The motivation for establishing a tourist village* is the benefit that can be obtained by the owner. The rooms offered for accommodation are the main centers generating profit from the guesthouse. The profit is made when the guesthouse “sells” rooms at a price higher than the operating costs.

*The methods used* were: data collection, processing, analysis, observation, mathematical calculation and their interpretation. The cost-effectiveness study is based on several distinct situations regarding the return of the investment, namely the mode of use and recovery of the capital. Thus, according to the situation (market, economic and fiscal ones) from the period analyzed, when an investor has multiple funding options available, we considered appropriate to analyze two distinct cases:

- (1) when the investment is fully supported by the investor’s own sources; and
- (2) when it is supported by investor through a loan.

Mathematical calculations are made starting with the classic formulas of financial mathematics literature relevant to the capitalization of some amounts using the compound interest [39,40]. For this reason, we used formulas that encompass both simple incomes and interest generated by those. The cost-effectiveness conclusions were issued after comparing the incomes.

Thus, we determined the minimum occupancy degree, of the tourist site, which means covering different types of investments. Practically, the “occupancy degree” of the tourist site represents an objective indicator, because these values are carefully monitored at the national level, thus having a clear reference on the relative size of this indicator.

The occupancy degree represents a statistical indicator, expressed as being the report between the number of occupied rooms and total rooms [41] of a building. In the tourism industry, this offers multiple interpretations, possibly indicating the satisfaction degree of tourists, their interest in a particular type of service, establishing of a hierarchy of hotels in terms of efficiency [42], a measure of the competitiveness [43], and an estimation of the value of a building. Thus, due to the characteristic of bringing income of the buildings subject to rental, can be expressed theoretical mathematical relationships between the respective income and the value of the building, using estimation methods based on “income capitalization” [44]. The high interest for increasing the employment degree is revealed by the appearance of some prospective studies of this indicator based on mathematical models of network theory [45], forecasts of occupancy degree based on chronological series [46]. Starting from

the necessity of knowledge, statistical databases [20] offer a wide space for this indicator, for example Eurostat, showing values of various derivatives of it (regarding the number of beds or rooms overall rented, for different types of accommodation spaces, depending on their size and classification) for European countries-which are the data used in this study.

#### 4. Results and Discussions

##### 4.1. Description of A Possible Holiday Village

In the following, we firstly tried to describe a possible holiday village, its location can be anywhere in the rural area of Apuseni Mountains, and then to present the development stages of such a project, the size of investment and any eventual incomes, forecast at a 60% occupancy degree.

Therefore the tourist village proposed by us will have the following characteristics:

- (1) Accommodation will be made in 10 rural houses, meaning 20 rooms and 40 places. These houses have a wood and brick structure with two rooms on board, one downstairs, one upstairs and one bathroom for both rooms. All rooms are for two persons, thus results an accommodation capacity of four persons in one house. Each board is provided with a terrace. The built surface on a rural house will be of 80 m<sup>2</sup>. The total accommodation area will be of 800 m<sup>2</sup>. The constructive structure will be based on sandwich panel's type, with sloping wooden shingle roofing (shingle).
- (2) Access roads (paved), pedestrian paths (dales), green areas, and transparent fencing with climbing vegetation are designed.
- (3) The playground is designed for volleyball and basketball. It will be considered the land to be properly oriented with the long side on the North-South, with a maximum deviation of 15°.
- (4) Parking will serve the main building, occupying an area of 55 m<sup>2</sup>. The capacity would be 10 cars. The access to the parking place will be on the main promenade road.
- (5) Green area corresponding to the center will have a surface of 0.35 hectares and will be located mostly around the main building, with landscape design, the floral plantings, plantations aimed at visual protection.

The development stages of such proposals include:

- (1) Feasibility study;
- (2) Technical project planning and related equipment of the village;
- (3) Business plan that includes steps clarify the stages and activities, obtaining of operating permits, and implementation of marketing strategy;
- (4) Village tourism project; and
- (5) Execution of the project and opening of the tourist village.

The benefits of implementing a project such as a holiday village could be:

- (1) Diversifying the accommodation sector (medium and small hotels, holiday villages, campsites, hostels, and villas);
- (2) Use of the existing natural and human resources;
- (3) Development of activities with local, regional and international character and level;
- (4) Participation in regional and international associations in the field;
- (5) Stimulate local entrepreneurship;
- (6) Involve other owners of rural houses in the area in the development of joint tourism programs; and
- (7) Marketing of local cuisine.

##### 4.2. The Investment Size

The total investment size will be at least 465,310.50 Euros (Table 1) (taking into account the standard market prices), including the construction of 40 accommodations on two daisies (method of

classification of rural establishments with tourist vocation at Romania's level) [47], employee training and marketing activities. The most frequent holiday village is built within the place of a former tourist resort, which has some engineering features, but with a high degree of decline. In our case, the accommodations (10 rural houses) and leisure are built from the ground. Costs are somewhat reduced because it uses cheaper local labor and local raw materials.

**Table 1.** Initial investments to establish a holiday village in the Romanian countryside.

Objective	Detailed Actions for Proposed Objective	Units No.	Cost/Unit (Euro)	Total Cost (Euro)
Operating permits	Making a feasibility study			41,390
	Registration costs at different institutions		950	950
	Business Licenses		570	570
Personal training	Studies for staff training, no. people	5	475	2375
	Obtaining the patent for tourism, no. of people	5	475	2375
	Consulting expenses		3650	3650
Territory planning	Repairing roads, (m <sup>2</sup> )	500	9.5	4750
	Own water and sewerage network		4750	4750
	Street and common use areas lighting	50	23.75	1185.5
	Create spaces for storage of waste, (units)	1	475	475
	Installation of trash cans, (units)	25	9.5	237.5
	Installation of public telephones (units)	3	237.5	712.5
	Making a personal parking, (m <sup>2</sup> )	55	9.5	522.5
	Purchase sets fire	6	95	570
	Creating green lawn and land (areas)	35	38	1330
Arranging space for administration	Front and reception hall, (m <sup>2</sup> )	25	312.5	7812.5
	Space to store the equipment for hire, (m <sup>2</sup> )	10	190	1900
	Warehouse for storing linen and maintenance materials, (m <sup>2</sup> )	10	190	1900
	First aid point, (m <sup>2</sup> )	15	427.5	6412.5
Accommodation building and equipment	10 pensions of 80 m <sup>2</sup> each. Each pension is equipped with 2 rooms, 2 beds, four beds room/board (m <sup>2</sup> )	800	380	304,000
	Mattresses, number	40 + 40	190	15,200
	Bedding sets	80	28.5	2280
	Furniture sets	20	285	5700
	Accessories (TV), units	20	285	5700
Bathroom equipment (1 bathroom on each board)	Shower sets	10	285	2850
	WC, sets	10	76	760
	Sink, sets	10	28.5	285
	Accessories, sets	10	28.5	285
Kitchen building and equipment	Electric and wood stove, units	3	237.5	712.5
	Refrigerator, units	3	427.5	1282.5
	Cookware and kitchenware		1425	1425
Recreation	Creation of commercial premises, (m <sup>2</sup> )	30	312.5	9375
	Construction of a sports field	1	475	475
	Planning a pool	1	1900	1900
	Sauna	1	4750	4750
	Bar, (m <sup>2</sup> )	30	332.5	9975
Marketing actions	Making a holiday village scheme panel at the entry in common	1	95	95
	Plaque representing the tourist category	1	95	95
	Village scheme leaflets and products offered	500	0.095	47.5
	Web page development (within which, the purchase costs of 3 computers and costs of site creation)			14,250
<b>TOTAL</b>				<b>465,310.5</b>

Source: own calculations based on an average of the prices from Romanian market at the 2015–2016 price level [48].

#### 4.3. Annual Income Generated by the Holiday Village on Higher Occupancy Degree and Period of Investment Amortization

An example of maximum revenue generated by projected holiday village, with an average price of 12.17 Euro per night, representing income made possible to an employment rate of 60%:

- Number of rooms: 20

Number of rooms sold to an employment rate of 60%:

$$\begin{aligned} 365 \times 20 &= 7300 \text{ (100\% occupancy rate)} \\ (7300 \times 60)/100 &= 4380 \end{aligned}$$

- Optimal price per room: 12.17 EUR

Income generated by the board within a year:

$$4380 \times 12.17 \text{ Euro} = 53,304.6 \text{ Euro}$$

During the study, we used the following notations, as indicated below, and the corresponding values in agreement with previous actual data.

A1: Occupancy degree of rural house

A2: total annual revenue generated by the occupancy of rural house

$$A2 = (A1/100) \times \text{total income} - \text{maintenance costs 20 rooms}$$

A3: payback period in years, according to the investment without borrowing and without capitalization of income

$$A3 = \text{total investment}/A2$$

A4: capitalization amounts from annual income for 10 years of deposits with interest of 5%/year

$$A_4 = \sum_{i=1}^n A_2 \cdot \left(1 + \frac{r}{100}\right)^i$$

where  $r$  is the interest rate, and  $n$  is the period of time in years.

The sum ( $S_f$ ) that will be returned after a loan ( $S$ ) conducted over a period of  $n$  years, with an  $r$  interest, is given by the expression:

$$S_f = S \cdot \left(1 + \frac{r}{100}\right)^n$$

A relatively constant occupancy degree also involves a relatively stable income. Capitalization of annual profits with  $S$  value with  $r$  interest, leads to the end of period of  $n$  years, to the final amount.

$$S_f = \sum_{i=1}^n S \cdot \left(1 + \frac{r}{100}\right)^i$$

Therefore, the capitalized amounts will be deducted at the end of a given period according to various degrees of occupancy of a tourist location.

Basically, the problem is determining the minimum occupancy degree (Table 2) of the complex so that, as appropriate, the amount resulting from the capitalization of annual income in 10 years in deposits with interest of 5%/year investments to exceed  $S_0, S_{0/50}, S_1, S_{1/50}, S_2, S_{2/50}$  and  $S_{2/70}$  (defined above). In the A4 column, "Income capitalized in 10 years in interest deposits 5%/year (Euro)", we follow these values depending on the occupancy degree of the complex, expressed progressively from 1% to 100%.

**Table 2.** Annual income generated by the holiday village on higher occupancy degree and amortization period of investment.

A1	A2	A3	A4	A1	A2	A3	A4
Occupancy Degree (%)	Annual Income (Euro)	Amortization Period (years)	Income Capitalized in 10 Years (Euro)	Occupancy Degree (%)	Annual Income (Euro)	Amortization Period (years)	Income Capitalized in 10 years (Euro)
1	-	-	-	35	28,658.55	16	378,487.5
2	-	-	-	...	...	...	...
3	229.43	2027	3030.033	40	33,100.6	14	437,152.6
4	1117.84	416	14,763.07	...	...	...	...
5	2006.25	231	26,496.12	45	37,542.65	13	495,817.8
...	...	...	...	46	38,431.06	12	507,550.8
10	6448.3	75	85,161.33	47	39,319.47	12	519,283.9
...	...	...	...	48	40,207.88	11	531,016.9
15	10,890.35	42	143,826.5	49	41,096.29	11	542,750
...	...	...	...	50	41,984.7	11	554,483
20	15,332.4	30	202,491.7	...	...	...	...
21	16,220.81	28	214,224.8	65	55,310.85	8	730,478.6
22	17,109.22	27	225,957.8	...	...	...	...
23	17,997.63	25	237,690.9	70	59,752.9	7	789,143.8
24	18,886.04	24	249,423.9	...	...	...	...
25	19,774.45	23	261,157	80	68,637	6	906,474.3
26	20,662.86	22	272,890	...	...	...	...
27	21,551.27	21	284,623	85	73,079.05	6	965,139.5
28	22,439.68	21	296,356.1	...	...	...	...
29	23,328.09	20	308,089.1	90	77,521.1	6	1023,805
30	24,216.5	19	319,822.2	...	...	...	...
...	...	...	...	100	86,405.2	5	1141,135

Source: Own mathematical calculations.

The large number of financing methods developed at the European level, among others, based on investment projects with non-refundable amounts, makes the realization of such an approach easier. We will consider some possibilities of planning the investment, analyzing them in terms of efficiency, for a period of  $n = 10$  years for capitalization respectively loans.

Comparing the capitalized values of the profit with the value of investments, we will be able to draw conclusions regarding the minimum occupancy degree, which can lead in a useful time to the amortization of a certain type of investment realized. Values are expressed in Euros at the level of an average exchange rate from the beginning of 2016.

Regarding the investment, we will analyze different cases: Investment without advance loans, respectively, for 0% and 50% advance and equivalent for each grant subsidized by 50% (70% in IIIc).

$$S_{\text{final}} = S_{\text{initial}} \times \left(1 + \frac{r}{100}\right)^n$$

- I.
  - a. The total investment (excluding loans)  $S_0 = 465,310$  Euro
  - b. The total investment, subsidized 50% case,  $S_{0/50} = 232,655$  Euro
- II.
  - a. The amount necessary to be returned after a 10-year loan, advance 50%, 7% interest,  $S_1 = 690,322.6$  Euro
  - b. The amount necessary to be returned after a 10-year loan, advance 50%, 7% interest, subsidized 50%,  $S_{1/50} = 345,161.3$  Euro
- III.
  - a. The amount necessary to be returned after a 10-year loan, advance 0%, 7% interest,  $S_2 = 915,335.17$  Euro
  - b. The amount necessary to be returned after a 10-year loan, advance 0%, 7% interest, subsidized 50%,  $S_{2/50} = 457,667.5$  Euro
  - c. The amount necessary to be returned after a 10-year loan, advance 0%, 7% interest, subsidized 70%,  $S_{2/70} = 274,600.5$  Euro

Thus, in Table 2, we can see that for I type of investment, without loans, the minimum occupancy degree necessary for profitability is 43%. In 50% subsidized case, the minimum occupancy degree is 23%.

For II type of investment, with 10-year loans, advance 50%, 7% interest, minimum occupancy degree required for profitability is 62%. In subsidized 50% case, the minimum required occupancy degree decreases to 33%.

Investment III type investment, with 10-year loans, advance 0%, 7% interest, the minimum occupancy degree required for profitability is 81%. In 50% subsidized case, minimum occupancy level required is 42%.

In subsidized 70% case, the minimum occupancy level required is 27%.

These values are summarized in Table 3.

**Table 3.** Minimum occupancy degree for useful amortization.

Investment Type	Minimum Occupancy Degree for Useful Amortization
I a	43%
I b	23%
II a	62%
II b	33%
III a	81%
III b	42%
III c	27%

Source: Own mathematical calculations.

Regarding the tax system applied, it is very difficult to evaluate on the long-term at the level of Romania, due to multiple legislative changes and some instability in the tax system. However, starting with year 2017, a legislative trend regarding the application of flat-rate tax for tourism activities of this kind is emerging (described in Romania by NACE-5510). We will take as an example the values indicated by the legislative project [49], currently in an advanced stage of adoption and, among other things, establishes the formula for calculating the payable tax. This indicates values between about five Euros/year for an accommodation place in motels having a lower category up to 146 Euro/year for a place having in hotels with a superior category. We will take here into account the studied category for the rural establishments with tourist vocation at Romania's level.

Following statistical data provided by Eurostat, we see that, in the few countries with tourist potential and development trends similar to Romania, the employment rate of hotels with small size (less than 25 rooms) oscillates around an average of about 24% (Table 4).

**Table 4.** The occupancy degree (%) of rooms in hotels less than 25 rooms.

Country/Occupancy Degree (%)	2012	2013	2014
Bulgaria	16.3 %	16.6 %	16.5 %
Czech Republic	22.1 %	22.1 %	21.3 %
Greece	21.9 %	23.3 %	24.4 %
Poland	32.3 %	32.8 %	33.9 %
Romania	29.1 %	27.3 %	26.8 %
Average values	24.34 %	24.42 %	24.58 %
	2012	2013	2014

Source: Eurostat [41].

Compared to the averages across these countries, we notice higher values in Romania. On the one hand, this fact may have the meaning of an increased interest of tourists for such tourist locations, but, on the other hand, the small number of accommodations in Romania may create an increase of the density of tourists in certain areas, which explains the ranking above the average values of the

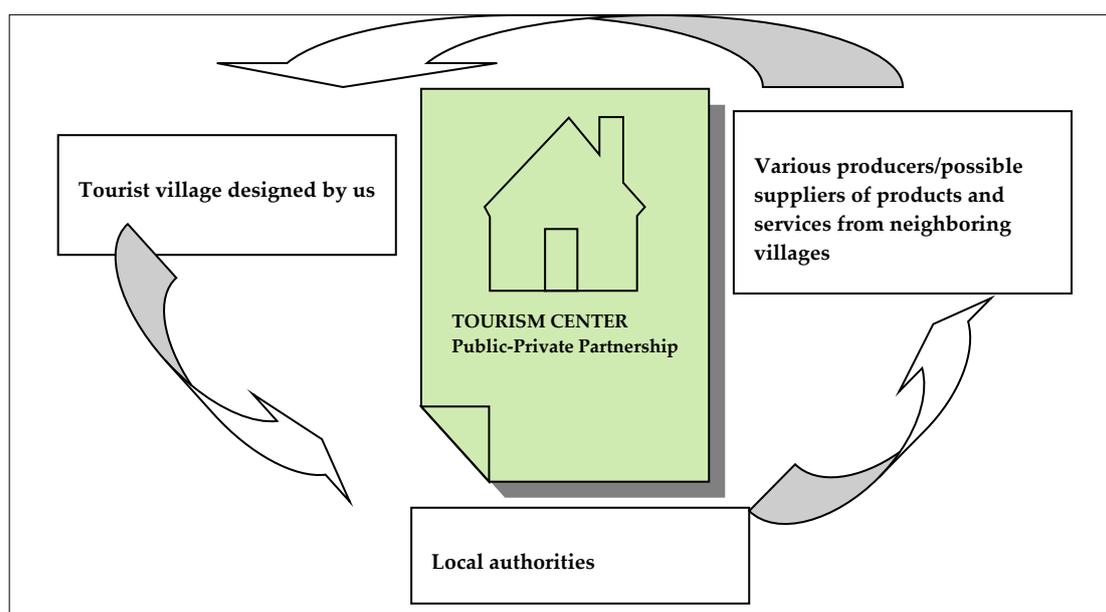
countries surveyed. However, these data can represent useful information in terms of assessing the trust degree in the calculations regarding the efficiency of the investment.

However, the notoriety (in the positive sense) is still not a feature of many areas, even if they have a high tourism potential. It is therefore necessary to subsidize such investments—noting that by covering through non-refundable grants at a rate of at least 50% (I b, II b, III b, III c), the desideratum regarding the amortization of the investment in time may become feasible. To increase the income generated for tourist village, two strategies can be implemented: increasing the number of “sold” rooms per year and/or increasing the tariffs. Tactics adopted may include one or more of the following:

- working with tourist operators to increase the number of “sold” rooms;
- increase the number of visitors;
- attracting people who need temporary accommodation for longer periods; and
- partnership with other rural houses to attract tourists.

The above methods could lead to increasing the employment rates, but could also mean lower tariff practices, especially when working with a specialized agency or a tour operator.

A proposal that can be drawn from our study is that at the level of the Apuseni Mountains there are representative resources for tourism specific to the rural environment that are areas where there is a shy start of tourism in rural areas. In this context, the proposal made by us for tourist village would be opportune. The sustainability of the tourist village as well as its economic sustainability could be based on the collaboration with other villages from the Apuseni Mountains region, either in a simple form, or in the form of a public–private partnership such as a tourist center (Figure 6).



**Figure 6.** Sustainability of the tourist village through the collaboration with other villages from the Apuseni Mountains region.

Rural tourism can be a lever for the local development of many rural areas, if locally, nationally and at the level of the European Union, a series of common development strategies and programs are created [50]. In this regard, the relationship between the tourism industry and the natural environment can also be respectful [51].

## 5. Conclusions

The purpose of the paper is to highlight the investments in developing a holiday village and to determine the annual income generated by a holiday village based on higher occupancy degree and

the period of investment amortization. In agreement with the many credit possibilities that can be used by the investor for creating a “tourist village”, the paper presents an analysis of how occupancy degree affects the amortization period of the initial investment. In the case of a medium-sized tourist village, the minimum occupancy degree for the amortization of initial investment, starts from about 25% for investment without loan but subsidy of 50% and reaches at about 85% for an investment with loan, during 10 years, without advance or subsidy and with an interest of 7%.

Following the data presented, referring to the average occupancy degree of the accommodation spaces with small dimensions, a conclusion appears that many developers in the tourism industry already know: the occupancy degree is often too low to induce an amortization of the investments in useful time. A first step to remedy this aspect may consist in the location of tourist complex in areas with high tourism potential, which may have as effect the increase of occupancy degree, with values above the national average—being well known the fact that multiple locations are characterized by an occupancy degree over 50%, and even 60%. However, the notoriety (in the positive sense) is not yet a characteristic of many areas that have a high tourist potential. Therefore, subsidizing such investments is necessary—noting that, through covering part of the investment with non-refundable funds, the desideratum regarding the amortization in useful time of the investment can become achievable.

Taking into consideration the large share of the number of tourists during the summer, some particular aspects of Romania can be noticed regarding the geographic location. Thus, the numbers of summer days, with pleasant temperatures for those who opt for such a leisure stay, get on average at about 60 days per year. This aspect can create a disadvantage regarding the occupancy degree, practically the summer season being much extended in a natural way, in tourist locations located in the south of Romania. In addition, those who opt for winter locations will find that the use in natural way of the snow can be done on a limited number of days compared to the tourist locations found in the vicinity of Romania, countries which have high relief and where there are multiple locations at altitudes over 2500 m. Taking into consideration the major development of transport services as well as the rapid possibility of tourists who choose summer or the winter tourism, methods for stimulating the tourism in other seasons are necessary.

The main values of the occupancy degree indicated by the statistics in Romania but also at the level of the neighboring countries, do not confer a high level of confidence regarding the admission of the coverage hypothesis of some direct non subsidized or partially subsidized investments based on loans of the difference. On the other hand, the subsidized investments followed by direct payment, without loan, have big chances for covering the investment in the next 10 years, if there is an occupancy degree near the average values presented in the data. The importance of starting a subsidized investment clearly emerges from here.

Taking into consideration the relatively small number of tourists in the summer and winter seasons, according to geo-climate specific to Romania, it is necessary to adopt multiple strategies in order to increase the occupancy degree also outside such periods.

It requires more identification of many factors that can increase the occupancy degree, identifying the organizations and optimal financing methods followed by performing mathematical and economic calculations in conditions of maximum precision in accordance with the contractual conditions and tax legislation.

In conclusion, after observing the data, it is realized that some investments partially non-subsidized are characterized by obvious risks. The data presented have only an indicative character; the values presented are general and certainly for starting a specific investment, and is mandatory to be taken into account multiple other issues, of precision. We refer here to the special characteristic aspects of certain tourist locations, namely that can increase or decrease the size of occupancy degree. In addition, the economic calculations did not take into account the unequal distribution of costs over the year, or by certain features which may involve significant changes in the results. Mathematical calculations may present some inaccuracies compared to the very complex and precise mechanisms of funding and bank lending or of financial storage systems. More work is

recommended to exactly correlate the preliminary calculations to starting the investment with local issues, but also the choice of funding type (from current series, we consider quite broad in the last period of time).

In terms of the sustainability [52–54] of our proposal, the design of a tourist village, this derives from encouraging the practice of traditional activities in rural adjoining communities, land abandonment halting and chaotic development of tourist activities, in deep disagreement with the particularities, architecture and representative natural capital of the place. Such a proposal promotes the idea of combining the economic interests, the development of communities, with those aiming at the conservation of nature. Entrepreneurs from the area can have a successful model to capitalize the potential tourism of the area, and to supplement income from agricultural holdings through the opportunity to add a modest income from the tourist activities. Such a proposal aims an approach focused on that area, which capitalizes the advantages of the region: agriculture, tourism and recreational activities.

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