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Estimation of tourism in protected areas: a case study

Salvatore Farace*

Abstract

This paper aims to focus on tourism in an important Italian protected area: the National Park of Cilento which has some important elements that should be valorised in order to increase sustainable tourism, local income and the relationship between tourism and other economic sectors.

Tourism is an activity with relevant impact on the territory of destination, due mainly to the significant increase of human presence in a short term with all the problems connected to this situation; this problem is important in protected areas more than everywhere else. (Bizzarri, Querini, 2006, Eagles, McCool, Haynes, 2002).

The purpose is to estimate the real tourist presence in the summer in the Park basically using data from urban waste in order to understand how significant is the increase of human presence in the protected area in summer. Data are taken from multiple sources and merged in a database with single records per city/town is built. Study of the phenomenon also imposes a knowledge of the history of the territory.

Main findings underline how this phenomenon is underestimated and the real flows are more important and have a deep impact on the territory. The supply has increased in the coast augmenting the impact of tourism concentrated in few summer months; at the same time there has been an increase in house building not for population needs, but as other, unofficial, accommodation for tourism.

The paper proposes a methodology useful to evaluate the presence of tourists and the impact on the territory that can be used in other territory; this analysis can provide data that can be used by local government in order to evaluate the real impact of tourism.

The paper concludes with some policy implication and suggestion in order to reduce the impact of tourism in the Park in general and to increase its positive effects on the territory.

Keywords: tourism, sustainability, protected areas,

JEL Code L83, Q01; Q26

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Introduction

The National Park of Cilento and Vallo di Diano is one of the preferred destination in Southern Italy especially in summer thanks to the beautiful coasts and uncontaminated sea. During the summer the small cities and towns on the coast of the Park show a significant level of human presence; while the inner seem not to be as much attractive. There are many chances for tourist accommodation, thanks also to the increase in building houses and condos; but many times the tourist that rent those apartments are not registered officially and there is consequently an underestimate of human presence.

This paper propose to estimate the real tourist presence in the summer in the Park basically using data from water consumption and urban waste in order to understand how significant is the increase of human presence in the protected area in summer.

The National Park of Cilento and Vallo di Diano is an area made of 80 small cities and town in the southern part of the province of Salerno, in Campania; there are also another 15 cities called “contiguous” that means they are very close to the Park territory and are involved in a sort of protection too.

The area is very vary and composed of different characteristics and very attractive for tourism; anyway tourism is concentrated mainly in the summer and has a big impact on the territory since it is interested in the beautiful beach and sea, but not in other important element that make the Park a unique location.

The territory has always thought at tourism as a possible vehicle of development introducing a distortion since tourism supply has oriented more and more toward summer tourism.

Thus supply has increased in the coast increasing the impact of tourism concentrated in few summer months; at the same time there has been an increase in house building not for population needs, but as other, unofficial accommodation for tourism.

Tourism in the National Park of Cilento and Vallo di Diano

The National Park of Cilento and Vallo di Diano is an area located in the southern part of the province of Salerno to which belongs completely; the Park is made mainly of 80 cities and a lot of them, especially in the inner part are very small e less populated. Besides the

Park includes partially other 15 cities, which are called contiguous that means their territory is very close to the Park and they influence each other constantly.

So we assume that the Park is made of 95 of the 158 cities of the province of Salerno; the province has a population of 1,1 million inhabitants, but less than a quarter of them live in the Park (about 270,000).

The Park is a very important place from a naturalistic point of view, with fauna of flora endemic, which can be found only in this area; for example the Park is one the few places in Southern Italy where the otter lives.

The whole province has less than the 20% of the population of the Campania region, one of the biggest regions in Italy, a region where the major part of the population is concentrated in city of Naples.

The Park has a composite territory even if the general degree of economic development is very low, and at a first glance there is a big difference between the inland and the coast. The first is oriented mainly to agriculture and artisanship, the role of industry in terms of contribution to general employment and added value is not really significant.

The coast is less populated but knows a real problem of human congestion during the summer; in fact, since the economic activity is less important (if possible) than the inland during the winter, in the summer tourism becomes the main source of income, but less, of employment since the area is really very attractive for tourist who prefer going to the beach and a summer sunny vacation.

As we see in table 1 sleeping accommodation in the 16 coastal cities of the National Park of Cilento and Vallo di Diano is almost on third of the total at regional level and the major part of the official tourism supply of the province of Salerno.

We use the term official in order to underline the possibility that there are other forms of tourism supply which are not seen in official statistics but that represent an important part of the whole phenomenon in the area.

As we can see from the table, the province of Salerno counts about the 44% of the total sleeping accommodation at regional level, and less than the 39% of the overnight stays, that overcome 7,5 million. The coastal part of the National Park has an important role in this statistics since more than 4,5 million overnight stays are registered in this territory. Anyway, at a first glance the Degree of coverage does not give us a positive information of the performance of the sector. This indicator gives us a first impression of the efficiency

at sectoral level, since it measures how long the sleeping accommodation is taken by tourist.

In fact, while in the province this indicator has a good performance since it is higher than the one recorded at national level, in the Park the degree of coverage is less. The average for the province of Salerno is almost 25%; this means that sleeping accommodation are taken one day on four, a good average even if tourism in Italy is facing an important crisis due to the competition of other countries at European level (Spain, France and Greece) and at world level (China above all, but also the US).

The degree of coverage is between 33% and 35% in the other cities of the Province of Salerno, while in the inland area of the National Park is significantly high (36%), and in the coastal part of the Park is the lowest lower registered in the whole territory of the province (21%).

This means that the coastal area of the Park even if really attractive in terms of total overnight stays the tourism firms are not able to exploit this opportunity by reaching a good level of efficiency, especially in relation with other territories.

Tab.1 Characteristics of the National Park and the province of Salerno (2008)

Area	Population	Accommodation establishment	Sleeping Accommodation	Average size	Overnight stays	Degree of coverage
Inland other	545.197	201	3.771		460.696	33,47%
Coast other	289.091	365	16.455		2.080.192	34,63%
Inland PNCVD	170.858	218	3.945		518.916	36,04%
Coast PNCVD	100.953	556	59.486		4.526.172	20,85%
Total	1.106.099	1.340	83.657		7.585.976	24,84%
Campania Region	5.812.962	3.468	188.867		19.774.742	28,69%
Salerno/Campania	19,03%	38,64%	44,29%		38,36%	
Italy	60.045.068	130.795	4.474.536		376.641.751	23,06%
Salerno/Italy	1,84%	1,02%	1,87%		2,01%	

Source: own elaboration on ISTAT data

The gross degree of coverage is a ratio between overnight stays and the product sleeping accommodation multiplied by 366 (days of the year in 2008). The ratio indicates how long the accommodation has been booked by tourist; the ratio varies between 0 (no tourism) and 1 (always booked). The general hypothesis is that the accommodation establishment is always open during the year and there is no closing period.

The following tables 2 and 3 are useful to make a comparison between the two different coastal area of the province, the one that does not belong to the Park and the one that does.

The province of Salerno is characterized in his upper part by the presence of the Amalfi coast, a territory who is probably know in the whole world for his beauty and attractiveness.

All the small cities of the Amalfi coast are very competitive on a tourism point of view; for example the degree of coverage is 66% in the case of Amalfi, and more than 40% for Conca dei Marini, Minori, Praiano and Vietri sul Mare. Positano and Ravello are a little lower but still around 36-37%; this means that the territory is well focused on tourism and it is able to exploit his competitive advantage in terms of geographical position, historical hierarchy and knowledge at international level.

The metropolitan area of Salerno which includes Salerno and Pontecagnano Faiano does not have a tourism specialization, since it is more focused on other services, even though the tourism performance is good, especially in the case of the latter.

Other two cities remain approaching southward to the National Park of Cilento and Vallo di Diano Battipaglia and Eboli; the former has a good performance both in absolute and in relative terms, since it register more than 400 thousand accommodations and the 33% in the degree of coverage.

The latter has more than 115,000 accommodations but a lower level in the degree of coverage (23%), a level that is closer to the ones registered in the Park that is bordering with this city.

Table 3 shows how tourism is distributed along the coast of the National Park, since all the 16 cities of the coastal part of the Park are analyzed.

The small city of Camerota with 7,249 inhabitants shows more than 800,000 overnight stays about 20% of the total in the Park; something similar happens to the smaller city of Vibonati with 3,200 inhabitants and more than half a million total stays.

Both those cities register a low degree of coverage, 19,36% for the former and 20,85% for the latter; as we can see tourism seems to be important but in the last years there has been a decrease in the market share for the area. In fact, the number of tourists registered in the establishments of the area is slowly but constantly decreasing, so that the establishment of

the coastal part of the National Park of Cilento and Vallo di Diano are not able to maintain their positions.

The third place in the classification of the more visited cities is for Capaccio, with half a million of overnight stays and the minimum degree of coverage of the area (11,92%); in this city are the ruins of the ancient Paestum to former Greek Colony well known at international level. It could seem unusual that such an attractive location is not able to exploit his competitive advantage.

This could be explained as follows: most of the international tourists that come to visit Paestum remain just the time of the visit and they go to other location of the Campania region. Usually tourist buy “vacation packages” where they see the most they can in few days; as a consequence Paestum-Capaccio does not have such the stays we expected to. On the other side, the city has become one of the most preferred locations for ceremonies as wedding, first communion, and so on; this explain the persistency of hotels and other accommodations which are specialized in those ceremonies.

Castellabate, Centola and Ascea register important tourism flows and a quite similar degree of coverage (about 25% for the three of them). Castellabate has more than 486 thousand stays, while Centola has 478,938 and Ascea 366,881.

Pollica follows with 258,020 stay and a good degree of coverage (32.53%), while Pisciotta has few stays less (253,000 the total) but a lower degree of coverage (21.82%).

The other cities in the table have not the same importance in absolute terms even if tourism has a good importance in their economies.

Table 2 – Tourism in the other coastal cities of the province of Salerno (2008)

Area	Population	Accommodation establishment	Sleeping Accommodation	Degree of coverage	Overnight stays
Amalfi	5.391	35	1.390	65,90%	334.351
Battipaglia	51.045	31	3.443	33,12%	416.266
Cetara	2.361	12	141	28,37%	14.603
Conca dei Marini	744	9	176	43,12%	27.701
Eboli	37.766	19	1.348	23,41%	115.191
Maiori	5.667	30	1.748	18,29%	116.704
Minori	2.871	20	530	43,70%	84.544
Pontecagnano Faiano	24.971	30	1.360	31,74%	157.557
Postano	3.970	48	2.057	37,75%	283.438
Paiano	2.025	33	884	42,89%	138.379
Ravello	2.489	39	1.005	36,75%	134.815
Salerno	140.489	31	1.900	28,21%	195.663
Vietri sul Mare	8.380	18	387	42,73%	60.353
Total	289.091	365	16.455	34,63%	2.080.192

Source: own elaboration on Salerno Tourist Council Data

Table 3 – Tourism in the coastal cities of the National Park of Cilento and Vallo di Diano (2008)

City	Population	Accommodation establishment	Sleeping Accommodation		Degree of coverage	Overnight stays
Agropoli	20.840	51	845		35,91%	110.741
Ascea	5.794	43	4.099		24,52%	366.881
Camerata	7.249	61	11.847		19,36%	837.179
Capaccio	21.895	93	11.638		11,92%	506.203
Casal Velino	4.987	20	1.435		28,01%	146.715
Castellabate	7.992	59	5.329		25,00%	486.334
Centola	4.951	74	5.263		24,93%	478.938
Ispani	1.008	8	2.128		18,59%	144.396
Montecorice	2.568	9	416		26,58%	40.361
Pisciotta	2.897	26	3.186		21,82%	253.758
Pollica	2.494	36	2.173		32,53%	258.020
San Giovanni a Piro	3.840	19	1.433		30,57%	159.876
San Mauro Cilento	975	14	1.088		18,02%	71.571
Santa Marina	3.179	8	476		46,46%	80.721
Sapri	7.084	11	549		35,84%	71.822
Vibonati	3.200	24	7.581		18,53%	512.656
Total	100.953	556	59.486		20,85%	4.526.172

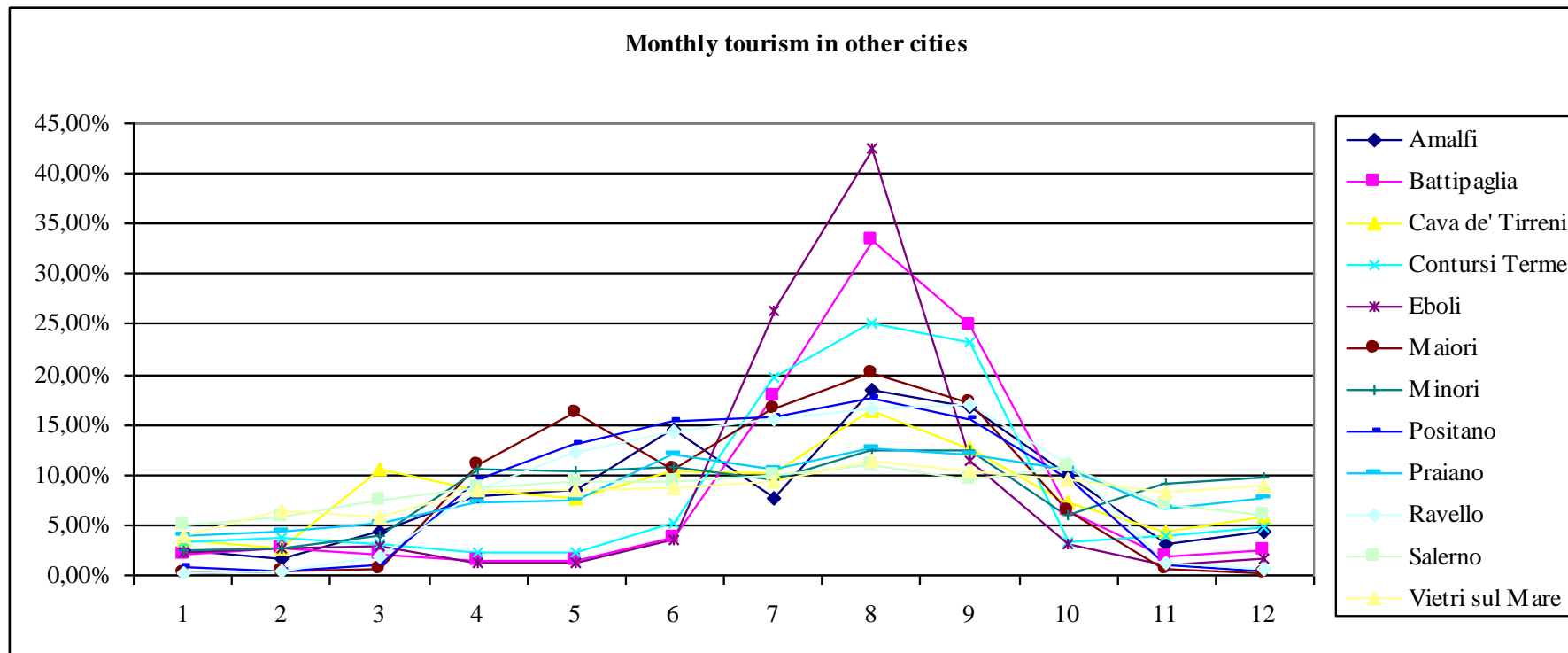
Source: own elaboration on Salerno Tourist Council Data

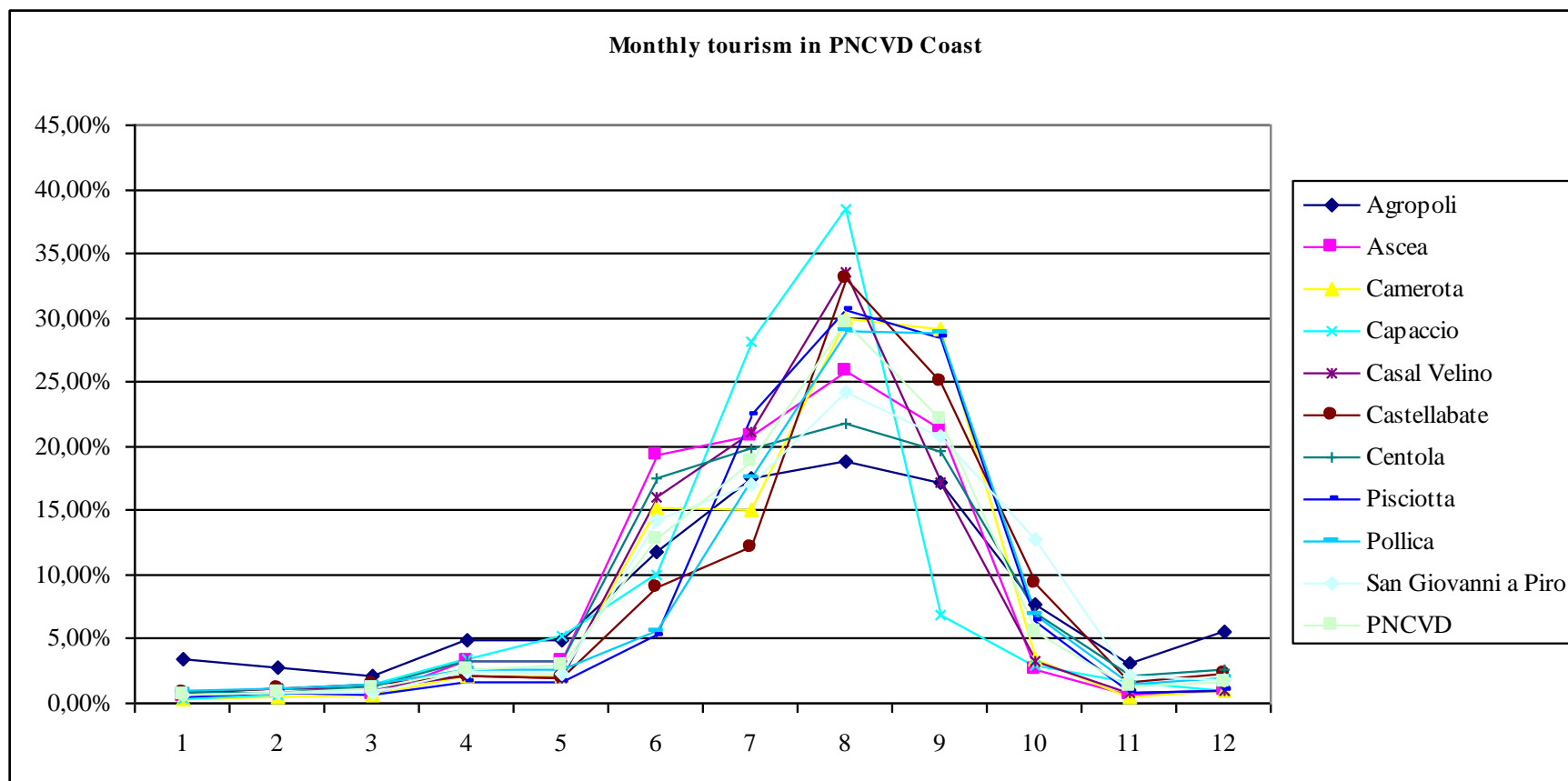
The data seen in the previous tables show that tourism is localized mainly in the coast of the National Park of Cilento and Vallo di Diano, while the inner part is not as much attractive for tourism as the other. In the following paragraph the analysis move to two important aspects of tourism in the area: from one side tourism is mainly in summer, that means people prefer the Park only because of the (beautiful) seashore, not also for the other possible attractions there are in the inland. This tourism has obviously a big impact on the environment because there is a big flow in a small period of the year.

On the other side these flow is underestimated because, during time there as been a growth in house construction bigger than the needs of the local population; in fact the population has slowly decreased in the last few years, while house construction has increased.

This “second houses” has been used as tourism accommodations but are not registered in any statistics on tourism; apparently there is no chance to discover the “unofficial” tourism flow in this houses.

On the other side is absolutely sure that this tourism increases the impact of human presence in the Park since reinforces the flows in summer, since even the tourists that use “second houses” as their accommodation prefer a vacation during the summer.





The evidence of what said before can be seen in the previous graphs; summer tourism is the main characteristic of the province of Salerno both in the Park area and in the no-Park area since it is typical of the seaside cities and towns.

Anyway, in the no-Park area summer tourism seems not to be as big as in the Park; the only two cities where summer tourism is really big are Eboli and Battipaglia.

The first one reaches almost 45% of the total overnight stays in August, while the second one is about 35%; those two cities are very close to the Park since they are up north. Then we have Contursi Terme with the 25% of the total stays in August, while all the other cities in the chart are below to this percentage and show a more homogenous distribution during the year, only showing a small percentage during winter and November.

On the other side, in Graph 2 we can see how all the cities in the coast of the National Park of Cilento and Vallo di Diano point out that in the first five months of the year they have less the 5% of the total stays; on the other side July, August and September are the most preferred period to visit and stay in the Park, since the vast majority of the overnight stays are registered in these months.

As a result we can underline that tourism in the National Park has really a big impact on the whole territory since the almost entirety of the overnight stays are in summer, and during the rest of the year we do not have a significant presence of tourists, even if, especially in the coast side the weather is really beautiful and the temperature are nice and mild.

The estimation of tourism in summer

On the most significant aspects in the general structure of the Park is probably the housing situation, as we can see from Table 4 the number of houses in the Province of Salerno is about 455,000, but only more than 360 thousand are permanently occupied by local population and families and about 100 thousand are empty; the percentage of houses usually empty are 20,83% of the total.

This percentage varies significantly between the different areas we have considered; for the no Park area the percentage of houses that is vacant is about 12-13% of the total

houses, while in the Park this ratio is 25,27% for the inland and almost 50% (49,87) for the coastal area.

One possible explanation for the inland is the progressive migration from the small cities and towns to Salerno or other destination; the migration has been registered from the after World War II and has been going on until recent years. So a good share of houses has lost his permanent occupants.

On the other side we have something similar even if more significant for the coastal area; in fact the percentage of houses vacant is about the half of the total houses; such a significant amount of vacant houses represent a possible additional tourism supply since as known in the area those houses are usually rent by tourists.

The probably produces a distortion in the tourist market at local level since non all the arrivals and the overnight stays are registered in regular tourist accommodation but there is probably a share of tourism that is not accounted in any statistic¹ and gives spaces to a share of underground economy.

Table 4 – The housing situation in the Province of Salerno

Area	Population	Families	Total houses	Used	Empty	Empty/total	Houses/ Families
Inland other	545.197	186.691	188.598	165.702	22.896	12,14%	1,01
Coast other	289.091	116.263	110.456	95.600	14.856	13,45%	0,95
Inland PNCVD	170.858	66.773	85.366	63.706	21.660	25,37%	1,28
Coast PNCVD	100.953	40.299	71.172	35.679	35.493	49,87%	1,77
Total	1.106.099	410.026	455.592	360.687	94.905	20,83%	1,11

Source – own elaboration on ISTAT data

In table 5 we can analyze the same statistic analysis referred to the 16 coastal cities to the National Park. As we can see from the table there is a significant surplus of houses on the total families, and this condition can be referred to all the cities.

¹ The tourism laws provide that houses which are rent to tourist should be registered and every contract has to be reported to the authorities.

On the total of 71,172 houses only 35,679² are constantly used by families as their homes, while more than 35,000 can be used as an alternative supply to other official tourism residencies. The situation varies among cities; for example there are the cases of Montecorice and Ispani where about three quarters of the houses are not occupied by families. For the first city on a total of about 4,000 houses there are almost 3,000 empty, while for the latter the houses available for tourist are 1,000.

The phenomenon of so many tourist home is widely diffused in all the coastal territory of the Park; generally those houses are generally rent for at least a week, but preferably for the whole month or two weeks in July, August and sometimes September and the host are generally families or little groups of friends who share the accommodation in order to minimize the costs of the vacation.

Usually those accommodation do not provide any or they have little services; in fact very often the guests have the use of the kitchen with a few accessories and the providing of household linen is not really common. Sometimes those beach houses are frequented by the owner who lives away, but often the presence of the owner is reduced to a small period, just few weeks or maximum for one month; on the other side, the owner tries to maximize the income he can earn from the house, renting it to tourists.

As a consequence the tourists that attend this type of accommodation have a small propensity to expenditures and give a small contribution to local employment and income. On the other side the increasing amount of people attending during the summer months the coastal area have for sure a significant impact on the territory since the area is consistently overpopulated.

On the other side we have three cities with a small percentage of houses: Sapri (23.77%), Capaccio (33.72%) and Agropoli (38.99); anyway, while the first one has the smallest amount of houses (792), the other two have a significant share in absolute terms, respectively 3,656 and 4,675. Nevertheless, Agropoli and Capaccio are two of the biggest cities in the Park, they both are at the northern border, and very attractive on a tourist point of view. They are an important destination for beach tourism, but at the

² Those house are mainly apartments and small villas, and generally can host a variable number of tourist apartment/house.

same time Capaccio is the city where are located the ancient temples of Magna Graecia Paestum, so they consistently reinforce the tourism vocation of the city³.

As told before, the phenomenon is widespread in the coastal area of the National Park, since also in other cities there are many houses that can be used as an additional tourist supply, mainly to beach tourism.

Table 5 – The housing situation in the coast of the National Park of Cilento and Vallo di Diano

City	Houses for residents	Other house	Total	Other houses/ Total
Agropoli	7.315	4.675	11.990	39,0%
Ascea	2.085	3.533	5.618	62,9%
Camerota	2.517	2.737	5.254	52,1%
Capaccio	7.186	3.656	10.842	33,7%
Casal Velino	1.697	2.518	4.215	59,7%
Castellabate	2.827	3.441	6.268	54,9%
Centola	1.730	2.270	4.000	56,8%
Ispani	394	1.000	1.394	71,7%
Montecorice	1.029	2.932	3.961	74,0%
Pisciotta	1.216	1.024	2.240	45,7%
Pollica	1.123	1.482	2.605	56,9%
San Giovanni a Piro	1.345	1.941	3.286	59,1%
San Mauro Cilento	394	800	1.194	67,0%
Santa Marina	1.171	1.360	2.531	53,7%
Sapri	2.540	792	3.332	23,8%
Vibonati	1.110	1.332	2.442	54,5%
Total	35.679	35.493	71.172	49,9%

Source – own elaboration on ISTAT data

In 9 of the remaining 10 cities there are more beach than houses for residents, the only city below this level is Pisciotta where on a total of 2,240 houses only 1,024 are beach houses.

³ In the last few year Capaccio has also became one of the most important city in the Province for arranging ceremonies and congresses so many important hotels have been building. They are used more as a location for that than a tourism accommodation.

Anyway, on the whole there are 6 cities with a significant potential in terms of tourist accommodation, since they have more than 2,200 and up to 3,500 beach houses; this is the case of Centola (2,270), Casal Velino (2,518), Camerota (2,737), Montecorice (2,932), Castellabate (3,441) and Ascea (3,533).

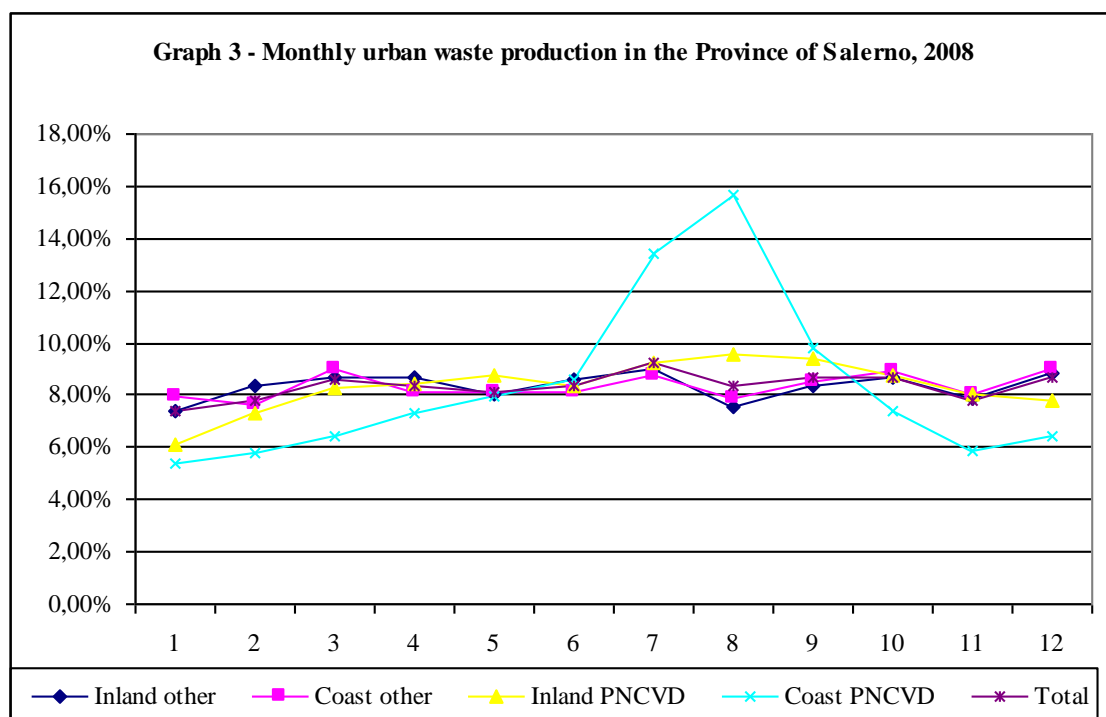
The National Park of Cilento and Vallo di Diano in his coastal cities can join the official number of sleeping accommodations that sums about 60,000, with a variable number of other accommodations that can be even more consistent since there are more 35,000 beach houses with a number of beds that we could try to estimated. Anyway, since we are interested in the effective presence of tourist in the area we try to estimate this presence, using other data.

One of the most significant results of the human presence on the territory is the production of urban waste⁴; there is a positive relation between human presence and production of waste, so that an increase of the former means an increase of the latter.

Besides, in the last few years there has been an increase of waste production in some Italian regions, despite all the attempt of reducing the impact of human activity on that. On the other side the amount of waste produced at local level varies significantly between territories.

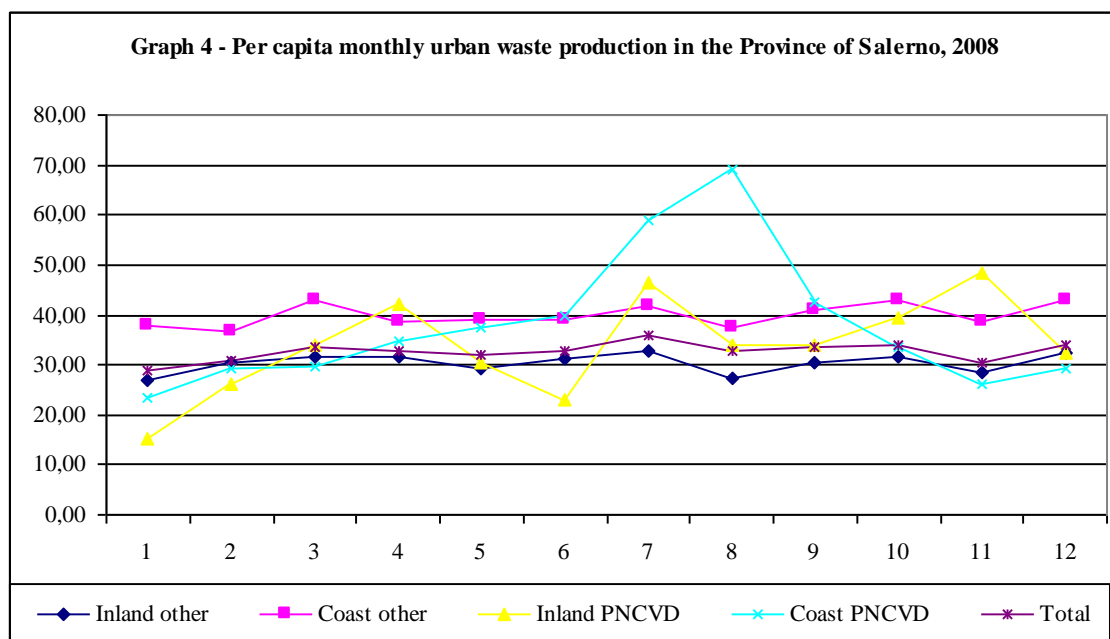
In fact, in the case of Italian regions in 2006 the amount of waste per-capita per year varies between 401 kg per inhabitant for the Basilicata and 704 kg per inhabitant in the case of Tuscany (ISPRA, 2007). In relative terms, the statistic suggest that on the average every inhabitant produce between 1,1 and 1,9 kg of urban waste every day. Another important result is that the amount of waste does not change significantly during the year, so we can assume it is more or less constant in the single months.

⁴ The category of urban waste is well defined by Italian law (D.LGS. no. 152/2006) and consists of all the wastes originated by human activities related to houses and other less relevant human activities.



This result of monthly urban waste production for the four areas of the province of Salerno we have considered is shown in graph 3 where we can see how waste production is constant in all the areas, with the exception of the coastal area of the National Park of Cilento and Vallo di Diano, where we observe can point out two outliers in the months of July and August; in these two months in 2008 there has been a significant urban waste production in the coastal cities of the Park, while in the rest of the year the percentage of waste is below the average of the other areas considered.

In order to better understand the situation in the four different areas we have considered, we have calculated the per-capita monthly urban waste production as we can see in Graph 4.



The per capita monthly waste production for the entire province of Salerno is about 30 Kg, and is almost constant during the different months of the year; the situation for the cities which are not in the territory of the National Park is quite similar to the general trend of the Province. The inland part of the Province has an average production lightly below the general average of the province, while, at the same time, the coastal area of the Province that does not belong to the Park has a higher per capita waste production, about 40 kg per month. Nevertheless also in this case the waste production is at the same level during the year.

The inland of the Park, even if has a more significant variability during the year, keeps his general trend; the variability of data around the general trend is probably due to a problem of data survey, that sometimes does not catch the level of waste production.

Something different happens in the coastal area of the Park. As already seen, the Park has an important seasonality of the human presence, due to the tourists in summer; anyway, in the coastal cities the per capita waste production shows a significant variation in summer with a level of almost 60 Kg in July and almost 70 Kg in August.

Since we know that in summer there is a relevant tourism in this area we could assume that the production of waste increases in this period; anyway, the per capita index

should be constant also in the coastal area; but the relevant tourism point out in summer seems not enough to explain those peaks in the distribution.

If waste production can be assumed constant during the year even for the coastal area of the Park, as we observed for the rest of the Province, the two outliers that can be seen in July and August have a different explanation.

As we have seen formerly, tourism is very intensive in the coast during summer but as a matter of fact remains underestimated; in fact, despite we observe major tourism presence in summer there is something that remains undiscovered in official statistics: tourism is more widespread that emerges from official statistics.

The increasing per capita waste production in July and August only in that area can be only explained with a major tourism; it is the tourism flow that accommodates in the relevant number of beach houses we have seen before.

The next step is trying to estimate the actual human presence in summer in the coastal area of the National Park of Cilento and Vallo di Diano using the data from the waste production survey trying to build a simple model useful to understand the real tourism flow during July and August.

The estimation of presence on the territory

As seen before, we are dealing with the hypothesis that population in summer in the coastal area of the Park is underestimated and we want to try a method useful to understand the level of tourism in that period.

According to AAVV (2000), we can hypothesize that the per capita urban waste production during the year can be assumed constant and its variation as seen in the former graph is due to a mismatched population account.

So we can generalize the relationship between population and waste as the following:

$$Pe = \alpha * W$$

where

Pe Estimated total population per month
W total urban waste per city per month
a average urban waste per person per month

Once we have estimated the total population that attends the territory every single month of the year, we can subtract from this total the residents and the tourists official registered in all accommodation establishments.

The balance that comes out, as in the following equation, is the estimated extra tourists that are on the territory but are not registered in official statistics; they are the ones that live, in July and August, in those beach houses and apartments which usually are not occupied, for example by local families.

In Appendix we show the estimation given by a simple regression model of the hypothesis developed above.

$$Pe = Pr + To + Te$$

The estimated population is so composed of residents, tourists registered in accommodation establishments and tourist estimated.

Pr Residents
To Tourists registered in accommodation establishment
Te Additional tourist estimated

$$Te = f(H)$$

Estimated tourist depend obviously on the possibility of further accommodation, for example in second houses.

Table 6 – Estimation or tourism in the National Park

City	Population in july	Population in august	Additional estamated population in july	Additional estamated population in august	House potential for tourist
Agropoli	21.464	21.512	8.715	10.821	3.460
Ascea	8.249	8.858	3.349	4.456	3.243
Camerota	11.316	15.344	4.595	7.719	3.025
Capaccio	26.485	28.176	8.353	11.743	2.202
Casal Velino	5.983	6.572	1.735	1.458	2.223
Castellabate	9.896	13.189	4.018	6.635	3.036
Centola	8.018	8.311	1.708	2.299	2.135
Ispani	1.884	2.387	765	1.201	955
Montecorice	2.813	2.953	794	3.852	2.756
Pisciotta	4.736	5.401	4.186	5.513	945
Pollica	3.946	4.902	1.688	1.815	1.429
San Giovanni a Piro	4.717	5.093	1.229	5.026	1.838
San Mauro Cilento	1.409	1.658	994	1.547	779
Santa Marina	3.669	3.950	1.490	1.987	1.262
Sapri	7.520	7.770	3.034	2.784	543
Vibonati	6.311	8.095	2.562	4.072	1.042
Total	128.417	144.172	49.215	72.927	30.873

Source – own elaboration on many source data

Conclusion

The area of the National Park of Cilento and Vallo di Diano has really some important elements that should be valorised in order to increase sustainable tourism, local income and the relationship between tourism and other economic sectors such as agriculture and hand-crafted production. Otherwise, the actual situation of big impact of tourism will worsen the general condition of the territory.

Here we want to focus on some of the results and highlights of the analysis we made in this paper and on some solution in the field local political economy; those solutions that should be adopted in order to increase the general conditions in the Park.

One the main result of this study is the increasing disequilibrium between the coast and the inland caused by the great presence of tourist flows of relevant impact in the coastal area. This means that in the Park we have almost exclusively beach tourism; as a consequence one objective is to reduce the periodicity of tourism that implies a big level of human congestion during summer (especially August, but also July and September), with a relevant reduction of the general condition of life of all the population. This confirms the impression we derived formerly.

There is a strong need to try to draw the attention on new kind of tourism, focusing on tourist who are interested in a different approach to the territory, who are sensitive to environment and can be potentially testimonials of sustainable tourism in the Park. Tourism flows should then be pushed “inside the Park”, that means try to promote the tourism in the inland, which is uncontaminated and is knowing a continuous decrease of population and increase of the average age. The potential of the inland is important but this area is still under developed, below the average of Southern Italian Regions

Policy interventions should also improve the efficiency of the firms in the tourism sector improving their qualified services in order to increase the value added at firm level; at the same time there is a need for a stronger collaboration and cooperation between firms especially for those which belong to different sectors, for example agriculture and craftsmanship.

The final result is to make tourism a “global sector” at local level, that means create a sector in which many are involved, for example firms, municipalities, associations and so on in order to make the whole territory participate of the sustainable development

process build on the performance of tourism. Then the territory of the National Park of Cilento and Vallo di Diano is really attractive for tourism.

Appendix

Coastal Cities of the National Park of Cilento and Vallo di Diano

Variables Entered/Removed

Model	Variables Entered	Variables Removed	Method
	Waste PNCVD	.	Enter

a All requested variables entered.

b Dependent Variable: Population PNCVD

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
	,911	,829	,808	1066,61665

a Predictors: (Constant), Waste PNCVD

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	44210464,240	1	44210464,240	38,860	,000
	Residual	9101368,660	8	1137671,082		
	Total	53311832,900	9			

a Predictors: (Constant), Waste PNCVD

b Dependent Variable: Population PNCVD

Coefficients

		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
Model		B	Std. Error	Beta		
1	(Constant)	27922,067	1660,277		16,818	,000
	Waste PNCVD	8,131E-03	,001	,911	6,234	,000

a Dependent Variable: Population PNCVD

Capaccio

Variables Entered/Removed

Model	Variables Entered	Variables Removed	Method
	Waste Capaccio	.	Enter

a All requested variables entered.

b Dependent Variable: Population Capaccio

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
	,763	,582	,530	359,87733

a Predictors: (Constant), Waste Capaccio

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1445364,439	1	1445364,439	11,160	,010
	Residual	1036093,561	8	129511,695		
	Total	2481458,000	9			

a Predictors: (Constant), Waste Capaccio

b Dependent Variable: Population Capaccio

Coefficients

		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
Model		B	Std. Error	Beta		
1	(Constant)	20520,782	589,775		34,794	,000
	Waste Capaccio	2,014E-03	,001	,763	3,341	,010

a Dependent Variable: Population Capaccio

Pisciotta

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
	,889	,790	,760	372,13758

a Predictors: (Constant), Waste Pisciotta

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3650185,565	1	3650185,565	26,358	,001
	Residual	969404,658	7	138486,380		
	Total	4619590,222	8			

a Predictors: (Constant), Waste Pisciotta

b Dependent Variable: Population Pisciotta

Coefficients

		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
Model		B	Std. Error	Beta		
1	(Constant)	1950,550	295,844		6,593	,000
	Waste Pisciotta	1,733E-02	,003	,889	5,134	,001

a Dependent Variable: Population Pisciotta

Pollica

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
	,902	,814	,790	333,24474

a Predictors: (Constant), Waste Pollica

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3879560,450	1	3879560,450	34,935	,000
	Residual	888416,450	8	111052,056		
	Total	4767976,900	9			

a Predictors: (Constant), Waste Pollica

b Dependent Variable: Population Pollica

Coefficients

		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
Model		B	Std. Error	Beta		
1	(Constant)	1224,588	310,693		3,941	,004
	Waste Pollica	2,038E-02	,003	,902	5,911	,000

a Dependent Variable: Population Pollica

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