



**LIFE11/NAT/RO/823**

# Socio-economic report

**Social and economic impact of the LIFE+ project "Ecological restoration of forest and aquatic habitats on the Upper Dâmbovița River, Munții Făgăras"**



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**Period covered by the study:** 2012 - 2018

**Communities:** Sătic, Lerești

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## Abstract

The present study aims to quantify both the quantitative and qualitative gain of two local communities (Lerești and Satic/Rucar) which benefit directly from the LIFE projects actions and the overall conservation activity of Fundația Conservația Carpathia (FCC). The main factors compared within the study are activities based on resource extraction versus conservation activities (FCC and its associates) and tourism. The gain from resource extraction is still providing a fairly large income to the local communities in our study (over 10 mil RON as an annual average in Lerești and Satic villages since FCC's involvement), though over the last 5 years it decreased a lot from what it was throughout 2005-2009 following the massive land restitution process (over 16.2 mil. RON during the restitution period). There are additional restrictions and new modern surveillance methods for timber production, which put pressure on this sector, although in 2017 the "wood tracking" program was halted by the current government for unclear reasons. Timber prices have skyrocketed since 2015 due to a low supply and high demand. Currently jobs in forestry and timber processing are still very poor in quality and safety, and whilst wages might be sufficiently good in some situations and even quite high in other situations (due to a shortage in work force in Romania), those workers are usually not registered in the tax system. It's very difficult to get any recordings regarding harvested timber in the area and the authorities in charge of tracking and keeping records did not answer to any of our requests for data. This is due to the fact that the total harvested timber is likely to still contain a certain quantity of illegally harvested wood, so related institutions dodge any requests to give out any information. FCC has a reputation to go after illegal logging without any compromise, so those who fear us do not share any information. The mushroom picking still provides temporary income to Roma communities, which reached a new maximum in 2016 (690,000 RON), but then a record low in 2017 (305,000 RON), so it still depends a lot on weather and large forest owners, as well as National Forest Administration, which – despite the fact that they own less and less properties in our project area - still own the roads and grant access to mushroom pickers. The economic impact of livestock grazing seems to have decreased over the last 10 years and our numbers show a slight decrease also over the last 4 years; one reason for the decrease in shepherding would be FCC's involvement in enforcing legal restrictions on grazing inside forests and plantations; profits from grazing depends a lot on the state subsidies, without subsidies this business wouldn't survive very long. Tourism is estimated to create income of over 4 mil RON and we are positive that the efforts of FCC to support local tourism and conservation activities will switch most of the current major income sources to conservation and tourism businesses.



# Introduction

Throughout the last decades, a fair number of people from local communities received income from the natural resources of the upper Dâmbovița Valley:

- Extraction of timber
- Processing of raw timber
- Wildlife management and hunting
- Livestock grazing during summer months on the alpine pastures
- Collection of forest fruits (berries, mushrooms)

Within the last 13 years, there were two major changes, which strongly influenced (and will continue to influence) the socio-economic situation:

2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Pre-restitution period					Land-restitution period					CARPATHIA project			

## Pre-restitution Situation

Until 2004, all timber and non-timber products were in ownership of the Romanian state and administrated by the National Forest Administration RNP. The economic impact of the area was constituted through the following aspects:

- Jobs at the two local forest services of RNP (Ocolul Silvic Rucar and Ocolul Silvic Câmpulung), in the area of the current Natura 2000 site Munții Făgăraș/part V. Dâmboviței and Iezer-Păpușa a total of 16 staff;
- Logging provided a total of ca. 60 jobs, half of them from RNP and half of them through private companies;
- There was a total of 7-10 sawmills in the area, which were all privately owned. Employees were all local;
- Logging companies (cleaning, thinning, planting, harvesting) were partially state owned and organised in teams with a capacity of 10-15 m<sup>3</sup>/day/team, which summed up to 3,000 m<sup>3</sup>/year. Some were also privately owned, most workers in the logging business came from the area; according to the foresters, there was a total of ca. 60 persons employed in this sector, most of them however only seasonally from spring to autumn; after the land restitution, these larger companies usually split up and every team worked independently;
- Livestock was owned locally, most families in the area had one or several cows and possibly some sheep. A significant part of them was brought during the three summer months up into the alpine for grazing; there are no figures available, but locals assume that livestock numbers haven't changed significantly throughout the last decade;
- During summer months, some Roma communities from the wider area picked blueberries, raspberries, blackberries, and various mushroom species. A fee for this was taken by RNP, the activity was organised by regional companies, and mushrooms were sold usually to Western countries;

- Until 2005, there was basically no tourism infrastructure in Dâmbovița Valley;

## Land restitution

With the land restitution, the economic situation changed considerably. Almost all land within the upper Dâmbovița Valley and Iezer-Păpușa Mountain went back to private individuals, which at first hand had a tremendous economic impact on the local population: Many, who received land titles, immediately sold the standing timber to logging companies, who clear-felled whole mountain sides, without any specific permission from the forest service in the area. Consequently, many people in the villages made a lot of money; however, the whole setting turned more into a gold-rush situation rather than into anything even slightly sustainable. Logging was executed by good dozens of companies/private individuals, in total the number of locals who worked in the exploitation remained around 60-70 people. Most of the timber went to Domnești and was processed there, only throughout the last few years a number of sawmills opened in Rucar.

As a result, income for local communities increased dramatically; however, the positive economic effects are only short-term and not sustainable. Only the amount that the CARPATHIA project paid for forest purchase in the upper Dâmbovița Valley is somewhere around 15 million Euro, of which the majority went to local people. The amount that logging companies paid to local people cannot be estimated, but is for sure also in a million-Euro range. Between 2005 and 2010, a total of 1,800 ha has been clear-felled in the Upper Dâmbovița Valley inside the Natura 2000 site. Given an average volume of 300 m<sup>3</sup>/ha and an average timber price of 150 RON/m<sup>3</sup>, the economic impact must have been over 81,000,000 RON (18,202,247 €) during these years. Yet, these are only one-time payments and much of the money was consumed rather than invested into a sustainable economic basis.

As much of the cuttings were done illegally, the society per se did not benefit as only little taxes were paid, but several of the main benefits of a forest ecosystems were considerably harmed (watershed protection, air purification, biodiversity, climate effects etc.).

About a handful of tourism enterprises started business during these years; they suffered from the continuous flux of logging trucks going up and down Dâmbovița Valley and the lack of an infrastructure for visitors. At the same time, only two of these guesthouses operated legally, all others without licenses and without paying taxes.

At current the local communities in Satic and Lerești can be described as follows:

- Generally underdeveloped, some entrepreneurial activities (mainly forest harvesting), but many people with retirement wages as ex-workers from the industry in Câmpulung during communist times;
- A lot of progress in tourism, some guesthouses and restaurants start to use local products;
- Forestry still represents an important source of income;
- Businesses in wild mushroom and berry picking represent an important benefit mainly for Roma communities, but can fluctuate significantly;
- A total number of ca. 4,806 inhabitants live in the both villages. Only 810 out of the 4,632 inhabitants in Lerești have a registered job, 39.4 % working in industry, another 29 % in agriculture and constructions and 31 % in social and commercial services ([https://www.cjarges.ro/web/Lerești/\\_date-demografice-si-statistice](https://www.cjarges.ro/web/Lerești/_date-demografice-si-statistice)). The rest of 3,822 are not registered with a job and a large percentage of these may have unregistered jobs. An important Roma population (up to 6 %) is located in this village, most of them working temporary in foreign countries or as daily labourers in the region. In

Satic, only 13 inhabitants out of the total 174 appear to have a registered job. Another handful of people are thought to have unregistered jobs in tourism, but there is no clear evidence on that. There is no industry and the only sources of income are forest logging, subsistence agriculture and tourism.

- Locals seem quite attached to the region and most know names of mountains, valleys, creeks, etc.;
- As expected, their current opinion on protected areas is not very positive as they see only the restrictions that come with it and not any benefits, which might come with the creation of a protected area.



Map 1. The 26 guesthouses in the lower Dâmbovița Valley and the upper Lerești Valley

# Current economic situation

## Methods and Results

As mentioned already in the previous reports, local businesses do not give correct information about their number of guests and their income, as most of them function without any permissions and do not declare any or part of their income to the revenue office. For this reason, the figures obtained during the interviews are not fully correct and objective. During the last years we organised workshops and many direct visits and demonstrated that we are interested in developing a working relationship with the guesthouse owners. This helped a bit in creating a more opened relationship.

Reorganizations within the ministries and other lower rank institutions occurred at the beginning of 2017 which decreased ever more the will for collaboration. In order to make an objective assessment on timber and lumber markets, we used again the old state management plan which covers the entire project area. More details in the Timber Processing chapter.

## Forestry & Wildlife Management

### Methods

As a general overview the minimum net wage per capita has increased considerably since the project started in 2012, when it was 497 RON/month. In 2017 it reached around 1200 RON/month.

The data for local jobs in forestry, was obtained by our rangers directly from employees of O.S. Câmpulung. We know from public information that the wages at RNP have been constantly growing with 2 – 11 % over the last several years, the 11% peak being in 2016<sup>1</sup>. Private forest management structures (ex: OS Păpușa involved in our study) are following the up-trend but their wages staying behind. Both public and private sectors involved in our project have raised wages above the minimum wage in 2016.

Regarding forest logging, FCC rangers recorded the size of the logging teams in the area over time, and thus we could calculate a total number of workers. Monthly wages were asked directly by rangers or heard from rumours, when there was lack of cooperation.

### Number of jobs

The number of jobs at the forest management and wildlife management structures remained constant since the surface remained the same and law requires a certain number of foresters per surface.

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<sup>1</sup> <http://www.zf.ro/zf-24/cat-castiga-un-salariat-al-romsilva-unul-dintre-cei-mai-mari-angajatori-12793979>  
<https://www.profit.ro/must-read/bugetul-romsilva-va-fi-mai-mare-cu-10-salariile-cresc-cu-10-iar-bonusurile-cu-45-15396207>



The number of logging companies, on the other hand, differs usually depending on the cuttings plan developed by the forest management.

The same three forest services, a hunting association, and FCC still operate in Dâmbovița Valley, have the following number of employees and pay the following net salaries:

No	Entity	2012		2013		2014		2015			2016		2017	
		No of jobs	RON	No of jobs	RON	No jobs	RON	No jobs	RON	No jobs	RON	No jobs	RON	
Forestry and Wildlife Management														
1	OS Câmpulung	3	48,000	3	52,364	3	53,760	3	54,519	3	61,200	3	64,800	
2	OS Păpușa	7	69,600	7	74,640	7	82,200	7	92,100	7	117,600	7	142,800	
3	Logging companies	15 <sup>2</sup>	450,000	18 <sup>2</sup>	540,000	18 <sup>2</sup>	540,000	24 <sup>2</sup>	720,000	21 <sup>2</sup>	630,000	22 <sup>2</sup>	680,400	
Subtotal extractive use		25	567,600	28	667,004	28	675,960	34	866,619	31	808,800	31	888,000	
No	Entity	2012		2013		2014		2015		2016		2017		
		No of jobs	RON	No of jobs	RON	No jobs	RON	No jobs	RON	No jobs	RON	No jobs	RON	
4	Ocol Silvic Carpathia	6 <sup>3</sup>	43,452	9 <sup>3</sup>	54,048	10 <sup>3</sup>	75,708	10 <sup>3</sup>	90,084	10 <sup>3</sup>	102,747	10 <sup>3</sup>	379,107	

<sup>2</sup> employees of logging companies work half of the year with official employment contract and are half of the year officially registered unemployed to receive unemployment money, but in reality, still work for the logging companies;

<sup>3</sup> same people also FCC employed;

5	Asoc. Vanatoare Piatra Craiului Fagaras Conserv.	3 <sup>3</sup>	20,400	3 <sup>3</sup>	23,460	3 <sup>3</sup>	23,856	5 <sup>3</sup>	68,040	5 <sup>3</sup>	39,559	5 <sup>3</sup>	8,594
6	FCC	10	222,348	16	436,920	19	550,752	27	974,604	27	1,226,995	31	3,039,952
7	Temporary workers	-	-	70 <sup>4</sup>	37,167	108 <sup>4</sup>	81,510	189 <sup>4</sup>	214,555	226 <sup>4</sup>	286,239	330 <sup>4</sup>	356,463
8	External services for conservation	-	-	-	-	-	-	50	93,935 <sup>5</sup>	6	63,756 <sup>5</sup>	20	135,348 <sup>5</sup>
<i>Subtotal conservation use</i>		<i>19</i>	<i>286,200</i>	<i>98</i>	<i>551,595</i>	<i>140</i>	<i>731,826</i>	<i>281</i>	<i>1,441,218</i>	<i>274</i>	<i>1,719,296</i>	<i>382</i>	<i>3,919,579</i>
<b>Total extractive + conservation uses</b>		<b>44</b>	<b>853,800</b>	<b>125</b>	<b>1,218,599</b>	<b>168</b>	<b>1,407,786</b>	<b>315</b>	<b>2,307,836</b>	<b>305</b>	<b>2,528,096</b>	<b>413</b>	<b>4,807,579</b>

**Table 1. Number of jobs and income from extractive enterprises versus conservation enterprises**

<sup>4</sup> temporary workers are employed on a daily basis and usually their number per week or month varies greatly; however, the number in the table are the total number of different persons who worked over the year as temporary unqualified workers

<sup>5</sup> the total amount of money paid in a month, without VAT, by FCC to a contracted reforestation company and to a contracted forest logging company for the spruce monocultures conversion

During the period of time in our study, an average number of 29 people made their living from extractive use jobs, in Dâmbovița Valley outside FCC.

The jobs offered in “green” enterprises increased a lot also due to the extensive work on the LIFE+ project (especially adding lots of temporary workers in reforestation, erosion control, spruce monocultures conversion, see Table 2 below), but also the considerable diversification of the foundation’s activities (see Table 1 above).

FCC is using temporary (daily) workers for many short-term activities in the LIFE Project where a lot of manual work is needed and rangers aren’t able to handle it.

Below a detailed table of the daily worker’s jobs FCC created through the LIFE project since it started. The number of such jobs increased fast every year since 2013, 80% of the hired day labourers being Roma people living in the surrounding villages, with little education and thus no job qualification.

Activity	LIFE code	2013		2014		2015		2016		2017	
		Worker-Days	Total income, RON	Worker-Days	Total income, RON	Worker-Days	Total income, RON	Worker-Days	Total income, RON	Worker-Days	Total income, RON
Virgin forest check	A.1	2	200	0	-	0	-	-	-	-	-
Regeneration assessment	A.2	-	-	-	-	-	-	4	400		
Nursery maintenance	A.3	282	26,347	576	56,110	433	43,675	587	57,523	399	41,904
Erosion control work	C.1	59	5,900	76	7,600	0	-			-	-
Forest habitat restoration	C.2	42	3,720	73	7,300	1496	161,930	1966	225,891	2008	268,806
Conversion of monocultures	C.3	0	-	53	5,300	31	3,100	21	2,325	165	23,982
Riparian galleries restoration	C.4	0	-	52	5,200	49	5,050			129	19,864
Plantation monitoring	D.2	0	-	0	-	8	800	1	100	16	1,904
TOTAL		385	36,167	830	81,510	2017	214,555	2579	286,239	2717	356,462

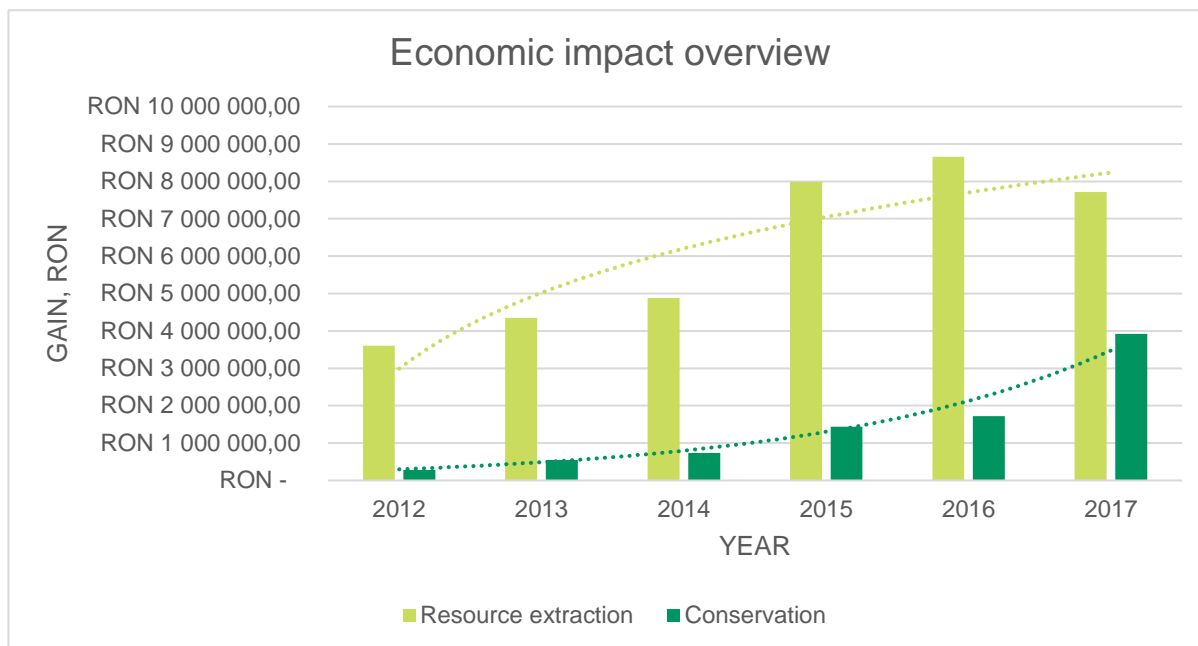
**Table 2. Daily workers jobs and net income within the LIFE+ Project LIFE11/NAT/RO/823**



## Economic Impact

Since the beginning of the project (2012) the income of local communities from forestry increased slowly due to minimum wage increase and due to a fluctuation in logging capacity, starting from 567,600 RON in 2012 and reaching 888,000 RON in 2017.

Green activities through FCC and its related entities, have constantly been providing an increasing number of jobs and income, especially to the local poor communities, reaching from 286,200 RON in 2012, to a total of over 3.9 mil. RON in 2017.



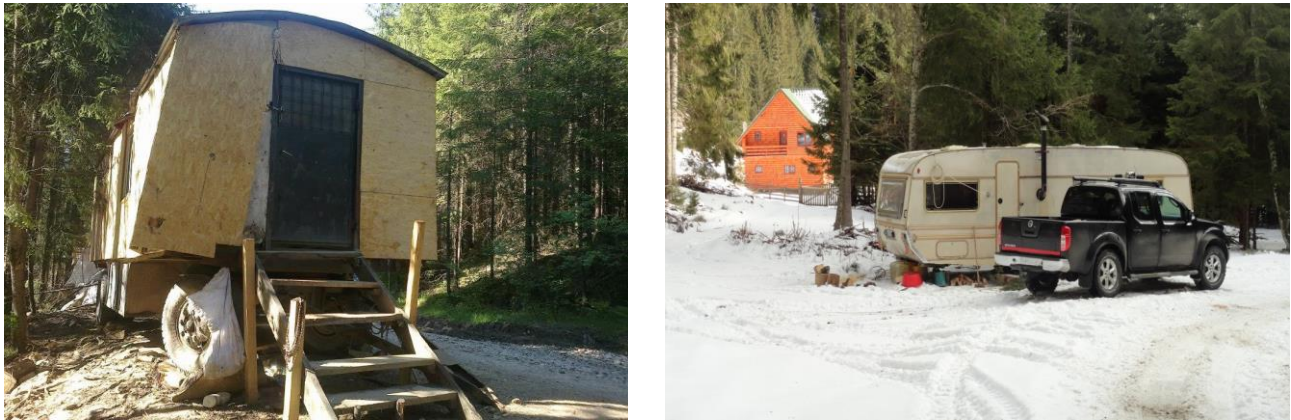
**Figure 1. Annual economic impact of Conservation vs. Forestry and Wildlife Management**

## Job quality

The jobs at the OS Câmpulung, OS Păpușa are quite low-quality jobs. Few of the employees have transportation in the field secured at their jobs, but all receive phones and uniforms. Wages are small and there is potentially a temptation to do illegal business with the timber from the forests they are supposed to guard.

The logging companies have a larger variability, as some pay their personnel well, while some don't pay them well and change them on a constant basis. Most of them, however, complain their salaries are usually not paid in time. In all cases, the workers don't wear protection equipment, either because it's not comfortable (chain protection pants, helmets, groves, eye protection etc.) or they just don't receive any from their employer. The necessary education for work safety is not offered usually by these companies because it is an extra cost. In conclusion they are all exposed to serious accidents. Logging workers usually spend weeks in the vicinity of the working site, in old wagons on wheels with poor living conditions, (no showers, no toilet, no kitchen, no place to wash clothes, improvised light at night, no phone signal, and no radio stations). The machines they use to skid logs are usually old because most companies don't afford buying new machinery or don't want to invest much due to future uncertainty.

Jobs at FCC have a much higher standard both for permanent employees and for the day labourers showing an example in the area. Employees get all the equipment they need for their specific job and are requested to



**Figure 2. Common living conditions of forest workers**

use it. This standard applies to all other CARPATHIA entities (Carpathia Forest Service, CARPATHIA Hunters Association and all other subordinate entities). The externalised services for reforestation and spruce monocultures conversion have been supervised constantly as well to ensure the workers wear protection equipment and they match the quality standard.

## Timber Processing

### Methods

The problem with real data from the public institutions remains the same as before. We do not have any means of obtaining it. This is due to the fact that the total harvested timber is likely to still contain a certain quantity of illegally harvested wood, so the forest guard does not want to give out any information to us, which might lead to uncovering such activities. FCC has a reputation to go after illegal logging without any compromise, so those who fear us do not share any information with us.

The harvested timber goes to different sawmills, including some of the large international timber industries. Still a fairly large quantity is sold locally (Câmpulung, Rucar, Dragoslavele), mainly due to lower transportation costs. We have average estimation of the timber that remains locally, made by local rangers, and it is about 80% in 2012, 2013 and 2014, increasing to 90% in 2015, then to 80 % in 2016 and 2017.

The timber being processed in the area is one of the most important economic factors. Thus, to have valid data to do calculations on, as close to reality as possible, we have used the total volume available for harvesting in the project area. This was done using the management plan from 1996, when the whole area was managed by the state entirely. The management plan volumes for the harvestable stands inside the project area were updated by adding the average forest growth for the period between 1996 - 2016.

Out of the total volume per year per entire project area, calculated this way, we decreased the total volumes available in the properties of Carpathia, because they are excluded from harvesting and thus protected.

The resulting volume is multiplied by the average lumber prices, each year. The lumber prices have been rising up since 2012, when it was 400 RON/m<sup>3</sup>. The price was still 400 RON/m<sup>3</sup> in 2013, but increased to 500 RON/m<sup>3</sup> in 2014 and reaching 700 RON/m<sup>3</sup> in 2015. It reached already 800 RON/m<sup>3</sup> in 2016 and then 900 RON/m<sup>3</sup> in 2017, currently stabilized, but no one knows for how long exactly.

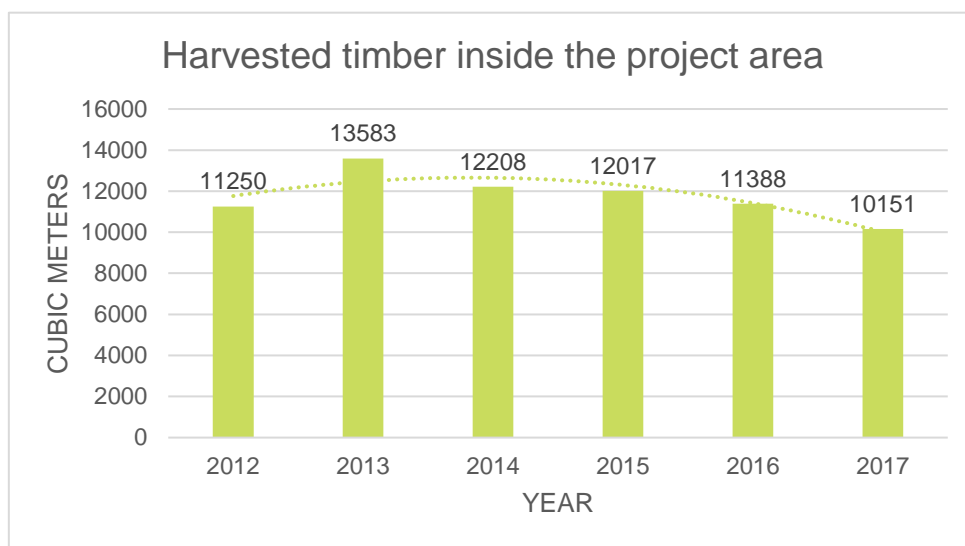


**Figure 3. Fresh spruce logs in Dâmbovița harvested in an owner association**

## **Number of jobs**

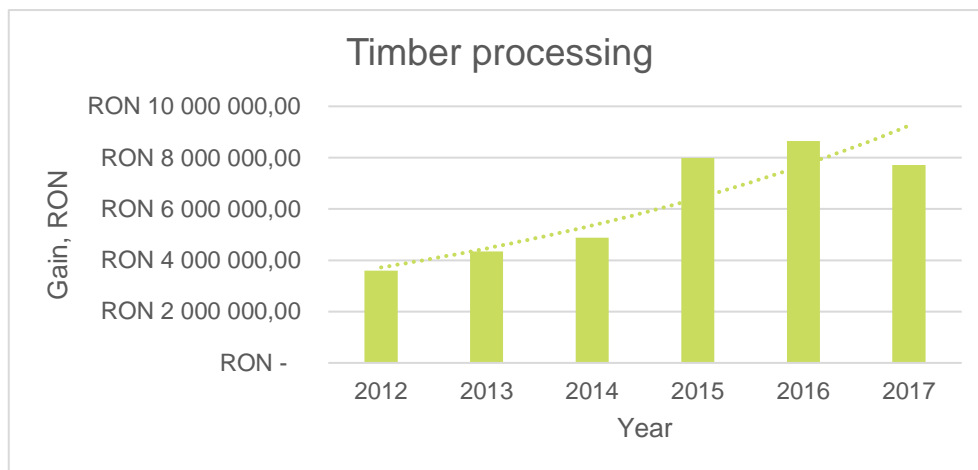
The number of jobs in timber processing is literally impossible to obtain, because, as mentioned in the first report, business owners would not provide any data since they frequently use unregistered workers.

But considering the no. of jobs in forest logging has increased a little over the last 4 years, by extrapolation, we increased the no. of jobs in timber processing by the same percentage, every year.



**Figure 4. Annual harvested volume inside the project area**

The volumes of timber harvested annually have been slowly decreasing. The figures are indeed based on estimations, but the restrictions imposed on the timber production are forecasted to be reducing production in this sector and it makes full sense. This also had a visible impact on timber prices over the last 2 years, which skyrocketed.



**Fig. 5. Annual income from Timber Processing**

## Economic Impact

The estimated yearly income from timber processing has been going from 3,600,000 RON in 2012 to 7,714,752 RON in 2017. Although harvested volumes keep steady on an annual basis, economic gains are still forming an uptrend due to price increase, which in turn comes from a slowly decreasing supply and increasing demand,



especially for firewood. More and more guesthouses are being built currently in the area and the major heating system that locals rely on are those based on firewood, although over the last two years local administrations in Rucar, Dragoslavele have already set up a natural gas pipe system, which started to be an alternative to locals.

## Job quality

The job quality in sawmills is quite low, but still, depending on the owner, the quality workers are provided with protection equipment and about half of the employees wear it. Those 50 % are usually people who operate machines and do have some knowledge or school to operate them. They are usually legally employed with minimal wage and paid extra money off the record. Unregistered workers are usually temporary workers who only help carrying lumber, manipulating hand tools, thus just easy jobs which do not need much knowledge. Those people are usually not registered, change constantly, get barely any equipment, and are paid low wages.

## Mushroom and berry picking

### Methods

Forest fruits and mushrooms quantities are still important and will be an important income for Roma communities, until other job opportunities will come up. The revenues were calculated using the average number of people per day driving up Dâmbovița Valley during the mushroom and berries season. We know the number because FCC rangers have been supervising the traffic during this time. The prices in 2016 have been also increasing to 15 RON per kg of mushrooms and 10 RON per kg of blueberries (this is an average price, because prices for large quantities can be negotiated).

### Number of jobs

In 2013 approximately 200 Roma locals have gathered mushrooms and berries during the 3 months season. The total amount of mushrooms reached 40,000 kg while the amount of berries reached 3,000 kg. In 2014, approximately 130 Roma have been gathering mushrooms and blueberries for 60 days. The total amount was 31,200 kg of mushrooms and 2,600 kg of blueberries. (See Table 3). In 2015, considerably less people came to pick mushrooms and berries. This was mainly due to a hot and dry summer, but FCC has also implemented restrictions on mushroom picking due to its negative environmental impact such as wildlife disturbance or massive littering by mushroom pickers. In 2016 pickers had a very good mushroom season and this is visible in the recorded number of people and the income. The total number of people who made an income from mushroom picking reached around 200 throughout the season. In 2017 though weather has been truly against mushroom pickers, thus due to drought over the entire summer and first month of autumn, the amount of mushrooms has been very low.

Forest fruit	kg harvested	Price/kg paid to pickers RON	Total Gain RON
<b>2013</b>			
Mushrooms	40,000	10	400,000
Blueberries	3,000	8	24,000
Subtotal 2013	43,000	-	424,000

<b>2014</b>			
Mushrooms	31,200	10	312,000
Blueberries	2,600	8	24,000
Subtotal	32,600	-	394,000
<b>2015</b>			
Mushrooms	25,900	10	259,000
Blueberries	2,400	8	20,000
Subtotal	28,400		320,800
<b>2016</b>			
Mushrooms	44,000	15	660,000
Blueberries	3,000	10	30,000
Subtotal	47,000		690,000
<b>2017</b>			
Mushrooms	19,000	20	285,000
Blueberries	2,000	12	20,000
Subtotal	21,000		305,000
<b>GENERAL TOTAL</b>	<b>152,220</b>		<b>2,031,000</b>

Table 3. Data about mushroom and blueberry harvest

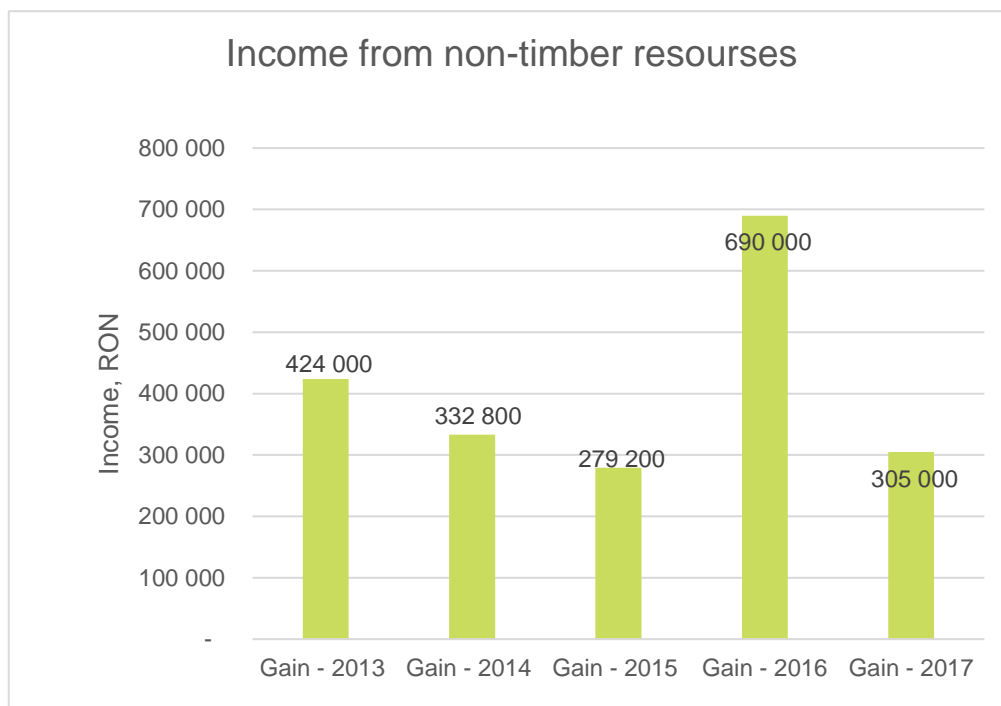


Fig. 5. Total income from gathering mushrooms and forest fruits

## Economic impact

The impact here has been decreasing until 2015, due to weather conditions mostly which prevented good mushroom production. In 2016, the quantity of picked mushrooms was very large comparing to several previous years, reaching a total of 44 tons. Blueberries harvest also increased to 3 tons. Prices for both mushrooms and forest fruits have seen an increase in 2016, reaching around 15 RON per kg of mushrooms and 10 RON per kg of berries. Total gain in income reached 690,000 RON. In 2017 only 19 tons of mushrooms were picked and about 2 tons of blueberries, but mushroom and berry companies increased prices to motivate pickers, reaching about 20 RON / kg of mushrooms and 12 RON / kg of blueberries.

## Job quality

FCC together with the local forest owners' associations and the State Forest Administration concluded contracts with authorised mushroom and berries intermediary companies, according to which the companies were obliged to have pickers assigned and wear ID's to prove which company they are linked to. This system was put in place in order to limit the picker's disturbance and have some figures on picker traffic. The forest fruit and mushrooms companies pay the pickers badly and do not support them when it comes to transport, food, or safety issues. The pickers are paid per kg, but usually their representative is keeping a constant income by adjusting the price per kg every year, depending on the supply-demand balance. Anyways as mentioned already, the price for a kg of mushrooms in Western Europe reaches 40 Euros, and thus the discrepancy is anyhow huge between what they are paid and the final product value.

## Livestock grazing

### Methods

We have obtained data regarding the number of sheep and cattle grazing in the project area from FCC rangers. During the research our rangers visited the shepherds in the alpine areas, also to find out about the quality of their jobs. The calculations were done using the same price for sheep and cattle cheese as in the first report, although generally shepherds mentioned prices have dropped due to cheap imported cheese in the supermarkets. The local cheese market doesn't show that though. But one problem is that homemade cheese is difficult to be sold due to an almost non-existent merchandising system and high supply, while supermarkets are being built in every single village, selling import cheese or local factory cheese and no local cheese due to hygienic constraints

### Number of jobs

As mentioned in previous reports, livestock spends only three months (June, July and August) in the mountains inside the project area. A total of 13 livestock camps were identified in 2013 and 2014, while in 2015 this dropped to 12. In 2016 there was no significant difference comparing to 2016, the number of shepherd camps was 12. There was a total of 39 workers (shepherds) in 2013 and 2014, the number dropped to 36 shepherds in 2015 and 2016.

As stated in the previous report, in 2013 the total number of animals was 10,940 sheep and 440 cows. In 2014, livestock numbers decreased to 7,245 sheep and cattle compared to the previous year, and decreased further to 6,442 sheep and cattle in 2015. The decrease is mainly for sheep, cows remained relatively stable (see Table 4). In 2016, the livestock overall numbers stood the same as in 2015, although there have been some swaps, like one shepherd camp was taken over by another in Valea Vladului. In 2017, Tamas and Draxin/Cascoe shepherd camps were closed/abandoned when FCC took over most of the pastures in this

area. Thus, the income from this area is 0 in this year's report. We used the same figures for the milk quantities as in the previous report - 720 l milk/3-month grazing period for cows and 27 l of milk during a summer season per sheep.

Species	No. Animals	Kg cheese/ animal/summer	Price kg cheese (RON)	Gain RON
<b>2013</b>				
Sheep	10,500	3.5	35	1,286,250
Cow	440	56	30	739,200
<b>TOTAL</b>	<b>10,940</b>	-	-	<b>1,805,450</b>
<b>2014</b>				
Sheep	6,850	3.5	35	839,125
Cow	395	56	30	663,600
<b>TOTAL</b>	<b>7,245</b>	-	-	<b>1,502,725</b>
<b>2015</b>				
Sheep	6,050	3.5	35	741,125
Cow	392	56	30	658,560
<b>TOTAL</b>	<b>6,442</b>	-	-	<b>1,399,685</b>
<b>2016</b>				
Sheep	6,150	3.5	35	747,250
Cow	382	56	30	683,760
<b>TOTAL</b>	<b>6,532</b>			<b>1,431,010</b>
<b>2017</b>				
Sheep	6,150	3.5	35	753,375
Cow	382	56	30	641,760
<b>TOTAL</b>	<b>6,532</b>			<b>1,395,135</b>

**Table 4. Data about cheese production and its value in the Dâmbovița and upper Lerești part of the Munții Făgăras Natura 2000 site**

## Economic impact

Shepherds generally complained that nowadays it is hard to even cover the costs. Moreover, this sector relies almost completely on subsidies for agriculture, without which livestock farming in the mountains would probably disappear.

The average wage for a livestock herder is usually between 2000 RON and 3000 RON. In 2013 and 2014 the estimated income for the employed shepherds was 290,500 RON, in 2015 the income decreased to 270,000 RON, as one livestock camp wasn't occupied anymore. In 2016, the workers income stood the same at 270,000 RON. In 2017, it has been pretty close to the previous year at 247,500 RON. The economic impact has decreased a little over the years, from 1,805,450 RON in 2013, to 1,502,725 RON in 2014, to 1,399,685



RON in 2015, 1,431,010 RON in 2016 and 1,395,135 RON in 2017. But it relies on subsidies as mentioned above.



**Fig. 6. Total income from livestock grazing**

## Job quality

Jobs in the livestock business are of very low quality, some shepherds living literally in conditions similar to medieval ages conditions, wages are low, people are usually not officially employed (to save wage tax and social insurances) and have no job security.

## Total economic benefits through extractive use of resources

Products with an average annual value of 8,387,442 RON were extracted from the project area over the last 4 years, rising to 11,548,807 RON in 2016. The significant increase comes from the timber price boom, which initiated in summer 2015. As mentioned already in the previous report, the data contains only the legally harvested timber.

Product	Gain/month RON	Months productive	Number jobs (equiv. 12 months)	Total Gain/ year RON
<b>2012</b>				
Employments in forestry	47,300	12	25	567,600
Timber processing	360,000	10	24	3,600,000
Non-timber forest products		2	35	-
Livestock grazing		3	20	-
<b>TOTAL</b>				<b>4,167,600</b>
<b>2013</b>				
Employments in forestry	55,584	12	28	667,004
Timber processing	434,660	10	29	4,346,601
Non-timber forest products		2	200	424,000
Livestock grazing		3	39	1,805,450
<b>TOTAL</b>				<b>7,243,055</b>
<b>2014</b>				
Employments in forestry	56,330	12	28	675,960
Timber processing	488,327	10	29	4,883,267
Non-timber forest products		2.5	130	320,800
Livestock grazing		3	39	1,502,725
<b>TOTAL</b>				<b>7,382,752</b>
<b>2015</b>				
Employments in forestry	72,218	12	34	866,619
Timber processing	799,122	10	39	7,991,216
Non-timber forest products		3	72	279,000
Livestock grazing		3	36	1,399,685
<b>TOTAL</b>				<b>10,536,520</b>
<b>2016</b>				
Employments in forestry	67,400	12	31	808,800

Timber processing	865,487	10	39	8,654,872
Non-timber forest products		3	200	690,000
Livestock grazing		3	39	1,431,010
<b>TOTAL</b>				<b>11,584,682</b>
<b>2017</b>				
Employments in forestry				888,000
Timber processing				7,714,752
Non-timber forest products				305,000
Livestock grazing				1,395,135
<b>TOTAL</b>				<b>10,302,887</b>

Table 5. Overall resource extraction gain

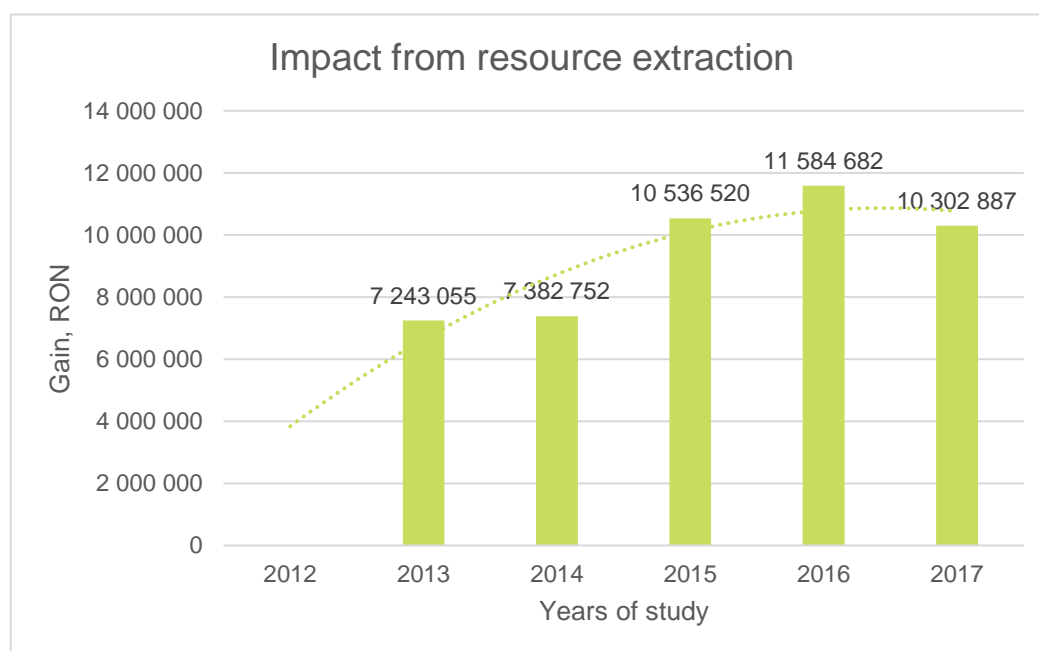


Fig. 7. Economic impact of resource extraction

## Tourism

### Methods

All guest houses have been visited in Dâmbovița and Lerești valleys every year to talk about their tourist flow, problems, needs and opportunities. The information we received regarding the number of stays per year are just estimations, since nobody presented hard figures and we could get numbers only from informal talks about summer occupation, or number of guests during important holidays or during the low season. Thus, the data may be biased. The methods we used to estimate income is by using the estimated number of nights stayed

(stated by the owner) x average price per room (including food for a day for 2 persons), which we usually found on their websites or at the guest house reception.

## Number of jobs

The number of jobs in tourism is hard to assess since some guesthouse owners have unregistered employees and they avoid talking about it. Eight of the 26 guest house owners agreed to provide clear information in this regard (Pensiunea Nicoleta și Teodora, Casa de Vacanța Piatra Craiului, Pensiunea Pappacabana, Pensiunea Elena, Cabana Garofita Pietrei Craiului, Casa de Vacanța Rustic, Pensiunea Vila Voastra, Cabana Cascoe), while for the other guesthouses we made estimations according to their capacity and their other services (restaurant, pool, etc). In the case of P. Elena, Cabana Cascoe, Cabana Garofița Pietrei Craiului, there is really only one person working, the houses being also quite small.

The number of jobs we calculated is 37 employees in 2012, 45 throughout years 2013 and 2014, 57 in 2015, 53 in 2016 and 54 in 2017. Several guesthouses already closed down since this project was initiated: Pensiunea Jupâniței, Pensiunea Hanul Sasului, Cabana Cristina, Vila Silva, but another 3 guest houses have been built since 2013: Pensiunea Cheile Saticului, Casa de vacanța Rustic, Pensiunea Amelia. Another two guest houses are under construction in Satic and will probably start their activity in 2018.

## Tourist flow

Tourism has developed, although in small steps, judging by the new couple of guesthouses which appear every year (see Table 6 below). The total number of guesthouses now is 21 with 253 rooms and 667 beds in total. Currently the following guesthouses are operating in the lower Dâmbovița Valley and Lerești :

No crt	Name	No. rooms	Bed capacity	Kitchen (K)/ Restaurant (R)	No. places in restaurant	Local products, as % of the total food they offer
1	Casa de vacanta Piatra Craiului <sup>6</sup>	16	20	K+ R <sup>7</sup>	28	80%
2	Pensiunea Miraj	13	20	K+R <sup>7</sup>	44	60%
3	Pensiunea Amada	8	24	K+R <sup>7</sup>	300	50%
4	Complexul Turistic 3 tauri	9	20	K+R <sup>7</sup>	30	-
5	Vila Voastră <sup>6</sup>	40	20	K	-	-
6	Cabana Voina	20	120	K+R <sup>7</sup>	80	35%
7	Pensiunea Ursulețul Voina	4	18	-	-	-
8	Cabana Cuca <sup>6</sup>	7	24	K	-	-
9	Pensiunea Pappacabana	8	46	K+R <sup>7</sup>	32	10%
10	Pensiunea Cheile Dâmboviței <sup>6</sup>	8	28	K+R <sup>7</sup>	30	-
11	Pensiunea Sătic	5	54	K	-	-

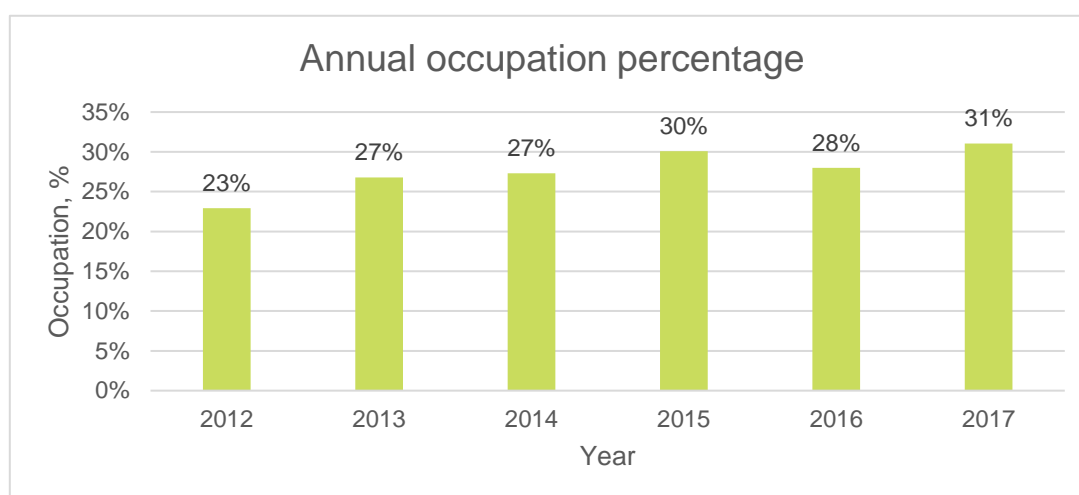
<sup>6</sup> architecture looks rustic

<sup>7</sup> Only for in-house clients

12	Pensiunea Elena <sup>6</sup>	8	16	K	-	0%
13	Vila Muntele Verde	8	18	K+R <sup>7</sup>	24	?
14	Cabana Pădurarului	8	18	K	-	-
15	Pensiunea Nicoleta & Teodora	20	40	K+R <sup>7</sup>	44	80%
16	Cabana Garofița Pietrei Craiului <sup>6</sup>	4	44	K	-	-
17	Cabana Cascoe <sup>6</sup>	7	14	K	-	-
18	Pensiunea Pomicom	40	80	K+R <sup>7</sup>	60	70%
19	Casa de vacanță Rustic <sup>6</sup>	8	20	K+R <sup>7</sup>	20	60%
20	Pensiunea Amelia <sup>6</sup>	8	16	K	20	-
21	Pensiunea Cheile Saticului <sup>6</sup>	5	10	K	18	-

**Table 6. Guesthouses in Dâmbovița and Lerești valleys**

Below, graph shows the estimated occupation percentage, calculated after talking to owners:



**Fig. 8. Annual bed occupation percentage in Dâmbovița and Lerești valleys**

## Services

First of all, there is no guesthouse which works with travel agencies; they only use their own marketing techniques (websites, announcements, road signs). We cannot talk of local architecture in any of the guest houses we studied, 9 of them look somewhat rustic although rather kitschy than traditional (see table 6 above for the tagged guest houses). No owner seems to have an interest in this regard and there is neither any initiative at the local administration, for local architecture rules. Over the past 10 years, since tourism started



to develop in these areas, constructions are often made of concrete, tin roofs and plastic windows. Besides, the size of some buildings, which are more hotels than guesthouses, has crossed the limits of the area specific.

Consequently, the landscape quality has degraded slowly, even though the quality of services increased and diversified over the years according to tourist demand. During our visits we noticed that some owners tend to switch to a more local food offer and some understood that local architecture can have a positive impact on tourism. It depends also on the level of education of each owner/manager, but as a general fact tourism education is low throughout the whole country.



**Fig. 9-10 (top row). Casa de vacanța Rustic – left, Casa de vacanța Piatra Craiului – right; Fig. 11-12 (bottom row). Pensiunea Amelia – left, Pensiunea Nicoleta & Teodora – right**

Most guesthouse owners say there is no demand for local guides. None of the guesthouses in our study is using a tour operator or an authorised guide for nature and history in the area. But lately two guesthouses have been contacting us to support them with a guide for short trips through the forests around (Casa de vacanța Miraj and Casa de vacanța Piatra Craiului). Sometimes locals are used to take the tourists for a walk out in the forests around or to talk about local history.

All tourism entrepreneurs in the area showed interest in working with FCC, considering FCC is developing a wildlife watching programme. The wildlife watching programme will include tours through V. Dâmboviței in the

wildest areas, on specific trails, spending up to several nights in newly built wildlife watching hides, one of them actually having a shower and cooking possibilities (<http://www.carpathia.org/ro/>).

Regarding food offer, not all guesthouses use local products; reason for that is the fact that the local food products have no certification and no guarantee for their quality. Thus, guesthouses managers are afraid of food poisoning. Even so, some guesthouses did find some trustworthy local products, although there is a risk



**Fig. 13-14. Hide in Comisu area, above treeline – left, Hide in Bunea Valley – right**

always, while very few of them (10%) produce food for themselves in a small farm, like Pensiunea Nicoleta și Teodora and Casa de Vacanța Piatra Craiului, both having small farms and producing some of necessary things, like cheese, meat, eggs, jam.

The average use of local products would be about 47 % in the area, mostly being probably products from neighbours or non-registered producers. Some owners might have avoided to admit they use local products being afraid of fees, for using non-registered products. On the other side, some guesthouse owners might quote they use local products as a result of marketing (Romanian tourists are often keen on local products from the countryside being considered healthy), however they might in reality go for the easy way and buy everything in the supermarkets.

## **Economic impact**

The income from tourism is surely rising year by year, as well as the number of guest houses, but this progress could develop much faster. The estimated occupation rate shows the inefficiency of most guest houses. The fundamental problem with tourism in the area is that it does barely rely on originality, local food and especially nature/wilderness, although the latter should be “the identity card” of rural tourism all over the country. Thus, good nature guiding services would surely make a large difference, combined with organic, traditional and yet fine local food, bringing huge income in the area. The total estimated income from tourism presented below for each year:

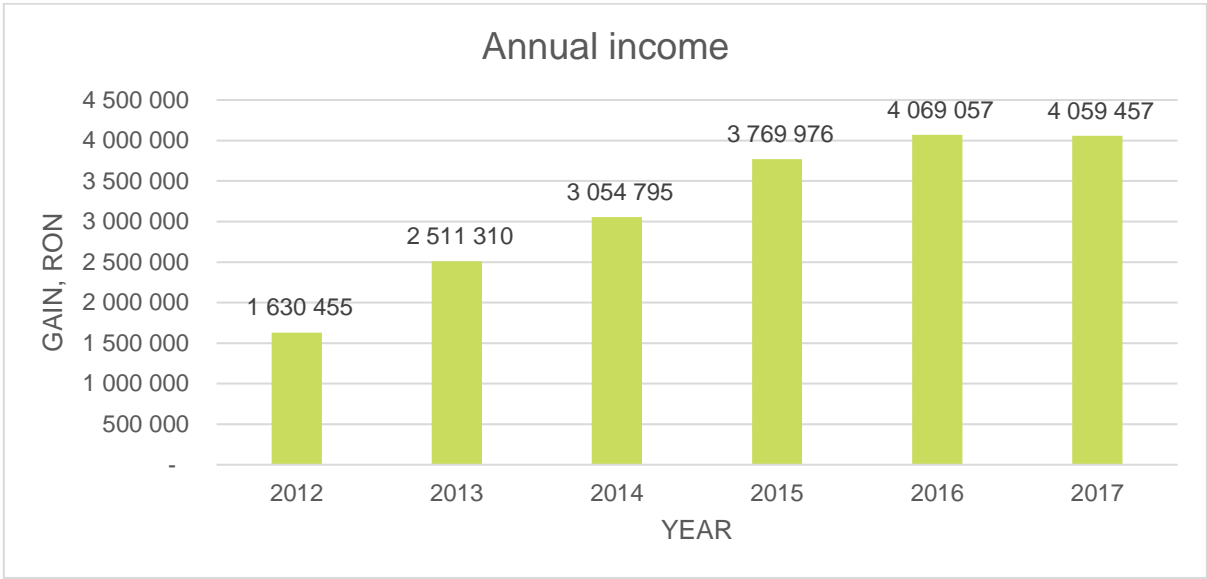


Fig. 15. Annual income (note: the figures are based on estimations of guest numbers)

## Conclusions

The total number of jobs related to forest resource extraction in the area is keeping a constant line over the last 5 years, between 296 – 309 jobs, in both lower Dâmbovița and Lerești valleys. The number of jobs related to non-extractive resources on the other side (conservation projects and tourism) has been constantly rising from 112 in 2012 to 274 in 2016 and will stay at least at this level for the coming years, considering FCC is already starting the implementation of three new projects which will include wildlife monitoring, habitat reconstruction, etc.

No	Job description	2012	2013	2014	2015	2016	2017
1	Forestry, wildlife and logging	25	28	28	34	31	32
2	Timber	24	29	29	39	39	39
3	Livestock	-	398	392	392	392	392
4	Mushrooms	-	2002	1302	722	2002	942
5	Tourism	-	37	45	57	53	53
6	Conservation	10	63	1159	27710	27411	30012
TOTAL		59	396	386	515	636	551

**Table 7. Total annual jobs in Dâmbovița and Lerești**

Summary of estimated annual benefits throughout the past periods:

Criteria	Pre-restitution period until 2004 (annually)	Restitution period 2005-2009 (annually)	FCC involvement 2010 – (annually)
Forestry jobs	16	12	29
Income from forests	8,000,000 RON <sup>13</sup>	16,200,000 RON <sup>14</sup>	9.325,179 RON <sup>15</sup>
Tourism jobs	-	15	53
Income from tourism	-	200,000 RON <sup>16</sup>	3,148,690 RON <sup>10</sup>
Conservation jobs	-	-	173
Conservation projects, income	-	-	1,688,869 RON

**Table 8. Resource extraction vs tourism income summary**

The income from tourism has increased considerably, even if services lack quality, this showing the large demand. It reaches already half of the income from forests; thus, it became very important already, signalling it can be an alternative to the timber and hunting markets which are running as low profile as possible due to

<sup>8</sup> Seasonal jobs

<sup>9</sup> 47 out of the total are seasonal daily workers

<sup>10</sup> 96 out of the total are seasonal daily workers

<sup>11</sup> 249 out of the number are seasonal daily workers

<sup>12</sup> 254 out of the total are seasonal jobs

<sup>13</sup> (25,000 hectares of forest x 4 m<sup>3</sup> average annual growth – 20% non-harvest) x 100 RON timber price; the large bulk of this amount went to RNP and only a small part remained on the local level

<sup>14</sup> 81 million RON in five years

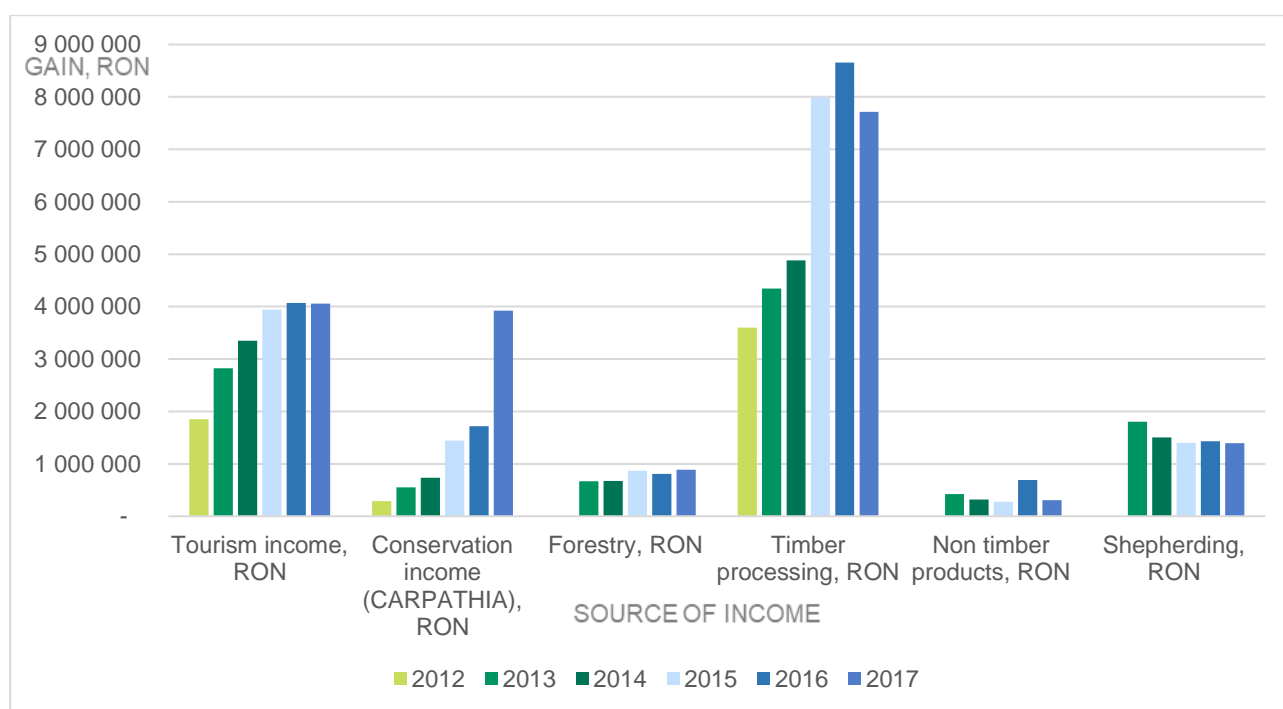
<sup>15</sup> Average income between 2010 and 2017, from timber processing, forestry jobs, non-timber products, shepherding

<sup>16</sup> Figures estimated on average values from neighbouring villages based on number, size of guesthouses and an owner estimated percentage of occupation

the complex regulation burden. Considering that tourist facilities might offer underestimated data, the income from tourism in reality might be even larger.

Moreover, the activity of FCC is becoming more and more significant to the local community by offering lots of seasonal jobs and permanent jobs, reaching over 3.9 mil. RON in 2017. (See Fig. 17 below)

The total income which forests, grazing, conservation and tourism bring in the two communities is reaching over 18 mil RON in 2017, the highest economic impact since the massive restitution period. Out of the 18 mil., roughly 33 % comes from conservation and tourism.



**Fig. 16. Overall economic gain in Dâmbovița and Lerești valleys**

With an attractive tourist offer in the area, combined with wildlife watching programs, the income from tourism could easily outrun the income from extractive resources in the medium and long term. FCC has just started implementing its own wildlife watching program, which includes infrastructure, transportation and many top services, as well as promoting through tourist agencies, in the end hopefully serving as an example and initiating a change in the local perspective over nature resources use.

The potential for large income from nature tourism here is huge and well under-exploited, while that is mostly due to a significant lack of knowledge for locals and roughly any involvement on the government side to promote green businesses in the area.

We are confident that we can provide that so needed education on best practices in nature tourism and help to slowly transform these communities, around Natura 2000 site Munții Făgăras, into something much better than they are.





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