

Emblematic Mediterranean Mountains as Coastal destinations of excellence (EMbleMatiC)

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"CASE STUDY", PP5 VULCANO ETNA



Deliverable D 3.3.3

WP3 – Studying

**Activity A3.3 Conduction of the in depth study of the criteria composing
the emblematic dimension of the EMM**

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SUMMARY

This case study is drafted in the framework of the WP3 “Studying” of EMbleMatiC project.

This document presents the recording of the elements of the emblematic dimension of mountain **ETNA** based on the template produced by PP4’s subcontractor (ETAM), approved and adapted by the project’s Study Scientific Committee (LP1, PP4, PP6, PP8).

This case study document will consist a reference document for **the overall in depth study of the emblematic dimension of the project’s touristic dimension** whilst it will constitute the emblematic dimension characterization document for mountain **ETNA**

The case study is operative in correlation with D.3.3.2-Report on participative workshop, results of which have been incorporated in it.

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Executive Summary

Etna is situated on the north-east part of the Sicilian island and is bordered to the north by the Alcantara River and south by the Simeto River, east by the Ionian Sea. It occupies an area of 1260 square kilometers and is the highest point on the island and the highest south of the Apennines, the north-east crater reaches 3350 m. Until a few centuries ago there was only one crater on the volcano but since the beginning of the last century, next to this, there were another three craters. Despite frequent volcanic activity, Etna is considered a non-dangerous volcano. The particular fertility of volcanic soil along with its geographical position made the mountain an exceptional place for the development of agriculture and livestock. Vineyards have, in particular, achieved an outstanding quality level in recent years. The summit of the volcano, reachable by car, on the north side "Piano Provenzana" is about 55/60 kilometers from the coast, while the south side of the volcano, Nicolosi, is around 35/50 km. In recent years there has been a good tourist development the hinterland with the birth of numerous B&Bs, holiday cottages and holiday homes, although the main attraction remains the seasonal tourism on the coast and the excursion on Mount Etna. Etna, which for local inhabitants has declined to the feminine "La Montagna" and not "Mount Etna" as it should be called, it has no unique administrative boundaries. All the inhabited centers on the volcano, from the slopes to the sea, have been affected by volcanic eruptions (period from the 7th century BC to the twentieth century), which often have reached the inhabited centers, destroying them in part, even several times, and in any case by changing the orography forever. On 21 June 2013, UNESCO registered Etna on the World Heritage List. Etna Park was established as a Regional Nature Park with Decree of the President of the Sicilian Regional Administration in May 1987. The number of visitors is very difficult to estimate, as there is no a real entrance to the Mount Etna. Often reference is made to the number of accesses to the crater (even if the exact data is available to the lifts manager and the car company authorized to the crater visit). Etna, for the ancients, was the very emblem of the supernatural as an irreplaceable raw material for a precious archeology enterprise of the sacred. For the Greeks Etna was a mountain (oros) and, as it had been for other mountains, was considered sacred. The Etna mountain, "la muntagna "Has always been painted in a picturesque way. From the early twentieth century it is imaginatively depicted in scientific studies. Etna has inspired various literary works, among other things a lost tragedy of "Eschilio" called "Le Etnee" and a satyric drama "Il Ciclope" by "Euripide" inspired to the the Homeric figure of Polyphemus and set on the slopes of Mount Etna. Etna stands superbly in the heart of the Mediterranean area in the shape of a gigantic cone, situated at a latitude slightly more northern than Tunisia. Observed from afar, Etna appears as a gigantic perfectly cone-shaped mountain. Etna has a "multifunctional" agriculture, the result of an interaction among environmental, historical, social and economic factors. Because of its strategic position in the center of the Mediterranean with the particular fertility of the places and its climate attracted conquerors from all over the ancient world. Tourists visiting the territory of Etna are heterogeneous. There are one day visitors which are usually tourists making their holidays on the coast. Local tourism, from sicily, is very present throughout the year, which comes to visit not only the volcano but also for visiting the various villages rich in historic monuments and beautiful churches. The volcano is monitored from the seismic and geological point of view from the stations of INGV (National Institute of Geophysics and Volcanology). The control is essentially on four networks that control tremors, soil deformations, gas emissions and finally observation with infrared cameras.

PART I

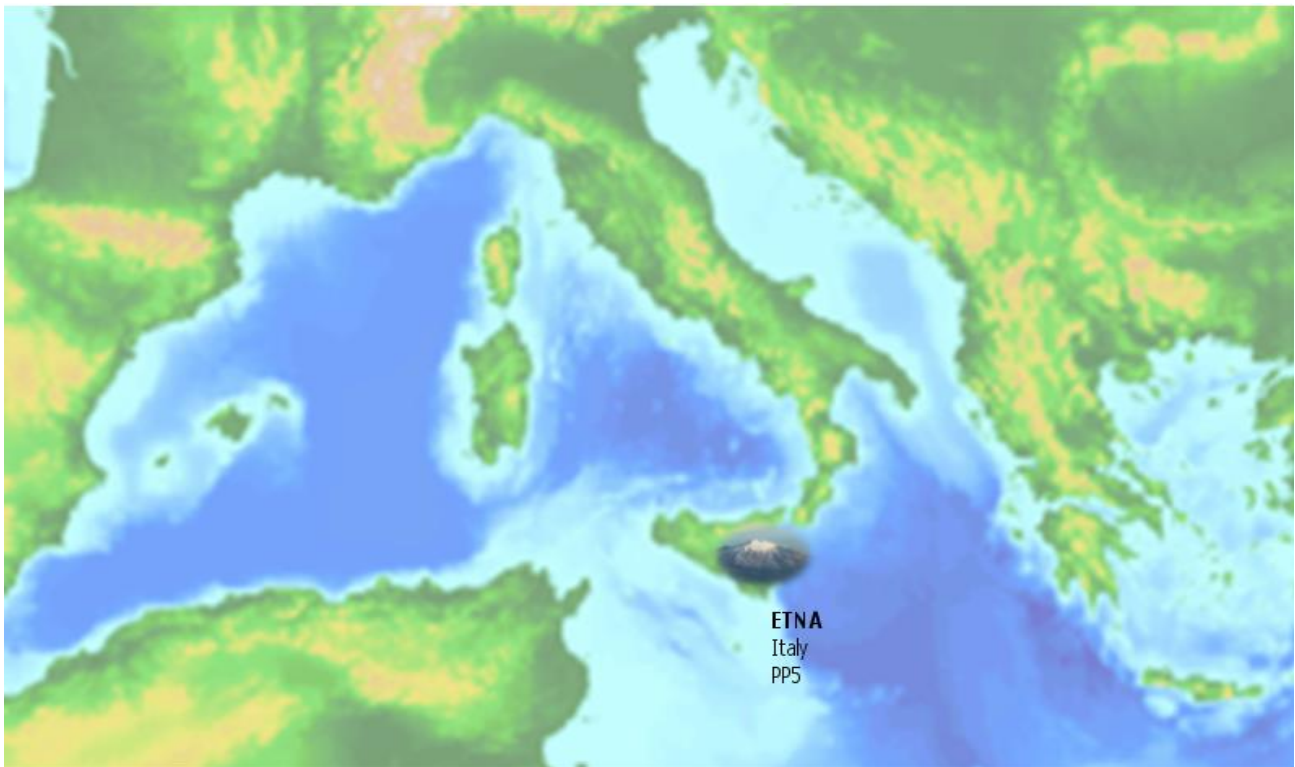
1.1 Introduction

The territory of the Etna is a particular territory. Its volcanic landscape is multifaceted. From the summit of the volcano, a lunar and desolate environment, to the forest of pine and beech trees up to the areas cultivated with fine vineyards, orchards, pistachios and so on. Territory full of ancient villages with castles and beautiful historic centers. Etna is an extremely active volcano. Every eruption is characterized by explosive activity and effusion, during which an enormous quantity of material is ejected. Until a few centuries ago there was only one crater on the volcano but since the beginning of the last century, next to this, there were another three craters. Although Etna is a major tourist attraction, which strongly attracts visitors, does not yet have a highly organized tourist system, that is, structured, equipped with infrastructures built and designed to receive tourists. We have tourists from all over the world, The motivation is above all that of visiting the volcano but also to discover a territory tied to nature and local traditions, seeking tranquility, slow-food, history, arts and contact with the inhabitants. Also important in recent years is the development of tourism related to vineyards and wine, product of excellence. The work in this deliverable was written in addition to the coordinator **Vincenzo Papa**, by **Martina Indelicato** and the President of Gal **Concetto Bellia**. We have also used some statements from local operators in addition to the work done during the local meeting, and, of course, internet information.

1.2 Physical and human geography of the mountain

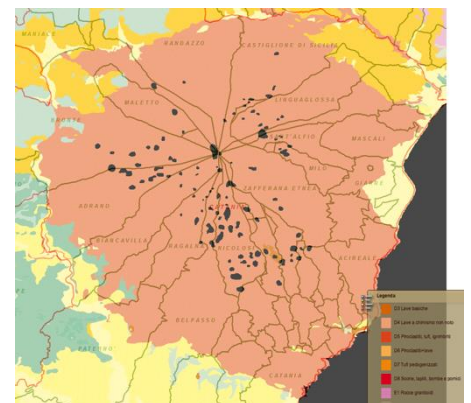
Etna is situated on the north-east part of the Sicilian island and is bordered to the north by the Alcantara River and south by the Simeto River, east by the Ionian Sea. It occupies an area of 1260 square kilometers and is the highest point on the island and the highest south of the Apennines, the north-east crater reaches 3350 m. Etna is the highest and most active volcano in Europe and one of the most active in the world. On the top there are four large craters while on the sides there are a large number of small craters, about 300, created by continuous eruptions, even if the summit crater activity is the most frequent. The type of activity is explosive, strombolian and effusion activity. The first activities of the volcano date back about 600,000 years ago, the continuous eruptions that have occurred over the centuries, and the overlapping of lava have created a particular landscape. Until a few centuries ago there was only one crater on the volcano but since the beginning of the last century, next to this, there were another three craters. At the moment, in addition to the northeastern crater that is the highest, we find "la Voragine" and "la Bocca Nuova" that developed in 1945 and 1968 and lastly the 1971 "South East" crater. Despite frequent volcanic activity, Etna is considered a non-dangerous volcano whose activity is relegated only to the high area and far away from the inhabited centers. Sometimes flank vents have been formed at lower altitudes which have been a threat not only to the villages on the slopes but also to the centers located at the foot of the mountain, nevertheless, most of the eruptions have not represented a particular danger for the inhabitants to date. The great eruptions of the past have also created several volcanic caves of particular beauty such as the "grotta del gelo" (cave of the ice) so defined for the perennial presence of ice in it. The frozen cave formed after the longest eruption, according to volcanological data, ten years long from 1614 to 1624. Younger is "la grotta di Serracozzo" (Serracozzo cave) formed with the eruption of 1971 or "la grotta Cassone" (Cassone cave) which dates back to 1972. Older instead is "la grotta del Lago" (the cave of the Lake) in fact its formation dates back to an eruption of about year 1600. Many of the lava flows of the summit dissipate within a large valley, an immense "canyon" whose formation dates back about 64,000 years ago from the collapse of two craters and occupies an area of 37 square kilometers, the height of the walls varies from 400 to 1000 meters. The particular nature of the volcano has very contrasting environments. You go from a lunar and desert landscape around the slopes on the top of the mountain to go to a spectacular and fertile land as you go downhill. In the high above 1,000 meters, there are important wooded areas with Etna's Pine and Betulle, Beech, poplar and oak. Chestnuts are also diffuse. The particular fertility of volcanic soil along with its geographical position made the mountain an exceptional place for the development of agriculture and livestock. There are many and different products that are grown around Etna. Oranges, olive groves, hazelnuts, pistachios, chestnuts, orchards, vineyards frame the vast volcanic territory. Wine

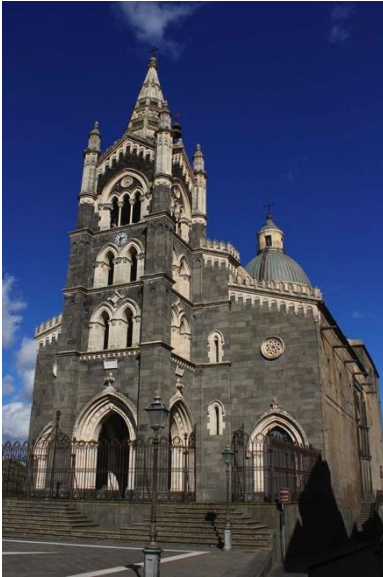
production dates back to ancient times thanks to the particular microclimate of the territory. Vineyards have, in particular, achieved an outstanding quality level in recent years, the DOC wines of Etna have become particularly appreciated wines in all international markets. "L'Etna rosso" DOC is produced from grapes "Nerello Mascalese" and "Nerello cappuccio" white instead of "cataratto", native grapes produced in most of the volcanic territory. An emblem of the land's flora is the "Castagno dei cento cavalli" (Chestnut of the Hundred Horses), considered, for his age and size, as a monument and one of the most important trees in Italy. Considered as a single tree although it has three large barrels of 12, 20 and 22 meters high. The area around the volcano is one of the most populous in Sicily. The fertile land, the abundance of water and the high position have made it possible for many peoples to find shelter from antiquity. The development of inhabited centers also took place in particularly dangerous areas as it is very close to the crater of the volcano. Today, we find a territory rich in villages that despite the massive emigration of the last century still has, around Etna, a population of about 950,000 people. The territory of Etna is located almost entirely in the province of Catania and the territory is divided among the 20 municipalities that are part of the "Parco dell'Etna" established by regional decree of March 17, 1987. The municipalities that share most of the territory are: **Adrano, Belpasso, Biancavilla, Bronte, Castiglione di Sicilia, Giarre, Linguaglossa, Maletto, Mascali, Milo, Nicolosi, Pedara, Piedimonte etneo, Ragalna, Randazzo, Santa Maria di Licodia, Sant'Alfio, Trecastagni, Viagrande e Zafferana**. All cities are not far from the east coast of the Ionian Sea, all reachable within about 30 kilometers. The summit of the volcano, reachable by car, on the north side "Piano Provenzana" is about 55/60 kilometers from the coast, while the south side of the volcano, Nicolosi, is around 35/50 km. the most industrialized part of the territory is Catania, instead the economy of the country is based on agriculture and on seasonal tourism along the coast. In recent years there has been a good tourist development the hinterland with the birth of numerous B&Bs, holiday cottages and holiday homes, although the main attraction remains the seasonal tourism on the coast and the excursion on Mount Etna to the detriment of the inner areas which may be grounds of historical, cultural and landscaping interest. Many of the problems are related to communication, roadworthiness, signage and infrastructures, which are not always able to support quality tourism as competition to the massive and luxury tourism of the Ionian coast. During the winter season, too, tied to the amount of snow on Etna, it is possible to practice winter sports. Skiing is however only practiced by residents or islanders, almost never addressed to international tourist attractions.



1.3 Spatial Cohesion

Etna, which for local inhabitants has declined to the feminine "La Montagna" and not "Mount Etna" as it should be called, it has no unique administrative boundaries. It is often considered that Etna is a protected area belonging to the Etna Regional Park, sometimes is considered the total of municipalities whose territory is predominantly above 600 m a.s.l.. The element that unites the territory is definitely the volcanic substrate (vulcaniti) generated by past and recent volcanic eruptions, which gave rise to the creation of "Litosuoli" (Lithosol), "Regosuoli" (Regosols) e "Suoli Bruni" (Brown Soils). If we should consider Etna for this element of cohesion, as can be seen from the picture below, the territory goes from 3000 m. a.s.l. to the sea. Volcanic rock also characterizes constructive typologies throughout the territory previously described. The lava stone, as defined, is a stone suitable for building, often used together with Siracusa's white stone in a sophisticated bicromia that characterizes all the churches of the villages around Etna mountain. Lava stone processing is an important activity in the Etna villages. Everyone in the Etna territory has something at home made of lava stone!





All the inhabited centers on the volcano, from the slopes to the sea, have been affected by volcanic eruptions (period from the 7th century BC to the twentieth century), which often have reached the inhabited centers, destroying them in part, even several times, and in any case by changing the orography forever.

Etna's people are therefore accustomed to building and reconstructing, to move to look for less inhospitable territories. The Etna territory, in addition to affecting the effects of the earthquakes in the neighboring areas, is home to a very frequent seismic activity, often in the form of seismic swarms during the eruptive activity of the volcano. The quality of the volcano's nature has created a strong "territorial cohesion" among the inhabitants. The volcano created opportunities and gave a strong sense of identity with the territory. Many religious festivals are linked to the relationship with the mountain.

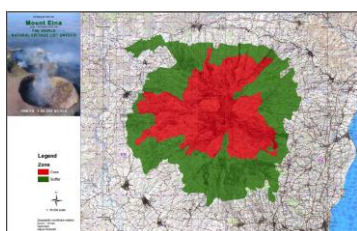
PART II

C1 Proud local people

There has always been a special relationship between the volcano and the populations that have inhabited the place. The volcano, if on the one hand it was a dangerous place because of the destructive eruptions, on the other side, thanks to these eruptions, it has become a particularly fertile territory. The populations have always had great respect for the mountain and a great fear but at the same time very proud of a particular and very different territory from the rest of the region. There has always been a love-hate relationship. Today the Volcano does not make any scare. People are accustomed to the continuous explosions and eruptions, even because they are no more dangerous for the inhabitants as they were in the past. Today there is a territory where exclusive wines and products known all over the world are born. Tourists from all over the world come to admire the highest volcano in Europe and one of the most active in the world. They are proud because they live in a territory rich in art and culture bequeathed by the various Greek, Etruscan, Norman colonies, etc. People living around the mountain have the feeling of being in a place and extraordinary, not comparable to any other part of the world. All this is often expressed in literature, theater and local music.

C2 Institutional recognition

On 21 June 2013, UNESCO registered Etna on the World Heritage List. The world heritage of Mount Etna (19.237 hectares) includes the most strictly protected area and scientifically important of Etna and is part of the Etna Regional Nature Park. The boundaries of the property are clearly defined and include the most important geological features of Etna. The property includes very few infrastructures: few forests / mountain paths, numerous mountain shelters along the main forest tracks and more than 50 seismic monitoring stations and a scientific observatory. Etna Park was established as a Regional



Nature Park with Decree of the President of the Sicilian Regional Administration in May 1987. Property includes part of this Park, which includes the area defined as the integral reserve. Moreover, nine Natura 2000 sites overlay property at various degrees, providing additional protection for 77% of the surface according to European legislation.

C3 Reputation

Etna is one of the largest active volcanoes in the world. That is why it is known and appreciated. Many are also the scientific interests of the volcano, there are more than 60 volcano monitoring stations and there are a large number of international scientific expeditions that come to Etna. In recent years, the typical quality productions cultivated on Etna are also very successful for their peculiar characteristics. This is the case of the DOC Etna Wine. Etna vine grow on sandy volcanic soils, rich in skeleton. This wine district was also known to the civilizations of the past, given the ancient origins of viticulture in the area. We have some information from the Theochritan poet in the 3rd century BC. and further confirmation by some coins from the 5th century BC. come to us. Etna was the first



name of controlled origin to obtain recognition of the designation of origin, the Etna DOC, in fact, has been recognized with DPR of 11.08.1968 published on the GU of 25.09.1968. The documentation, moreover, has remained intact since the year of its editorial office, maintaining unchanged the prediction of the vineyards of the volcano, for the production of Etna doc in its typologies Red, Rosato, White e Superior White.

The number of visitors is very difficult to estimate, as there is no a real entrance to the Mount Etna. Often reference is made to the number of accesses to the crater (even if the exact data is available to the lifts manager and the car company authorized to the crater visit). Often, tourists and visitors arrive on Etna during the day and then come back to overnight in their hotels on the coast, in larger hotels and well-connected with international tour operators.

With reference to a 10-year period (2001-2010), the trend of tourism flow in Etna Park (core and buffer zones) shows to be steadily growing, up to the end of 2007, when it reached a +77% growth rate compared to 2001. In the last three years, tourism flows decreased both in arrivals (about -11%) and overnight stays (about -10%), recording 79,178 arrivals and 255,471 overnight stays at the end of 2010. In 2010, international tourists represented 29% (74,233 foreign guests on a total of 255,471) of the overall demand. In the following charts, the national demand appears to be more swinging -both as for arrivals and overnight stays- compared to the international flows. While national arrivals were increasing up to 2006 and then fell off markedly, international arrivals kept on growing up to 2007, then decreasing less decidedly until 2010. The same remarks can be made as for tourist attendance. The above chart -on both foreign and domestic average tourist attendance (given by the ratio of overnights stays relative to arrivals)- shows that in the period considered (2001-2010) no significant fluctuations were recorded. A slight swinging can be noticed as for the foreign flow compared to the domestic one, and the overall data is equal to 3,23 days in 2010, not showing remarkable variations compared to 2001 (2,8 days). As for accommodation, in 2010 155,136 nights were spent in hotels (representing the 60% of the whole demand), whereas 79,145 nights were spent in complementary structures.

Tourist flow in complementary structures recorded a more stable trend in the 10-year period considered -except for a slight growth between 2002 and 2003- compared to tourist flow in hotels which underwent more meaningful variations. In the ten-year period considered (2001-2010), tourist demand in Etna Park's area showed a more stable growing trend compared to that recorded in Catania's district. In the whole period, the district's territory recorded an average variation of -0.14% against the +4% recorded in Etna Park. At the end of 2010, 1,739,545 overnight stays were recorded in the district (against 1,784,121 in 2001), whereas overnight stays in Etna Park were 255,471 (against 196,266 in 2001).

In the following charts the trends of the visits to Etna's summit craters are shown. Data are classified according to:

- ski lifts users (ski lifts are situated in areas outside and adjacent to the core zone);
- car parks users;
- hikers.

From 2001 to 2010, an increase in visitors both on the northern and southern slopes was recorded. In 2001 only 150,000 visitors reached the craters on the southern slope by ski lifts, whereas in 2010 they were 230,000, thus recording a 53% growth. On the northern slope, in 2010 a 60% growth was recorded

compared to 2001 (16,000 visitors in 2010 against 10,000 in 2001). As for visitors using car parks, in 2001 the southern slope recorded 600,000 number of visitors (100,000) more than doubled 2001's (40,000). Finally, on the southern slope the hikers who reached to summit craters (graphs C) were 12,000 in 2010 and 2,500 in 2001 (with an increase of 9,500 visitors), whereas on the northern slope they were 10,000 in 2010 and 4,000 in 2001 (recording an increase of 6.000 visitors).

C4 Legends and myths

(...) there we have the laurels, there are the swaying cypresses
 dark ivy and vine with sweet fruit,
 there is fresh water, divine drink that for me
 it comes down from the pure snow of Etna.
 Who would have the sea and the waves in return for all this?
 [Theocrito 11, 45-49. Trad. it. B. M. Palumbo Stracca]

With these beautiful words Theocrito, in its Idyllic 11 dedicated to the Cyclops, describes the Etna volcano as an almost enchanted place where no one could resist. This world at the confines of reality and imagination is found in the expressions of many writers, *Esiodo, Ovidio, Hölderlin, Maupassant*. Etna, for the ancients, was the very emblem of the supernatural as an irreplaceable raw material for a precious archeology enterprise of the sacred. For the Greeks Etna was a mountain (oros) and, as it had been for other mountains, was considered sacred; it was born of the union of Heaven (Ouranos) and earth (Ge) and belonged to a generation that preceded the Titans and gods of Olympus. At the origins of mythical tradition lies the Etna, when Zeus decided to exterminate humanity with the flood, Deucalion and Pirra saved themselves taking refuge on the top of the volcano. For Euripides it was a "cliff that eats fire" and was often linked to the Gigantomachia (fight between the Giants and the Gods of Olympus). According to the poet Claudiano Etna kept in a secret place the remains of the giants defeated by Gods. (see Maria Teresa Blasi)



The legend of Etna

One day, Encelado, the elder brother of the giants, decided to make the climb to heaven to take power to Jupiter and command in his stead. Encelado had large hands like squares, barbells, thick eyebrow like bushes, an endless mouth that looked like a furnace. When he

was angry, he dumped sparks of fire, which burned her beard and hair, but they grew up again after a dusk, thicker than before. The minor giants feared him and they do not contradict his will for fear of being hit by those so fiery flames. Even then all the giants obeyed and immediately went to work. To help him ascend to heaven, they placed one on the other, the summit of the highest mountains. They took Mont Blanc, the Asian mountains, the Pindus of Greece, but the target was still so far away. - do take the African mountains! - shouted Encelado enraged and we will come to heaven! They took them all; had almost reached the throne of Jupiter when he, angry for such arrogance, he thundered with his mighty hand a lightning that blew the sky and he reached the giants by blinding them and knocking them down violently. Encelado and his brothers, shaking with pain, shouted in inhuman way; but the god of Olympus, not yet filled with vengeance, with another lightning struck the cumulus of mountains rolling over here and there, crushing the bodies of the rebels. Encelado, reduced to pieces, was buried under the Etna. He was still alive, but he could not move, nor could he shake the mountain above him: he had suddenly lost his strength and felt his fury repressed in the chest.



He started throwing flames, sparks, smoke, and braces out of his mouth, rising to the pit of the Etna, from which they came out, emitting a violent roar. The melted lava from Encelado's breath began to descend along the slopes of the mountains destroying everything, prairies, houses, barns and forcing people to flee, screaming scared: Etna smokes. Then Encelado suddenly calmed down. But the giant anger, still standing under the mountain, has not yet settled and occasionally explodes by burning fire.

The myth of Hephaestus

Hephaestus, although a son of the most beautiful *Era* and of the great *Zeus*, was born so ugly that his mother, seeing him, gave a scream of horror and flung him down from the Olympus with all the energy she had in his body. The poor thing fell for a whole day and ended up in the sea, where the nymphs pitifully collected him and raised him up to the island of Lemno, which being volcanic burning with fires. *Hephaest* was immediately attracted to the beautiful color of the flame and since he was a child he devoted himself with application to the art of blacksmith. He also had a forge in the Etna crater, where with the help of the Cyclops, giants with one eye only, manufactured arms and ornaments for the gods. For himself, he created extraordinary items: tables with three legs that moved on their own and even the all-gold robot-maids, who moved like they were alive and supported when he was tired. The god of fire was lame and tired easily. He was tormented by the doubt that it was his mother fault, throwing him away like a broken doll, so one day he thought doing an *Era* a gift that was apparently beautiful, but that was a sort of trap: a golden seat, all carved and decorated, shining in the sun. The queen of the gods found that a golden chair was fit to his rank, but when he got there he immediately shouted: was tied to

the "gift" of Hephaestus by a thousand of invisible wires and could no longer move. The gods tried, unsuccessfully, to free her: it was clear that only the builder knew the secret of that infernal chair. Zeus sent to call Ephesus, who had already returned to Lemno, and asked him to release his mother. The divine blacksmith didn't want immediately, then agreed, but to a pact: to have a place among the others Gods in the Olympus. He was ugly, but quite similar to them. Zeus agreed, *Era* was freed and Hephaestus satisfied. Even then, in the Olympus, he remained short. He was better off with the Cyclops.



Aci and Galatea

The history of *Aci* and *Galatea*, told by Ovid in the XIII book of *Metamorphoses*, he made it possible for these towns to be named after a small river called by the ancient Greeks "Akis". But what does the myth say? What we are about to tell you is one of the most beautiful and tragic stories of antiquity, set on the slopes of Mount Etna, a mythical and magical place, where the earth melts and regenerates in a breathtaking landscape that flows into the sea. Galatea was a beautiful nymph, with a milky skin, daughter of *Nereo* and *Doride* of which Polifemo had fallen in love, the cyclope narrates by Homer in the *Odyssey*. One day a shepherd named Aci, son of Fauno, while he was grazing her flock near the sea he saw the beautiful nymph and fell in love. Polifemo, seeing himself refusing despite the many advances and the many love lines he dedicated to his beloved, one night, insanely jealousy having surprised them together hugged in a cave close to the sea, decided to revenge killing *Aci*. The terrible cyclope took a huge boulder from Mount Etna and threw it on its rival, killing him. As the nymph saw the body of Aci tormented, asked Zeus and the gods to transform the blood of the beloved into a river where she could immerse herself to rejoin her great love. According to the myth it was that the ancient river Aci originated, a short watercourse today no longer localizable due to the various and continuous eruptions of Etna that destroyed the course. Popular legend also tells that the body of the young sheperd has been broken up into nine parts, then fallen in the places where nine towns were born bearing the word Aci in their name.

Pocket mammut

The connection between myth, history and science may not be just a legend, thanks to finds, reconstructions and documents that today would explain the presence in



Sicily, thousands of years ago, of elephants, hippos and bears "Mediterranean inhabitants". This is the case of "Elephants Falconeri", the dwarf elephant or "pocket mammut" that lived 500,000 years ago in the island, unique specimen of 90 centimeters, to which a legendary as evocative story is linked: it would seem that the origins of the myth of the Cyclops, monstrous giants with a single eye in the center of the forehead, can be derived from the discovery of elephant skulls lived in prehistoric times within some Sicilian cave. there is, in fact, an extraordinary resemblance between the human skull and the elephant without fangs, much larger and with only one frontal hole, which represents the cavity of the proboscis. Then the first discoverers, not knowing it, thought of gigantic creatures with one eye. Here's how the legend is born, to which it is inspired the narrative of Polifemo and Ulysses, in the Odyssey.

C5 Power of inspiration

The Etna mountain, "la muntagna "Has always been painted in a picturesque way. From the early twentieth century it is imaginatively depicted in scientific studies. One of the oldest is in the "De Aetna" from **Pietro Bembo** (1496), a small treaty that blends scientific observations with classic suggestions. Here the Etna appears as a "pandoro-shaped" mountain with stylized flames. Generally always depicted schematically as a shaped cone with flame on the crater. Everything changes after 1669, when one of the most catastrophic eruptions of Etna reaches Catania and covers much of it. Change the topography of the volcano and open other temporary craters. For the first time, the images of the lava flow are no longer fanciful but realistic images. In May 5, 1787 Goethe follows the paths of Etna and describes them:



"...Following this good counsel, we set out early on a mule; and, continually looking behind us on our way, reached at last the region of the lava, not yet tamed by time. Blocks and jagged plates presented us with their stiffened masses, among which a chance road had been tracked out by the beasts. We halted on the first considerable peak. Kniep sketched with wonderful precision, what lay before us. The masses of lava in the foreground, the double peak of Monte Rosso on the left, right before us the woods of Nicolosi, out of which rose the snow-capped and slightly smoking summit.." (see "Goethe's travels in Italy")

In 1788 the French traveler **Dominique Vivand Denon** in his "Voyage en Sicilie" writes: *All that nature has of great, everything he has of enjoyable, all that's terrible, can be compared to Etna and Etna can not be compared to anything ».*



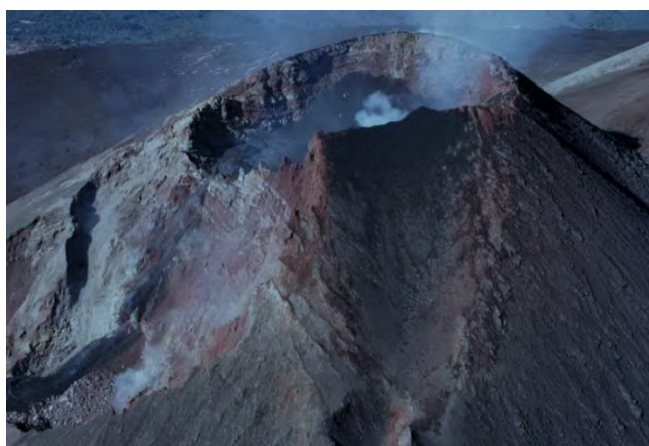


From 1800 onwards Etna is often painted as a charming background behind the Greek Theater of Taormina. In any case, all eruptions after 1669 generated paintings and depictions related to volcanic events: fire columns, smoke and lava flows. A snowy and majestic Etna is instead the subject of several engravings of the Dutch artist **M.C. Escher** (1932). Guttuso also paints the Etna exalting its romantic look (Etna eruption 1983), set in front of incandescent lava rivers. Even the movie industry was interested in the volcano, first with the "live views" of the early twentieth century, then with real movies set on the

slopes of the volcano freely taken from the works of the writers "Giovanni Verga" (Cavalleria Rusticana, Storia di una Capinera), "Luigi Capuana" and "Federico de Roberto" by several directors as Gallone, Zeffirelli, Lavia. Or movies freely drawn by Sicilian authors such as "La terra Trema" by Luchino Visconti, drawn by the Malavoglia of Giovanni Verga. In the early 1960s a wave of biblical blockbusters invaded the national screens. Etna becomes a privileged place for the most representative films of this genre. First, in 1961, comes "Robert Aldrich" to shoot some scenes from the film "Sodom and Gomorrah" produced by Titanus. The next year is the turn of "Barabbas" by Fleischer produced from "De Laurentiis". Two years later the great John Huston arrives with the "Bible". The great Poet "Friedrich Holderlin", the movie director "Jean M. Straub" and the theater director "Klaus Gruber", shoot two singular versions of "Death of Empedocle". The director "Klaus Gruber" and the actor "Bruno Ganz" film an updated and reinterpreted version of Holderlin, produced by Raitre under the title Fermata Etna". "Pier Paolo Pasolini" described the Etna volcano in a complete way. He compares it as the place of the soul, an inexhaustible source of dualisms and antitheses, the union of death and fertility, sacred and profane, snow and fire, light and darkness, heaven and hell. He comes to the Volcano for the first time in 1964 to make an episode of his "Il Vangelo secondo Matteo". With a wide panorama of Etna, Pasolini introduces the leitmotif of desert, lava, as a place of spirituality, anteroom of religiosity, then as a place of restlessness. Etna has inspired various literary works, among other things a lost tragedy of "Eschilio" called "Le Etnee" and a satyric drama "Il Ciclope" by "Euripide" inspired to the the Homeric figure of Polyphemus and set on the slopes of Mount Etna, but much more often Etna has inspired several poems. Pindar, Aeschylus, Plato –just to name some- all drew some inspiration from Etna. Pindar devoted a poem to it, the famous Pythian Ode, which celebrated the foundation of the town Etna. Aeschylus mentioned its eruption of 479 B.C. in his drama Prometheus Vincit. Plato (427-347 B.C.) paid a visit to the volcano and formulated the idea of a "central fire". In his Timeo he stated that the earth was melted by the heat of the sun and then cooled down into rock. Aristotle -who gave the name of "craters" to volcanic mouths- in his Meteorologica reported an eruption occurred on the island of Hiera

(Vulcano), describing it as a raising and swelling of the soil followed by a whiff covering the city of Lipari and the Italian coast with ash (Meteorologica, 367, 5-10). In 2000, the images of Etna make the tour of the world thanks to the British band Coldplay, who in the video of their single "Violet Hill" use the Sicilian volcano as a natural set. Among the most significant apps are **"Etna Live"**, an app that allows you to track from your Android phone, volcano humor changes in real time through data provided by the Institute of Geophysics and Vulcanology in Catania. **"Etna maps and paths"** give you all the information you need to explore the Etna in full autonomy. **"Roads to Etna wine"** is the App that allows you to know the ethnographic wine landscape through an "Augmented reality" experience. From one side to the other of the volcano there are routes of the "beautiful" and the "Good" of Etna. It will be nature, it will be the products of the earth and the traditions to tell the story of the volcano.

C6 Picturesque landscape



Etna stands superbly in the heart of the Mediterranean area in the shape of a gigantic cone, situated at a latitude slightly more northern than Tunisia. It is placed in Sicily's north-eastern side, near the coast, at the farthest southern borders of the Peloritani and Nebrodi mountains, that is close to the collision zone between the Euro-Asiatic plate to the north and the African plate to the south. Its huge mountainous mass is higher than 3,330 m., having grown in the last eighty years from its 3,263 m. a.s.l., assessed in 1932, to the present 3,335 m. of its south-eastern crater. It is Italy's highest peak, with exception of the Alps, and also Europe's highest

volcano.

Thus it represents a point of reference in the Mediterranean scenario: when the weather is fine, its imposing shape can be admired from the Aeolian islands, from Calabria, from the Madonie (the mountain range located in Sicily western side) from Palermo and from Sicily's most southern corner. Its umbra reaches the lake Pergusa, which lays in the middle of the island, about 100 km away from Etna. Mt Etna is an asthenospheric window generated by the collision of African and Eurasian lithospheres. Its structural development is closely related to the geodynamics of the Mediterranean basin and shows specific petrologic and geochemical features, related to the very complex structural geodynamic setting. It is composed of different edifices built around different volcanic axes during several geological events occurring over thousands years, which changed its shape, destroyed it and rebuilt it. The layers of volcanic soil undergo constant changes due to Etna's volcanic activity, which changes the shapes of vents, creates new barren surfaces and profoundly modifies the whole environment. The resulting landscape is singular, often displaying a series of elements clashing with one another: next to lush forests and more recent natural vegetation, sterile black lava fields stand out. Plants are forced to start over again their slow but tenacious colonization on lava flows, only to be destroyed yet again and once more colonize in a never ending process. This process involves a series of biological and ecological

phenomena, all remarkably important. Thus Etna represents a peculiar example of natural laboratory, where it is possible to study and investigate the ecological colonisation processes of ever-changing volcanic products.

Mount Etna presents a rare and easily accessible combination of geo-diversity and different volcanic phenomena, features and landscapes; its geo-stratigraphic evolution, still on-going through current significant geological processes, is as well represented in the east side of this volcanic complex by a typical great tectonic caldera (Valle del Bove) and its dikes. Mount Etna represents a polygenic volcano placed at the boundary of two collisional plates. Volcanic buildings, lava tunnels, lava fields and caves with special mineralization, and other landforms, directly witness the continuity of Etna eruptions in human history. Observed from afar, Etna appears as a gigantic perfectly cone-shaped mountain. But its real aspect is totally different. Above 2,500 m., the volcano doesn't show this regular conic form anymore, since at that altitude it is crossed by a tableland, on which the summit cone rises.



Furthermore, near the great central cone, Etna displays several hundred minor cones, the so-called "temporary" cones. Therefore, unlike most volcanoes, which smoke only from their peaks, Etna's slopes themselves appear to be smoking, due to the presence of several craters, offering a stunning and unusual show. On the occasion of very intense eruptions, the ash column it generates can reach very high heights which carried by the *wind can travel hundreds of kilometers*. Etna's overall aspect varies according to the observation point: from north and from south it appears as a regular cone covered with small temporary cones. From east –namely from the

sea- its magnificent shape appears to be softened by its natural amphitheater: the Valle del Bove. From west, the cone looks very steep, cut by the crater del Piano. As other volcanoes in the world, Etna shows a network of caves (more than 250) with stunning speleothems of different origin (reogenetic superficial caves or lava tubes and cave infrastructures). It is also possible to find volcanic caves, originated by explosive activities and expansion gases. "Grotta del Gelo", "Grotta degli Archi", "Grotta delle Palombe", "Grotta dei Tre Livelli", "Grotta dell'abisso del profondo nero" are some of the most well-known caves. Etna's lava caves host minerals, unique ecosystems and exceptional vegetal and animal species. The volcanic tubes show different peculiar morphologies: windows, striations, shelves, lava rolls and lava stalactites. It is possible to find several overlapping levels (Grotta dei tre livelli) or galleries which bifurcate in anastomosis or in parallel branches. Lava tubes sections can show different shapes as well: as a Norman arch (Grotta Cassone), as a pagoda (Grotta dei tre livelli), as a whale belly (Grotta Petralia). Men certainly used them during the Bronze Age (circa 4,000 years ago), as dwelling, shelters for animals and as burial places, so as it is proved by the several findings discovered in caves placed in prehistoric bed of lava, at the volcano's lower slopes. Lots of Etna's caves tell about enchanted treasures and bandits. But they were also settings devoted to meditation par excellence. Etna's caves are totally integrated with the volcanic landscape. In ancient time, some of these volcanic caves (prevalently on Etna's eastern side: Grotte di Case del Vescovo and Grotta della Neve or dei Ladri) were used –and are still being used– for pastoral purposes. A particular use of some of volcanic caves on Etna's slopes is the "niviera": in post-war period, the caves were used as natural freezers, to store snow in summertime and to commercialize it as far as Malta. After a certain period of time (days, months, up to years), at the end of

the eruption, variegated concretions take shape inside lava tubes. They are prevalently formed by sodium salts (Thenardite (Na_2SO_4) and Mirabilite ($\text{Na}_2\text{SO}_4 \cdot 10\text{H}_2\text{O}$)). These concretions are caused by water infiltrating into lava flows, thus melting the different chemical elements present in new lava. Volcanic fracture caves originate along the eruptive fissures through which the lava pours out.

At the same time along the fractures the degassing process creates several little vents, composed of pyroclastic and lava scoria joined together (called “hornitos”), where at lower altitudes new lava flows out. When the eruption ends, the drain of lava leaves a film on the fractures’ wall. Generally, the cave’s fractures show a vertical development deeper than 100 m., and that’s why it is dangerous to go into these unstable structures through the hornitos entrance. Etna’s volcanic caves are well known from time immemorial, to the extent that they have become a myth.

C7 Particular ecosystem

Etna is an extremely active volcano. Every eruption is characterized by explosive activity and effusion, during which an enormous quantity of material is ejected. It has been calculated that in the course of 10 years (1977-1987) there have been 41 volcanic eruptions with the emission of an average of 540 million of cubic meters of material. This has had a great effect on the vegetation, which is constantly reduced. Some plant communities cover smaller and smaller areas, while others have completely disappeared.



Extensive forests are replaced by sterile lavas and new morphologies: small volcanic cones, ridges and depressions. The continual changes in the forms of the relief and the substrates mean that the plants are constantly obliged to re-begin their slow, but continuous, colonization. New types of vegetation are, therefore, to be found on the new lava substrates. Sometimes, lava flows don’t cover the territory evenly, sparing some vegetation patches, of different sizes, called *dagala* (“island” in Arabic) which testify the vegetation life prior to lava flows. They create refugee areas for vegetation and animal forms of life, allowing their further development. Thus the *dagala* show such floristic-vegetation

and faunal peculiarities, as to impose that no anthropic interventions be allowed. Plant life on Etna is a complex assemblage of species which have diversified according to the varying factors of volcanic soil, climate and human presence. In the area of an active volcano the layers of soil undergo continual changes due to eruptions, which greatly alter every aspect of the ecosystems. Although the climate is of a Mediterranean type, it varies according to the altitude conditioning the type of plant life. The landscape that results from all these factors is therefore singular. Neighbouring communities may contrast with one another: next to the forests and the more recent natural vegetation there may be farmlands or black lava fields, where plant life is forced to start over again its slow but tenacious colonisation, only to be destroyed yet again and once more colonise in a never ending process.

The changes in plant species composition according to the altitude are determined, above all, by varying climatic factors and allow us to recognise on the slopes of the volcano belts of vegetation, each characterised by precise aspects of the plant ecosystem. At higher altitudes the vegetation takes on a more individual identity with the presence of communities which are endemic to Etna’s territory.

It is possible to identify several altitudinal zones which essentially reflect the volcano’s Mediterranean location. As for the nominated property and buffer zone, we can recognize one belt (belonging to the

first Basal Mediterranean zone) and two different zones. This belt includes deciduous oak stands of *Quercetalia pubescentis*. Where there is an old lava substrate, the *Quercus ilex* vegetation types are to be found at much higher altitudes, almost coming into contact with the beach woodlands. The wood vegetation is dominated by *Quercus pubescens* s.l.. As regards the forest vegetation of this belt, it is important to mention the *Pinus laricio* Poiret pine woods, at times favoured by man, and the chestnut woods, which were originally introduced by man and are also widespread in the *ilex* belt. Both



woodland vegetation types are not floristically well defined. The mountain zone (mainly falling within the core zone) is generally referred to as the “beech belt” but on Etna, where the beech is at the extreme southern limit of its distribution range, it is spread in a very fragmentary way. The present beech woods on Etna can, in fact, be considered relicts of the much bigger formations which were widespread in the post glacial period when the climate was colder and wetter.

In the lower part of the mountain-Mediterranean zone, on irregular substrate and in the most xeric locations, a pine species (*Pinus laricio*) is well represented. It is found in many vegetation communities, from the first pioneer stages on new lava substrates to the more, mature forest stages represented by *QuercoFagetea* communities. The Calabrian *laricio* pine forest has a very important role in the lava flow colonisation process and generally represents a dynamic state that evolves according to altitude, towards the deciduous oak forests at lower altitudes, and towards the beech forests at higher altitudes.

In the less xeric and relatively cool locations of the mountain plane, the Etna birch (*Betula aetnensis* Rafin.) is represented. Formations of this species, which is considered to be endemic, are very widespread on the eastern face of the volcano. It tends to be found in floristically impoverished open brushwood rather than woodland.

In the upper part of the mountain-Mediterranean zone the forest vegetation disappeared some time ago because of man’s activity. They have largely been replaced by the vegetation typical of the high mountain zone (*Astragaletum siculi*). *Genista aetnensis* is very widespread. This species is particularly suited to the colonization of young lava substrates and therefore constitutes primary vegetation, keeping the role of secondary vegetation, however, in the areas that at one time were occupied by forests. *Genista aetnensis* is an endemic species to Mount Etna, it forms the Etna broom bushes. These bushes are linked to the meso-Mediterranean or supra- Mediterranean bioclimatic conditions, and they become established on little-evolved soils, well drained and rather xeric, often made up of sand and volcanic lapillus. In the high mountain areas of Etna, the Mediterranean climate has a strong influence, which makes it possible to recognize a high Mediterranean zone. Its lower limit is difficult to establish because of the fact that man’s activity has resulted in the lowering of the upper limits of the forest. The high-Mediterranean belt on Etna is characterized by a discontinuous camephyte vegetation dominated by an endemic thorny species: *Astragalus siculus* Biv. This vegetation (*Astragaletum siculi*), with its great cushions can make lapilli and volcanic sands firm. Present at altitudes up to 2400-2450 m, it characterizes the lower belts of the highmountain zone. The upper belt is characterized by a very poor endemic community of pioneer species. In rock locations, *Berberis aetnensis* Presl and *Juniperus hemisphaerica* Presl and, at lower altitudinal level, *Genista aetnensis* and *Adenocarpus bionii* Presl are present. At the upper limit of this pioneer vegetation, which goes up to an altitude of 2900- 2950m, few

plants that manage to adapt to the difficult conditions (*Hypochoeris robertia* Fiori and the endemic *Anthemis aetnensis*, *Senecio aetnensis* Jan, *Rumex aetnensis*) are continually subjected to the destructive action of the volcano, which, with the discharge of material and the exhalation of gases, often prevents them from surviving. Above this area the survival of any type of plant life is impossible: it is the area of the terminal cone, from 3000-3050 m to the top (3370 m), and we have defined it a “volcanic desert”. Here the forces of the volcano reign undisturbed. Due to particular ecological conditions, related to high elevations combined with volcanic activities, Etna’s fauna is quite peculiar and in many respects unique in Sicily. Being the geologic evolution of Mount Etna relatively recent, the colonization process by animal populations started from dispersive individuals from Peloritani and Nebrodi mountains. For this reason Etna mainly hosts new endemic species derived from European and Apennine populations isolated during glaciations in the Quaternary era. There are also few paleoendemic species immigrants from contiguous areas that in an adequate span of time (a million-year period) have given origin to several different species and subspecies. Many endangered species of vertebrates (included in “Appendix IV CEE 92/43 directive”) live in the rocky relief of Mount Etna such as the wild cat (*Felis silvestris*), the hystrix (*Hystrix cristata*), the insectivore *Crocidura sicula* and eight species of bats among Mammalia. To these species we can add the marten (*Martes martes*), also protected. The wild cat, a very rare species of Carnivores, had almost disappeared in the last century and has increased its populations only recently, with the institution of the regional Etna Park. Among birds, the protected species included in “Appendix I CEE 79/409 directive” living on Etna are: the golden Aquila (*Aquila chrysaetos*), the Rock Partridge (*Alectoris graeca withakeri*), *Falco peregrinus*, *Caprimulgus europaeus*, *Calandrella brachydactyla*, *Lullula arborea* and *Anthus campestris*. On the whole, however, the species of birds protected by international laws are more than seventy. Relevant species of birds are in particular the Sicilian Long-tailed Tit (*Aegithalos caudatus siculus*), that some authors considered as endemic to Sicily (PRIOLO 1979), and the common crossbill (*Loxia curvirostra*), a localised species nesting in the natural woods of *Pinus laricio* of Mount Etna. There are nine species of reptiles included in Appendix IV CEE 92/43 directive, among which Hermann’s tortoise (*Testudo hermanni*) and the aquatic tortoise *Emys orbicularis* are to be mentioned. Etna’s strictly endemic species of invertebrates mainly belong to Arthropods. A few species belong to Diplopods (*Brachyiulus aetnensis*, *Cylindroiulus aetnensis* and *Buchneria sicula*). The highest number of other endemic species and subspecies belong to Insects (the total number of known species of which amounts so far to 1,765), such as *Ectobius lagrecai* among Blattoidea, several *Etheroptera* (*Alloeotomus aetneus*, *Psallus aetnicola* and two subspecies, *Scioris cursitans pallidicornis* and *Sigara nigrolineata siciliana*, belonging to species with Euro-Sibirc distribution) and *Homoptera* (*Anoplotettix aetnensis*, *Anoplocephalus punctum siculus* e *Rhytistylus proceps lavicus*). *Coleoptera* list many species with adaptations to different environments, such as *Lionychus fl eischeri focalirei* (*Carabidae*) that lives on the top of the volcano in the channels where meteoric water flows, *Medon perniger fraudulentum* (*Staphylinidae*) inhabiting woods, *Buprestis aetnensis* (*Buprestidae*) typical of *Pinus laricio* woods and *Attalus aetnensis* (*Melyridae*) common in open hill and mountain habitats. Many Sicilian endemic species, exclusive to north eastern Sicily, are present such as *Phyllodromica tyrrhenica* (*Blattoidea*), *Platyderus canaliculatus* (*Carabidae*) of litter layers of Nebrodi and Etna forests and *Chlaenius borgiai*, present also in Madonie Mts. Some neo-endemic taxa phylogenetically related to species with European and Eurosibirc geonemy increase the biodiversity of animal communities of north eastern Sicily and Etna’s relief including the *Staphylinidae* *Megalinus sabellai* and *Leptobium siculum*. Even more relevant for their biogeographic significance are some species with European or Apennine geonemy, such as *Leptophyes punctatissima* *Stenobothrus lineatus* and *Poecilimon laevissimus* (*Orthoptera*). In addition, *Cyrtopeltis geniculata* (*Etheroptera*),

distributed only in the Alps and Etna, and *Oncopsis subangulata* (Homoptera) an Euro- Sibiric species that lives and forages on birch trees. Among Lepidoptera, we find *Anthocaris damonae*, in Sicily present only on Mount Etna, and *Lysandra icarius* observed in Sicily in one site only (Rifugio Citelli). Among the very numerous Coleoptera the species present only on Etna are *Abraeus parvulus* (Histeridae), *Ampedus coenebita* (Elateridae), *Exomala leonii* (Rutelidae), *Anthaxia giorgioi* and *Agrilus albomarginatus* (Buprestidae). This animal biodiversity, certainly of great cultural and scientific significance, deserves to be protected, together with the habitats to which it is linked, as a valuable heritage for the future generations.

C8 Mediterranean cultural identity

Etna has a “multifunctional” agriculture, the result of an interaction among environmental, historical, social and economic factors. In this context, farmers play the role of “guardians” of the territory and “defenders” of traditional environment and landscapes.

The preservation of this mountain agriculture is a crucial condition for conserving the protected area’s environment and the economy of local communities and their cultural identity.

The protection of environmental resources of this part of the territory, and thus of the core zone, can only be guaranteed by maintaining and improving those traditional and compatible activities which typify it. The main crop is represented by intercropped fruit-trees stretching from 600 m a.s.l. up to 1,400 m a.s.l.. Etna’s is a mountain agriculture, made of tilled lands set among forests and lava flows, playing a vital environmental role, both in terms of soil protection and landscape characterisation. Crops distribution is related to altitude, to local pedoclimatic characteristics and slope exposures. We can distinguish:

- Nut-trees, grown with dry farming techniques on terraced land on the eastern slope, also in promiscuous farming, in Etna’s piedmont belt comprised among the town of Milo, Sant’Alfio, Mascali, Piedimonte Etneo, Linguaglossa, Castiglione di Sicilia, on a surface of about 1,000 ha.
- Vineyards, grown with dry farming techniques on terraced lands (old eruptive cones) or on steep slopes, also in promiscuous farming on all slopes, save for the western one, falling within Etna’s DOC’s zone. Among the most spread varieties, we can mention nerello mascalese and nerello cappuccino from red grapes, and carricante, insolia and minnella from white grapes.
- Intercropped dry-grown fruit-trees on terraced steep lands (old eruptive cones), with prevalent use of local varieties. Among the latter, the apple cola (perhaps named after the Abbey of San Nicola La Rena, current seat of Etna Park, where it was widely grown and spread). Gelata, gelata cola, rotolo, turco or regina, lappio and cirino are other varieties. Pear trees are present in a wide traditional variety as well, such as farcuneddu, bianchetto, iazzolo, cavaliere, ucciardona, spinello, and virgulusu. Cherry trees, in the varieties of mastantonio, maiolina, raffi una, cappuccia imperiale, castagnara, Etna’s production is valorised by the denomination “I.G.P. Ciliegia dell’Etna”, sorb trees, azarole and medlar-trees are also spread on Etna.
- On the western slope, pistachios valorize those areas which are unfit for other rural species, thanks to two peculiarities: a remarkable resistance to drought and an adaptation capacity to steep and shallow soil. Such characteristics are enhanced by the local use of the terebinto as rootstock, which develops imposing root systems even among rocks. There are several local varieties. Their crop is popular in the town of Bronte and Adrano, covering a total surface of about 1,100 ha.

- Olive trees. Often intercropped on terraced lands, they are grown up to 1,000 m a.s.l., in the territory of Ragalna, Belpasso, S.M. di Licodia, Randazzo e Linguaglossa. The cultivars used are devoted to oil production, among which nocellare etnea, and local ones such as moresca, ogliadora, biancolilla, randazzese, and brandofi no.

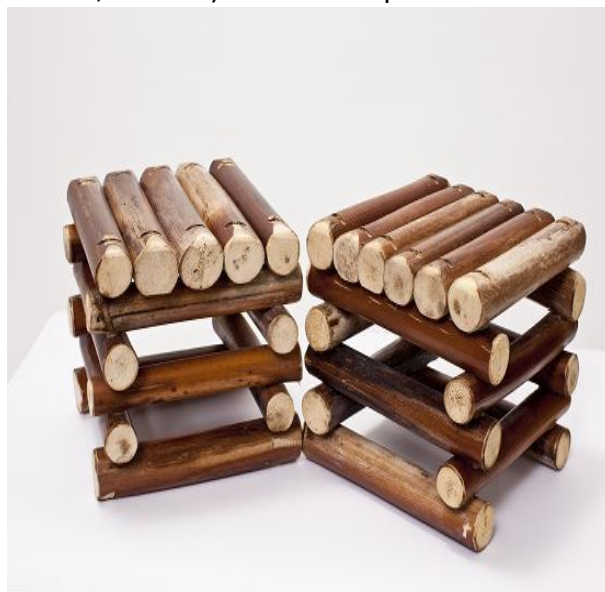


Etna's production is valorised by the denomination "D.O.P. Monte Etna". In Maletto and Bronte, strawberries and wild-strawberries farming is spread and also performed by means of local ecotype Etna is characterized by a very special cultivation system: "the terraces". They are manual works, made with the elimination of excess rocks and the terrace's hardness and then with the construction of the base of the walls and the overlapping of the stone blocks. When the "drywall" was completed, the terrace was filled with fertile soil. The connection between the terraces is ensured by lava stone staircases. While the terraces were connected to each other by the "rasula", a wide passage reinforced by lava paving stone. Terraced crops are present in almost all of the Etna slopes except the western ones, where the presence of ancient lava flows and the most impervious ground have led to the most

stubborn farmers to create the "chiuse", cultivable spaces of few square meters, bordered by drywall walls, useful to the life of one or two fruit plants. Etna territory does not include uses, dances and songs, typical traditional dialect because it is closely related in particular to Sicilian and Catania ones. On the Etna, every village, every town has its patron saint. "Sant'Alfio, Filadelfo e Cirino" in Trecastagni, "San Mauro" in Viagrande, "San Filippo" in Calatabiano among the most significant ones and this often, as well as generating religious festivals mixed

with profane rites, also influences the cuisine and the typical dishes. Other religious festivals, especially easter, also carry many culinary traditions (Easter in Randazzo, Adrano) as well as special moments in the life of the countryside, such as grape harvest

(boiled wine, wine mustard) or the "smielatura" (the honey extraction). Rich is the production of typical sweets that use the nuts of the hills of Etna. Almond paste, hazelnuts and pistachios. Nougats. Crunchy. The colored and oddest forms' "frutta martorana" a traditional marzipan sweet. Sweets and cookies with spicy aromas of cinnamon, cloves and citrus essences. Almost all the Etna Municipalities make a festival of typical products (Chestnuts, mushrooms, strawberries, pistachios, cherries etc.) distributed in different periods of the year, depending on the production period. Typical ethnic crafts use raw materials found on volcanoes, first of all the lava stone that allows craftsmanship and jewelry making and souvenir production and with a more industrial processing the production of furnishings (even in combination with the ceramic technique), often mounted on skeletons in wrought iron, another typical workmanship of etna. A technique of processing a particular



product of Etna, “the Ferula” (*Ferula communis* L.) a spontaneous plant of Etna, allows the production of particular stools; while from the wicker and sicilian cane entanglement are made baskets of various shapes and sizes. These forms of poor craftsmanship are, however, tied to men that realize it, often elderly, and risk not being handed down and then getting lost.

C9 Sustainability and anthropogenic environment

Most of geological phenomena connected to volcanism are represented in the nominated property (cones, lava flow, hornitos, caves, tectonic valleys, dikes, etc.) and their conservation is thus guaranteed. The volcano Etna is a territory of enormous naturalistic value at world scale. It is one of the very few active volcanoes in Europe. The volcanic dynamism, due to the continuous overlapping of lavas to more mature environments already colonized by vegetal and animal organisms and by microorganisms, creates very peculiar life conditions: only species provided with special adaptations allowing them to survive also in extreme and highly mutable environments can live in such conditions. Etna is well higher than 3,000 m above sea level, one of the highest mountain in Europe. As a rule, at very high altitudes only particular species, often absent at lower levels, are adapted to live. In the case of Etna the presence of high altitudes in a geographical area located in the most southern part of Europe has allowed, among other things, the survival of species arrived in Sicily from northern countries during glaciations and successively, when glaciers retired, disappeared in a large part of Europe except that in the highest peaks of the mountains where the climate was still apt to their life. These relict species, after much time and due to their geographic isolation, have assumed characteristics of their own, different from those of their ancestors, and have become new species or subspecies, endemic (that is present only in a given territory) to Etna territory. Also due to this reason, therefore, Etna is very rich of endemic taxa relative to its flora and fauna. On Etna the European beech (*Phagus sylvatica*) reaches its extreme southern limit and the beech forests, relics of post-glacial periods colder and more humid than the present one, reach the highest altitude (2,400 m above sea level) in Europe; the same can be said also for several endemic vegetal and animal species which extend their habitats up to more than 3000 m. Due to their great naturalistic importance, the high-mountain areas of Etna have been placed under a strict protection regime, with the institution in 1987 of the Regional Park of Etna, as areas of integral reserve (A Zone); this core area of integral protection, now all of public property, is surrounded by an area with a strict protection policy (B Zone), which assures the integrity of the core area. Moreover, many areas of the natural park have been included in the European ecological network “Nature 2000”, as SCI (Sites of Community Importance) and SPA (Special Protection Areas). Such measures are able to preserve Etna’s naturalistic emergences. The ceaseless volcanic activity, brings about the steady replenishment of the territory. This and the regulations in force –which prohibit that any form of activity be performed in the above mentioned area- ensures the conservation and safeguard of all geologic emergences. In particular, the Core zone’s integrity is guaranteed by a series of restrictions which, for instance, forbid to bring in motor vehicles –apart from few authorised vehicles for scientific research or civil defence activities-; to carry out mining and water draining activities; to modify water regimes; to take soil, sand and any other material. The core zone’s boundaries are well defined (often fenced off) and it is accessible through passages managed by the personnel of the Regional Corps of Forest Rangers. Here the anthropic presence is limited to hiking activities on path systems, maintained by the personnel of the State Forestry Regional Authority. Several ‘biodiversity hotspots’ listed as SCIs (Sites of Community Importance), and SPAs, among the Nature 2000 Network, have been established in Etna Park. Most of them are located in the highest part of Etna slopes, which they cover almost completely, and are



included in the Park's zone A (core zone), where an integral protection is granted. In such sites the habitat conservation is also favored by their being public property. A strict protection policy is also guaranteed in sites other than zone A (core zone), since any possible environmental transformations are subject to the Park's authorization, upon a positive judgment of a scientific committee. Particular attention is generally devoted to avoiding any habitat interruption and to creating ecologic corridors in the low altitude

areas as well, when some transformation is needed. A complete wild flora and fauna protection is granted by the Park regulations, which in A (core) and B (buffer) zone forbid hunting, introduction of alien species, removal of living organisms for whatever purpose and any kind of human disturb.

The integrity maintenance of forest surfaces in the core zone is guaranteed by the Park's regulations in force, which don't allow any activity regarding forest uses, thus preserving its status quo. Natural resources are to evolve freely, any form of disturb being avoided, so to leave the forests' auto-organisation and thus increase composite and structural diversity.

Moreover the regulations in force allow silvicultural activities aimed at the restoration of the woods' original aspects, in case human interventions have endangered them. Such restoration has to be carried out with modalities that guarantee a well-balanced evolution of biocoenosis. All woods in core zone belong to public authorities. In the buffer zone some woods belong to privates. They are traditionally managed as coppice, in compliance with the regulations aimed at forests' indefinite preservation.

Essentially, in the core zone no agricultural activity is carried out, whereas in the buffer zone the specific environmental conditions and the presence of Ente Parco have made it possible to preserve traditional agricultural landscapes.

The park's regulations provide for the safeguard of traditional agricultural activities and restrict the realization of whatever simple structure, subordinating it to agriculture. Thanks to the establishment of Ente Parco, in the core zone, the realisation of new infrastructures is not permitted, and pre-existing anthropic activities –not satisfying the requirements of environmental protection– are excluded. Moreover, thanks to the regulations in force and the Park's technical guidelines, some pre-existing structures have been made attuned with the surrounding environment. After the Park's establishment, in the buffer zone, the constructions allowed are only the ones functional to agricultural activities, with a preference for conservative restoration of the existing traditional building patrimony.



The Park's guidelines for the realisation of new simple structures (rural buildings, dry stone walls, rural road network) are particularly careful in setting precise constructive typologies, in compliance with Etna's territorial traditional canons, as well as the use of local and eco-compatible stone materials.

The pressure of visitors is connected to the presence and distribution of tourist/visitor flows in the

territory and to its accessibility conditions. The Core zone is accessible only through controlled passages and here only paths are present. Moreover there are seven huts (Saletti, Galvarina, Poggio La Caccia, Monte Scavo, Monte Maletto, Monte S. Maria, Timpa Rossa), pre-existing to the Park's establishment, which can be freely used by visitors and managed by the Corpo Forestale (Forestry Authority, the regional surveillance agency). In the Buffer zones there are pedestrian paths and roads suitable for vehicles; road junctions and car parks; main pedestrian path network. Moreover, some Punti Base, base points, are located in the Buffer zone: they are structures which allow the fruition of the Core and Buffer zones, guaranteeing the territory's preservation and its promotion. The base points' functionality is assured by their facilities: visitors centres, car parks, picnic areas, equestrian touring areas. Tourists can visit the nominated property by their own, but guided visits are advised in some areas not easily accessible and which can lay visitors at open risk. The two delimited zones C/Altomontana, that are part of the Buffer zone, called "Area Rifugio Sapienza" and "Area Piano Provenzana", are accessible by different means:

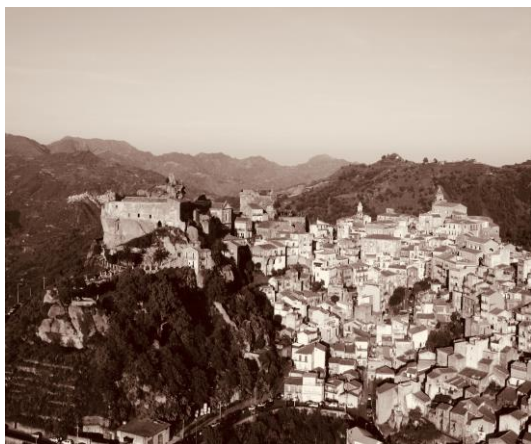
- chair lift;
- cableway;
- ski lift facilities;
- hiking;
- nature trails with specialised guides;
- authorised vehicles for tourism and/or scientific and civil defence purposes

C10 Historic places

There is little information regarding the prehistoric inhabited area of Etna. It was probably a difficult territory to live due to the frequent and destructive volcanic activity. Later, however, because of its strategic position in the center of the Mediterranean with the particular fertility of the places and its climate attracted conquerors from all over the ancient world. It seems that the eastern part of Sicily had been colonized by the "Siculi", a population coming from the continental peninsula. In 729 BC arrived the first Greek settlers which, probably, found an almost uninhabited territory. "Aitna" is the name given to the mountain by the ancient Greeks from the ancient word "aitho" that means "burn". The coast became a battlefield between Syracuse and Athens, and during this period the defeated populations retreated towards the inland creating new residential areas, adding to the already settled "Siculi" population. During the First Punic War in 263 BC begins the period of Roman conquest. The barbarian invasions also characterized a dark period for this part of Sicily, until the Arab invasion, ending in 902 with the conquest of the city of "Taormina". Norman, Swabian, Angevin, Aragonese, Spanish, and Austrian followed, until the establishment of the Kingdom of



Italy in 1861. Each of these occupations left not only destruction but also great splendor both politically and economically, but also architecturally and culturally. The domination of these populations have left an indelible mark on the development of the territory. Life around the volcano also develops and is affected by the influences of the domination of the past. The hilly territory around Etna has been in the past an excellent haven and first defense stand. Around the mountain many fortifications are built and today we have “the road to the Etna castles”, an itinerary through the Etna castles, from the Arab Norman castle of “Calatabiano” to the Norman-Svevo castle of “Castiglione di Sicilia”, from the Svevo Castle of “Randazzo” at “Nelson Castle” as a testimony to the English presence in Sicily. The diffusion of



Christianity and the deep belief led to the development of many churches which today represent an immense historical, artistic religious heritage. Christianity spread very rapidly in Sicily, Among the most famous martyrs are Sant'Agata patron saint of catania and still in Catania Sant'Euplio. The “Duomo di Catania”, Cathedral Basilica in honor of Sant'Agata, built in the Norman period in the place of the martyrdom of the Holy Saint is a precious late Baroque example. The Church of "Santa Maria della Provvidenza" in Zafferana with its beautiful lava stone staircase. The Church of "San Martino" in

Randazzo with its lava stone bell tower. Each village has several churches in its territory, ancient or modern, and all contain a testimony of the domination of the past. All the towns around Etna territory have an ancient origin and a rich history dating back to Sicilians, the Normans or the Greek populations who found a friendly and fertile territory along the slopes of the mountain where they thrive despite continual and sometimes destructive volcanic eruptions.

Synthesis of the extraordinary-emblematic characteristics of the mountain

C1 Spatial cohesion. Volcano is the first element of spatial cohesion. The lava stone, as defined, is a stone suitable for building, often used together with Siracusa's white stone in a sophisticated bicromia that characterizes all the churches of the villages around Etna mountain. We should consider Etna for this element of cohesion. All the inhabited centers on the volcano, from the slopes to the sea, have been affected by volcanic eruptions. The quality of the volcano's nature has created a strong "territorial cohesion" among the inhabitants.

C2 Institutional recognition. On 21 June 2013, UNESCO registered Etna on the World Heritage List. Moreover, most of the Etna territory, is a protected area :Etna Regional Park, SIC and ZPS protected area, Natura 2000.

C3 Reputation. Etna is one of the largest active volcanoes in the world Many are also the scientific interests of the volcano, there are more than 60 volcano monitoring stations and there are a large

number of international scientific expeditions that come to Etna. Typical quality productions cultivated on Etna. Etna was the first name of controlled origin to obtain recognition of the designation of origin, the Etna DOC, in fact, has been recognized with DPR of 11.08.1968.

C4 Legends and myths. The volcano is rich in myths and legends. For the Greeks Etna was a mountain (oros) and, as it had been for other mountains, was considered sacred. ; it was born of the union of Heaven (Ouranos) and earth (Ge) and belonged to a generation that preceded the Titans and gods of Olympus.

C5 Power of inspiration. The Etna mountain, "la muntagna" Has always been painted in a picturesque way. The French traveler **Dominique Vivand Denon**, the Dutch artist **M.C. Escher**, **Goethe**, **Guttuso**, some of the famous characters who were inspired by the mountain. Not only the movie industry was interested in the volcano in 2000, the images of Etna make the tour of the world thanks to the British band Coldplay, who in the video of their single "Violet Hill" use the Sicilian volcano as a natural set.

C6 Picturesque landscape. Its huge mountainous mass is higher than 3,330 m. . It is Italy's highest peak, with exception of the Alps, and also Europe's highest volcano. It represents a point of reference in the Mediterranean scenario: when the weather is fine, its imposing shape can be admired from the Aeolian islands, from Calabria, from the Madonie (the mountain range located in Sicily western side) from Palermo and from Sicily's most southern corner. Mount Etna presents a rare and easily accessible combination of geo-diversity and different volcanic phenomena, features and landscapes.

C7 Unique ecosystems. Etna is an extremely active volcano. The continual changes in the forms of the relief and the substrates mean that the plants are constantly obliged to re-begin their slow, but continuous, colonization. New types of vegetation are, therefore, to be found on the new lava substrates. Plant life on Etna is a complex assemblage of species which have diversified according to the varying factors of volcanic soil, climate and human presence. The landscape that results from all these factors is therefore singular.

C8 Particular cultural identity. Etna has a "multifunctional" agriculture, the result of an interaction among environmental, historical, social and economic factors. In this context, farmers play the role of "guardians" of the territory and "defenders" of traditional environment and landscapes. Etna territory does not include uses, dances and songs, typical traditional dialect because it is closely related in particular to Sicilian and Catania ones. On the Etna, every village, every town has its patron saint. "Sant'Alfio, Filadelfo e Cirino" in Trecastagni, "San Mauro" in Viagrande, "San Filippo" in Calatabiano among the most significant ones and this often, as well as generating religious festivals mixed with profane rites, also influences the cuisine and the typical dishes.

C9 Sustainability and anthropogenic environment . The volcanic dynamism, due to the continuous overlapping of lavas to more mature environments already colonized by vegetal and animal organisms and by microorganisms, creates very peculiar life conditions: only species provided with special adaptations allowing them to survive also in extreme and highly mutable environments can live in such conditions. The ceaseless volcanic activity, brings about the steady replenishment of the territory. The

integrity maintenance of forest surfaces in the core zone is guaranteed by the Park's regulations in force, which don't allow any activity regarding forest uses. The Park's guidelines for the realisation of new simple structures (rural buildings, dry stone walls, rural road network) are particularly careful in setting precise constructive typologies. In the Buffer zones there are pedestrian paths and roads suitable for vehicles; road junctions and car parks; main pedestrian path network.

C10 Historic places. There is little informations regarding the prehistoric inhabited area of Etna. Because of its strategic position, however, in the center of the Mediterranean with the particular fertility of the places and its climate attracted conquerors from all over the ancient world. The domination of these populations have left an indelible mark on the development of the territory. Life around the volcano also develops and is affected by the influences of the domination of the past. Around the mountain many fortifications are built and today we have "the road to the Etna castles", an itinerary through the Etna castles, from the Arab Norman castle of "Calatabiano" to the Norman-Svevo castle of "Castiglione di Sicilia", from the Svevo Castle of "Randazzo" at "Nelson Castle" as a testimony to the English presence in Sicily

PART III

III.1 Tourism infrastructure and supply



The accommodation capacity is mainly given by small B&B, holiday homes, farmhouses and villas born a little bit everywhere in the towns and villages around the countryside in the last twenty years, due to the growing touristic demand. Several hotels were already present and some were built in recent years, usually small structures with 10/30 beds, there was a good development without any real coordination without however taking into account the contiguous development of tourist infrastructures. They are usually structures

that arise from the renovation of existing old dwellings, taking into account the local architecture and tradition. The first problem is, in fact, the lack of basic services for the tourist. For example, tourist

billboards or tourist information points. Lack of information in a foreign language. Addition to this is the lack of opening times for public monuments. As for the gastronomy there has also been a good development of restaurants and trattorias also of excellent level that offer good local cuisine. The type of sporting tourism practiced is very varied although still in a not very advanced stage. Thanks to the shape of the territory, to the watercourses, you can practice a good variety of sports: from



skiing, even if practiced for short periods of the season and sometimes blocked by volcanic activity, both South and North South have a cable car, to hiking, to mountain-bike, to horse-riding, to nordik walking, and of course mountaineering, hiking, trekking, climbing, birdwatching. On the northern slope of Mount Etna, a 650 m a.s.l., Between oaks and DOC vineyards stands the 18-hole golf course "il Picciolo". Kayaking, body rafting and canyoning are practiced along the Alcantara River which runs along the northern part of the volcanic territory for

much of its path. Likewise, they are mostly small agencies or associations that run sports activities beyond, of course, the association of the Alpine guides. We usually find a good variety of accommodation ranging from the room to rent to the B&B, from the villa to the farmhouse, from the hotel to the camping. This is still a limited capacity, most of the tourist flow is directed towards the coast, in fact, compared to nearly two million overnights stays along the coast, we have only about 210,000 overnights stays on the whole Etna territory. Most visits take place as daily excursions without any overnight stays in the area. A good attraction is given by the various festivals and events that are present in the area for most of the year, in addition to religious festivals that have a particular importance especially for the celebrations of the patron saint of the city. The festivals promote ecotourism made of traditional products and find a vast audience increasingly interested in quality products and the so-called "zero mile". Very interesting are the events related to the fairs of the territory, also because they are able to attract an increasing number of visitors. The "Festa dell'Etna" dedicated to the mountain, the "Ottobrata", which is the feast of the porcini mushrooms typical of the mountain areas, which lasts for the whole of October. Could not miss the various festivals dedicated to grape harvest in a territory rich in DOC wines, among them the most important "Calici di Stelle", night dedicated to wine-tasting of the Etna wines. Just the development of wine production over the last twenty years is giving a



big push to the “wine tourism”. Etna with its 400 DOC wine cellars is becoming a world attraction point. Wine tourism is an eco-sustainable tourism and it is above all a quality tourism which develops on a unique territory, that is above a volcano, becoming an exceptional attraction. Problems related to the development of the internal area are mainly related to access. Sometimes lacking of road signs, lack of public links between the coast and the hinterland and the lack of adequate tourist information. In addition, entry to the upper part of the volcano is still managed by a single company that does not allow the development of competing companies which could increase the tourist offer. A good attempt to link the coast with the internal countries was done by the “LAG Terre dell’Etna e dell’Alcantara” with the creation of the project "Traveling in rurality". A unique project that aims to be a pilot study for the development of the rural tourist offer. The project uses the old "drop on, drop off" system with convertible coaches already present in the tourist cities of the world, the novelty here lies in the fact that you can visit, instead of just one city, different cities of the Etnean region up to 2000 meters on the volcano having the opportunity to make a day excursion or stay overnight in one of the various towns touched by the tour. Moreover the lack of a marketing system, promotion and above all the link between the various public and private tourist companies has certainly affected negatively the tourist development especially when compared to the tourist flow on the coast.



III.2 Tourism Operators

The offer of tourist facilities is mainly managed by private individuals who restructure small houses especially in residential areas. Usually booking management is direct and does not pass through local tour operators. In the last few years, a lot of sales have been made, for example, through the most popular booking.com or Airbnb. Most bookings will continue to be made, however, by direct request or by word of mouth. The type of rural tourism tied to the territory of the volcano finds no reason in the interest of big tour operators who prefer the coastal area and especially the surroundings of “Taormina”, both for the attraction and for the accommodation capacity. The tourist offer of the hinterland is very fragmented and, usually, uncoordinated. The accommodation capacity is mainly given by small B&Bs, apartments, holiday homes, farmhouses and small hotels with 20/30 beds that are born especially in the historic centers without, however, damaging the artistic heritage of the place. The biggest problem arises from the fact that, above all, international tourism is limited to seasonality which is reflected in seaside tourism and therefore of the summer months. Even



today, an alternative type of tourism that can create motives of interest to visitors and attract them throughout the year has not been effectively valued. In a territory like that of Etna, among other things, has been recently declared heritage of humanity for one part of it, there is no great interest in ecotourism and few are the operators who offer this opportunity. Ecotourism and outdoor activities means to offer not only a trend but above all a unique experience of an active volcano. Tour operators in the area, as well as hospitality operators, operate mostly casually and not cooperatively. Even using the Internet probably needs some coordination to let you know a territory rich in historical monuments, landscapes and uncontaminated nature, suitable for being lived all year long. It feels that the territory is not adequately managed and valued effectively. Another interesting type of tourism is that of extreme sports practiced in the territory, from winter sports to extreme marathon races. For mountain



excursions we find a good offer from off-road carriers. With different types of jeeps you can reach various parts of the volcano territory. But there is still a dispute which over the years has been able to block the expansion of operators in terms of central crater excursions. For decades the excursion on the top of the volcano is managed by only one company both in the north and south of the volcano. The transport of tourists on the top of the volcano and has always been a cause of conflict and so it

has been investigated from the “Antitrust”, guarantor for competition and the market. This almost monopoly management risks penalizing the tourist and above all the creation of potential competitors.

III.3 Tourism demand

tourists visiting the territory of Etna are heterogeneous. There are one day visitors which are usually tourists making their holidays on the coast. Local tourism, from Sicily, is very present throughout the year, which comes to visit not only the volcano but also for visiting the various villages rich in historic monuments and beautiful churches. During low season (April-May and September-October) the “Do-it-yourself” tourism is very practiced. Tourists who rent cars to discover the territory alone. During this time there is a good filling of small accommodation facilities: village’s hotels, B&B, farmhouses, touristic apartments etc. We have tourists from all over the world, however, the highest percentage is represented by European visitors. Most foreign visitors come from northern Europe: Germans, French, Dutch and Austrian. Most visitors, however, come from the Italian territory. Mostly they are visitors with a medium-high age, Young people prefer climbing volcano rather than villages excursions. The motivation is above all that of visiting the volcano but also to discover a territory tied to nature and local traditions, seeking tranquility, slow-food, history, arts and contact with the inhabitants (many foreign visitors have bought and restored old houses in the villages). Also important in recent years is the development of tourism related to wine. The number of visitors is not very clear. There is currently no public body recording the number of visitors going to the volcano understood as a summit area the crater. Regarding the number of visitors staying overnight at the facilities is around 190-222, in the Etna territory. Very little compared to about 2 million overnight stays on the coast. They usually stay in a city for about 2-3 days then move to other nearby cities. Communication is important in these cases. They often do not stay in the same place for lack of detailed touristic

informations, or they stay one night because they have discovered the place by chance. Prices, even in high season, are low, especially if compared with the prices of the structures on the coast. usually the visitors rent touristic apartments but then use the restaurant in the area, the local pubs and breakfast bars. The trip to the destination is the highest expense. The nearest airport is "Catania", The cost of travel can be high enough in high season but unfortunately sometimes, even during the low season. A new airport has been opened for a few years in "Comiso" (about 130 km far from the Etna territory) with the possibility of low cost connections. At the moment the problem is mainly related to the road link and the low number of air carriers flying to Comiso. Instead the number of "one-day" visitors is growing. The daily excursions are undertaken not only by foreign tourists but, throughout the year, also by local visitors. The most visited areas are those of the historic centers, Churches and even more the "Castles" of which the area is very rich. Famous is "the way of castles", an itinerary through the castles of Etna. Another important attraction is the visit of the "Etna wineries. The trend of rural tourism at the moment is quite positive, in recent years tourism demand has been growing even though slowly. The major activities undertaken by tourists staying in the hinterland are related to cultural visits, to the excursions on the volcano, trekking, visit the alcantara river, visits to the most important cities outside of the Etna territory: Siracusa, Noto, Agrigento. Historically and artistically important cities. Visitors staying in the inner areas are looking for tranquility, so they spend a lot of time on relaxation and reading. Ecotourism, food and wine, slow food are some of the most important common points for tourism in the Etna's inner areas. In general, visitors prefer intermediate seasons (April-May and September-October) for a visit to the cities, while they prefer the coast in high season due to too high temperatures. Farmhouses that also have a swimming pool are also used in high season. The development of tourism in the territory of Etna has its strength in the mountain itself. The volcano is already, by itself, a strong attraction. The active volcano is the main attraction. Around Etna there is a territory rich in history, culture and particular products. A strong attraction also comes from DOC vineyards and native grape production. A local heritage, still partly hidden, ready to be discovered. Problems are mostly related to communication and marketing, to the accessibility of some connecting routes, poor reception policy, sometimes the mentality of the inhabitants.

Main strengths:

- The volcano as natural attraction.
- Local products.
- Historical monuments
- Historic cities
- Position
- Landscape
- Wine and food

Weaknesses:

- Tourist welcoming policy
- Land cleaning
- Inhabitans mentality
- Public connections
- Touristic informations
- Access roads to the volcano
- Incoming operators

III.4 Tourism impact

Despite the partial industrialization and the increase in tourist demand, the economy of Sicily is predominantly characterized by agriculture. Three quarters of the island's territory are used for agriculture and 11% of Sicilians are employed in this sector. The rest is divided between services, industry and construction. But with more than 15% unemployment, Sicily has one of the highest rates of unemployment in Italy. Together with agriculture, fishing plays an important role in Sicily. About 20% of fish caught in Italy is caught in the sea around Sicily. Along with tuna and sardines, swordfish is also part of the most captured species. Still today, many of the farmland, especially within the island, are used, also due to climatic conditions, inefficiently. In the territory around Etna we have the same problems. Despite developments in the wine sector and the decent industrialization of Catania, even here it suffers from a large percentage of unemployment and a consequent strong emigration. The economic sector of the future is therefore represented by tourism, already overnight stays are now increasing and there is also an increase in tourist accommodation. Along the coast there has been a great tourist development since the sixties. However, this development has had little influence on the hinterland tourism or very low in relation to the coastal area. Today, however, thanks to the slow development of inland tourism, there has also been a development of employment, albeit a fairly modest, linked to tourism development. The volcano and the presence of an important cultural and artistic heritage can become an important engine for the development of the local touristic economy. Thanks to the leverage effect of tourism expenditure we can assume a fast economic growth of the area. The tourist-traveller arriving in the area, in fact, consumes local products, uses public and private transportations, participate in cultural events and shows, leaving wealth on the territory. The relationship between tourism and the environment, both natural and man-made, is a very close relationship. Environmental quality is fundamental to tourism. Tourism can bring many benefits to the places where it develops (economic development, jobs, investment growth, local services development, resource enhancement and protection, etc.). It is possible, however, that the tourist pressure also produces negative effects on the environment and on the local population. In our case, however, it can have a very positive effect especially for the impact on the anthropic environment. Environmental laws in Sicily, as well as in Europe, are very restrictive. Making changes that have a negative impact on the natural environment becomes very difficult. Significant contribution is made to constructions. The tourist development of an area always leads to the restructuring of both private and public real estate. Renovation and construction of new roads. New rail connections. Renovate monuments and improve historic centers. Tourism development, if well targeted, has a definitely more positive than negative impact on the environment. Cities change and renew in anticipation of the arrival of many tourists. Changes are made in case of special events, for the benefit of the city itself. They give a boost to the economy with the opening of new businesses, restaurants or accommodation facilities and services. Although Etna is a major tourist attraction, which strongly attracts visitors, does not yet have a highly organized tourist system, that is, structured, equipped with infrastructures built and designed to receive tourists. This, on the one hand, causes unimpressive pressure on the environment (loss of land for



tourist purposes, degradation of landscapes or cultural sites), from another, concentrates, in the most infrastructured areas, almost all tourist flows, creating considerable pressure on environmental resources in those areas (coastal areas). Also in the past the relationship between the host community and the tourist was deeply different. The community sought to support the visitor's wishes (standardization of proposals), often losing their integrity and peculiarity. Only recently, however, the local population has understood (also for the different tourist approach) which is right its "emblematic

being" to be preserved and proposed to the tourist. From the economic point of view, tourism on Etna, does not bring homogeneous benefits across the territory, neither in terms of money circulation nor employment. There is a diversified tourism development in the territory: the coast, where the main and most spacious accommodation are located (Giardini Naxos, Mascalì, Riposto, Acireale, Catania); the hinterland, the territory around the volcano, where they are located besides some minor receptive structures (B&Bs, tourist apartments, farmhouses) also the service companies that allow the tourist to access the volcano. Even though the services have been held by only one subject in the past 30 years (on both volcano sides). Moreover, the communal territories crossed by tourists who want to reach these crater accesses (Nicolosi e Zafferana Etnea per Etna sud, Linguaglossa per Etna nord) , benefit most from tourism development. Moreover, most of the Etna territory, is a protected area (Etna Regional Park, SIC and ZPS protected area, Natura 2000), so tourism infrastructure is strongly influenced by the park regulation and its implementation policy. Sustainable tourism or ecotourism should be developed, which can enhance the environmental potential of the territory and ensure its conservation, perhaps by implementing a common strategy that potentiates and puts in place existing tourism proposals, or promotes others that have as their guiding principle the respect and preservation of the historical-natural heritage. The orographic and pedological diversity and the enormous biodiversity found on Etna have brought a wealth of "wine and gastronomic" heritage that, in recent years, has developed a specific tourism or a complement to the environmental ambience linked to the volcano. The product that is most attentive is Etna's wine (also for the many international awards). Around "oenological tourism", there have been numerous tourist proposals that are often of high economic profile, and this tourist sector has become sometimes the driving factor and preponderant even with relation to the main attractor (the Volcano). Wineries, winegrowing companies, tasting rooms, wine shops, restaurants create a mature and profitable tourism chain for the territory (mostly on the north side of Mount Etna). Other typical products alone or together could enrich the tourist proposals, also offering "field experiences" of life (harvest of fruit and olives, vintage), of traditions related to the transformation of these products (making mustard, marmalades, etc.) tasting in combination with other products. Gastronomy, as a communication of traditions, values of the territory, rediscovery of the origins of the products.

Main strengths:

- Great potential
- Urban development
- Restorations
- New Road and rail connections
- Local economy

Weakness::

- Disorganized development
- Uncontrolled building
- Environmental cleanliness

III.5 Public infrastructure and services

The volcano is monitored from the seismic and geological point of view from the stations of **INGV** (National Institute of Geophysics and Volcanology). The control is essentially on four networks that control tremors, soil deformations, gas emissions and finally observation with infrared cameras. «Dati fondamentali per interpretare l'Etna. Tremors, deformations and gases are the warning signs of an eruption. Data is then sent to **"Civil Protection"**. Volcano access rates are modulated according to the activity phases. Depending on the intensity of volcanic activity, security procedures are being implemented emanated from Civil Protection and made operational from the Prefecture of "Catania" and the mayors of the territory concerned. Access to the volcano is governed by the regulations for the activities of the Park, which imposes limits on it and suggests suitable behavior. The speed and timeliness of rescues is not guaranteed in all areas of the park due to the poor coverage of the telephone network and the internet. Even the basic points of the Etna park are not all active at this time and therefore not always providing an adequate information to visitors. To a certain altitude, there is a good telephone coverage, at higher rates you have to go to specialized guides. The type of rescue is fast and articulated, from rescue with car to helicopter rescue services. Various organizations are responsible for rescue and rescue on Etna mountain. The rangers of the forest department operate on Etna, as in all Sicily, all year long. The competence of the **"forestry corps "** is the protection of the natural environment and the development of human activities, the surveillance, control, defence and enhancement of the forest area, soil, natural environment and protected areas; to this is added participation in the organization and conduct of civil protection activities. The "Regional Forestry Corps" is the operational reference framework for the prevention and combating of forest fires, which in addition to jeopardizing human lives, affect all forestry activities. In fact, fires limit the enhancement action and improvement of the forest heritage and have ended up determining the structure, the vegetative state and in some cases even the survival with negative effects on the ecosystem and soil

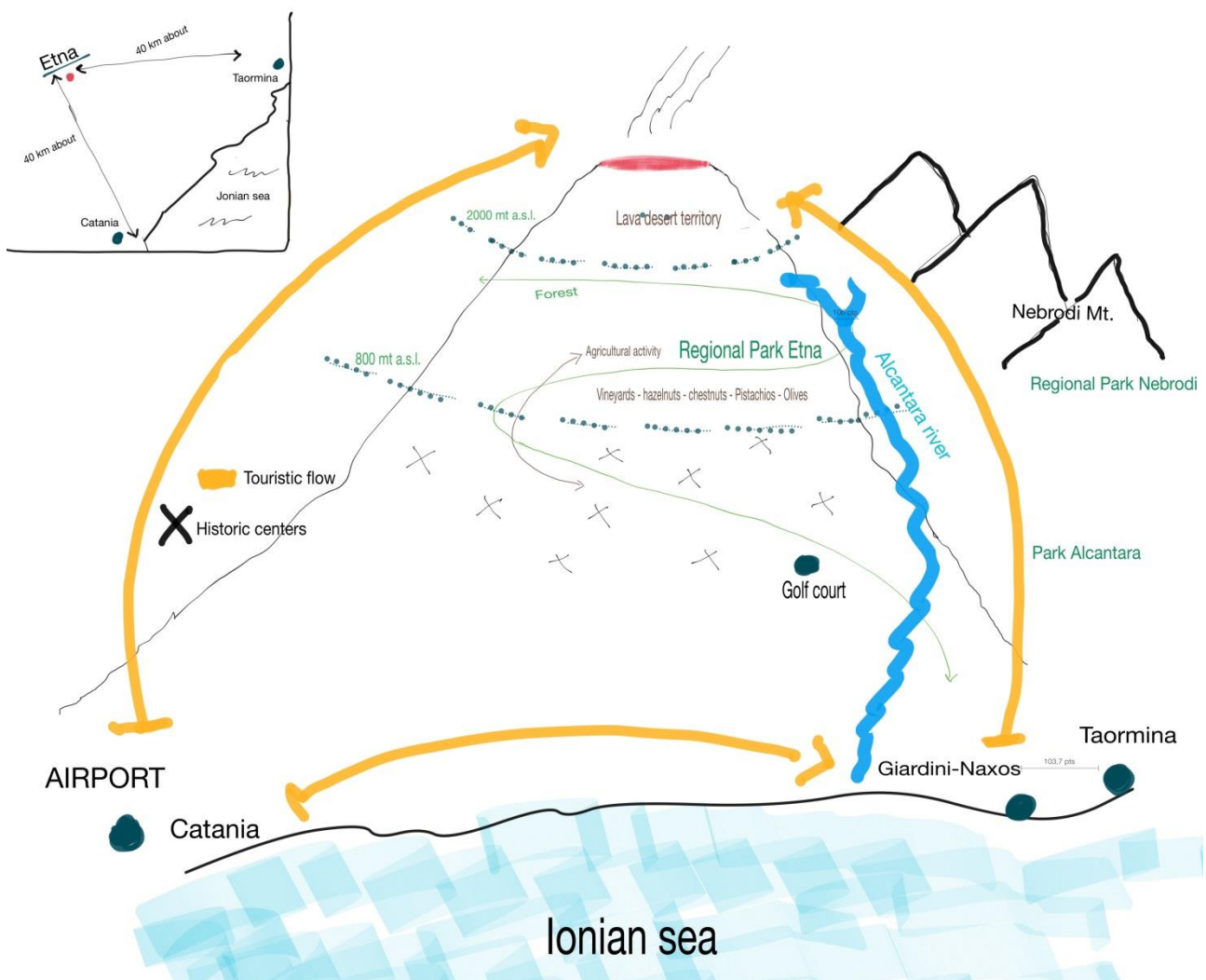
stability. The **C.N.S.A.S** (National Corps of Alpine and Speleological Assistance) is a special section of the "Italian Alpine Club" established in 1954 for the purpose of *conduct direct rescue actions in accidents or calamities occurring in mountainous areas and in the cavities* and contributes to the prevention of mountain accidents. In Sicily the C.N.S.A.S. is operational for the Alpine rescue with two Alpine rescue stations "Etna Nord" and "Etna Sud". The "**Guardia di Finanza**" (Financial police) operates throughout the Etna and coastal areas. The station SAGF of "Nicolosi" was set up in June 1975 by the need to create an Alpine Rescue Center. The particular conformation of the territory sees the militaries daily engaged, in rescue operations, in the most diverse environments: from high mountain intervention, to the one in the ravine. In addition, volunteer organizations are added in the winter and are responsible for the following services:

- 1) Service (H 24)** logistics assistance on provincial roads, monitoring and ice clearing.
- 2) Rescue service with snowmobile** For emergency and rapid intervention on snowy surfaces on the south and north slopes of Mount Etna a snowmobile is planned to facilitate the transport of the injured person
- 3) Rescue service and health care on site** For the rescue of the injured, a recovery and first aid operation is planned in areas where access is difficult of the southern or northern slopes of Etna.
- 4) First-aid service with ambulance** The service takes place on the south and north slopes of Mount Etna with 4x4 ambulances
- 5) Rescue service with crawler machines.** To ensure recovery interventions, search and rescue of mountain users in rough roads covered with deep and fresh snow.

III.6 Partner's perception of the tourism vision of their territory

Etna, the fact that it is an active volcano, unique in Europe, has a great international appeal. The adjacent Ionian coast has always been an international tourism destination. The biggest problem for the Etna territory is that it has not been able to canalize the seaside tourist flow towards its artistic, historical and cultural heritage of the Etna hinterland. Like the sketch we presented there is a great tourist attraction for what concerns the whole Etna territory, not just the high part of the mountain, the crater, but also the whole area around. The visitor, usually, resides in the structures on the coastline and uses daily excursions to visit the volcano. This is, normally, a half-day tour, a visit to the crater to which a visit to some place or some historic city can be combined. This kind of tourist does not stay in the hinterland and does not live in the places of Etna. In recent years, however, there has been, as described in the other paragraphs, a certain change. Thanks to the birth of new tourist accommodations and various infrastructures, there has been the development of a decent tourist flow. We have had a growing demand for accommodation in the villages around Etna. The major problems for further

development are mainly related to roads connections, signage, transport and information. More active collaboration between private and public could be the key to a more programmatic development. Sometimes, as far as tourism is concerned, everything is left in the hands of private operators, so, for example, it becomes difficult to make a territorial planning. In addition, many municipalities try to coordinate the tourism development locally instead of thinking of its own territory as a product that is part of a homogeneous brand: **“the Etna territory”**



PART IV

IV.1 SWOT analysis regarding the implementation of an emblematic slow tourism product (eco-itinerary)

We have tried to make a summary of the ideas that come from local actors as far as the analysis of the strengths, weaknesses, opportunities and threats of the territory is concerned.

Strengths: 1) Volcano; 2) Agricultural resources: wine and food; 3) Cities with its artistic riches; 4) multiform landscape; 5) climate; 6) Places of inspiration.

Weakness: 1) Little tourist information; 2) Lack of cooperation between the various tourist associations, public and private; 3) Traffic and signage; 4) Access to the summit of the volcano; 5) Cleaning and urban decor; 6) Connections to the coast.

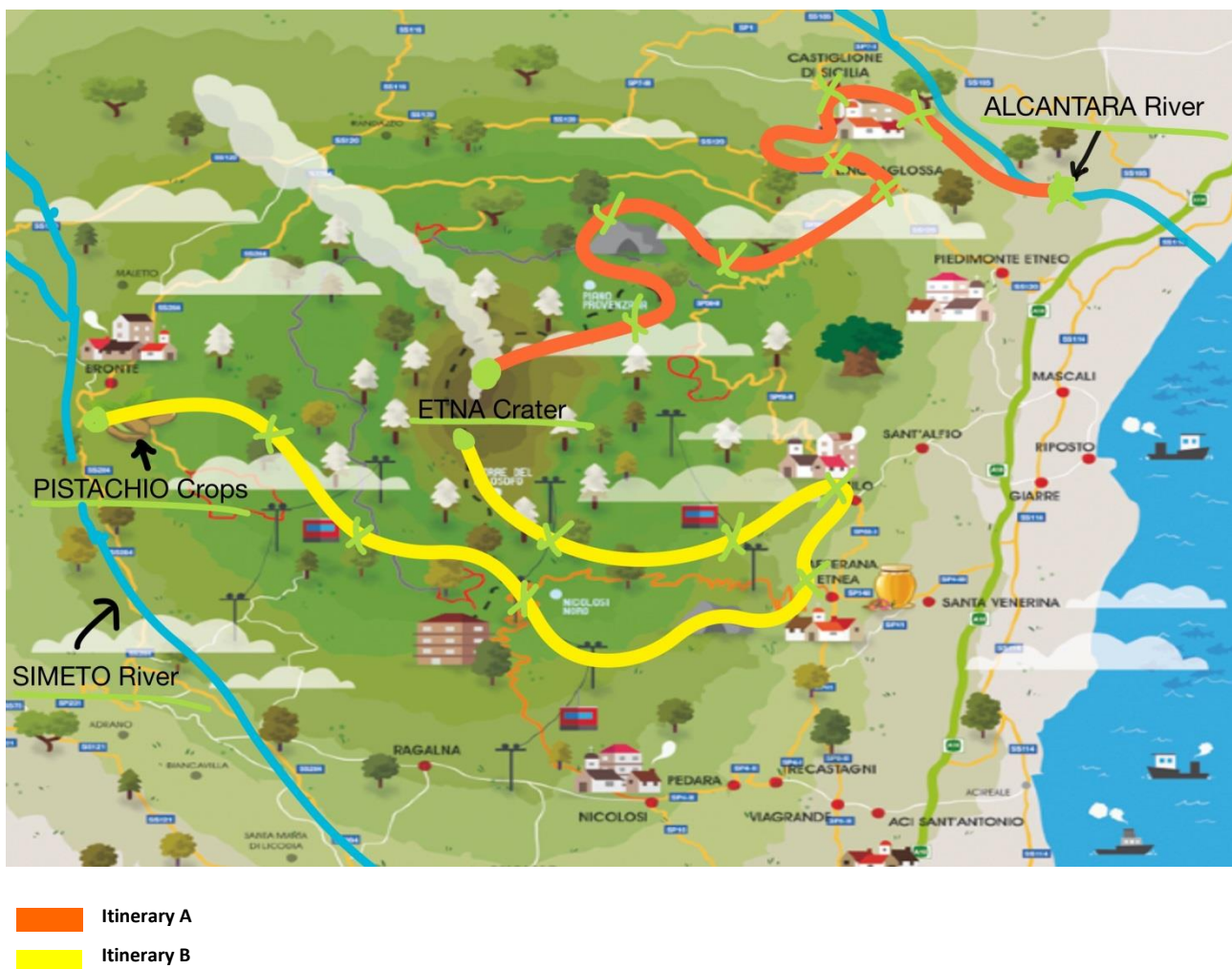
Opportunities: 1) Strong growth of the international and local market; 2) Financing plans for the renovation of old houses by the European community; 3) To be close to a famous tourist resort like “Taormina”; 4) International recognition of wine products; 5) Development of archaeological sites; 6) Development of tourism attractions: biking, hiking, water sports, eco-itineraries, horseback riding, extreme sports.

Threats: 1) Indiscriminate construction of tourist facilities; 2) Not be prepared with adequate tourist infrastructure in front of a growing tourist demand; 3) Not to compete with the most famous tourist area of the coast; 4) Failure to create coordination between private and public sector for adequate tourism promotion; 5) Speculation of foreign companies at the expense of the locals; 6) Inadequate professional training.

IV.2 Indication of ideal locations for an eco-itinerary and possibilities to engage stakeholders

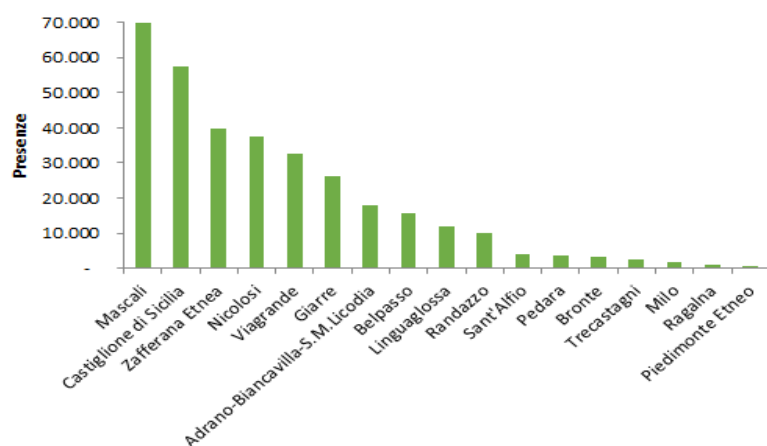
The territory of Etna is very various, it does not have a uniform territory. From the summit of the volcano, a lunar and desolate environment, to the forest of pine and beech trees up to the areas cultivated with fine vineyards, orchards, pistachios and so on. Territory full of ancient villages with castles and beautiful historic centers. The “Simeto” and, above all, “Alcantara” rivers. A rich and multifaceted landscape, as well as the rich offer of local products ranging, for example, from cheese to various sweets and regional recipes. An eco-itinerary should therefore pass through all these places otherwise you would not have a complete perception of the territory. An ideal eco-itinerary should not only touch these places but also be developed taking into account the various activities that the territory offers. We think of an eco-itinerary with a path that integrates both the use of cars and walking routes, with ecological and even public transport. An itinerary must always include the various landscape alternatives: valleys and rivers, historic villages, cultivated areas, mountain forests and of course the unmissable volcano crater. The first itinerary begins with the discovery of the Alcantara river and its

famous gorges and “gurne” (particular little lakes of Alcantara river). trekking to visit historical monuments along the river. Ride or bike to discover the valley in uncontaminated nature. Part of the itinerary with historic trains. Then visit of some historic villages and the opportunity to enjoy the typical products and the wine of the territory. The itinerary ends with a visit to the crater, north side in this case. the crater tour is possible either on foot or by authorized 4x4 cars always following local guides. During the journey you should have the opportunity to stay at one of the mountain hideaway at the slopes of Mount Etna. An ideal itinerary cannot avoid visiting the wineries and vineyards, particular product par excellence, especially in the Etna northern territory. A second itinerary starts from the southern part of the volcano, from the pistachio crops, crossing the territories and forests of the southern area. The sketch makes the idea of the vastness and variety of the territory concerned. All possible stakeholders in the area would be interested in the construction of these itineraries: local tourist guides, mountain guide associations, local hospitality facilities, car rent companies, bike and ride rent companies, local production company but above all local family-run activities come trattorie, apartments owner, craftsmans.

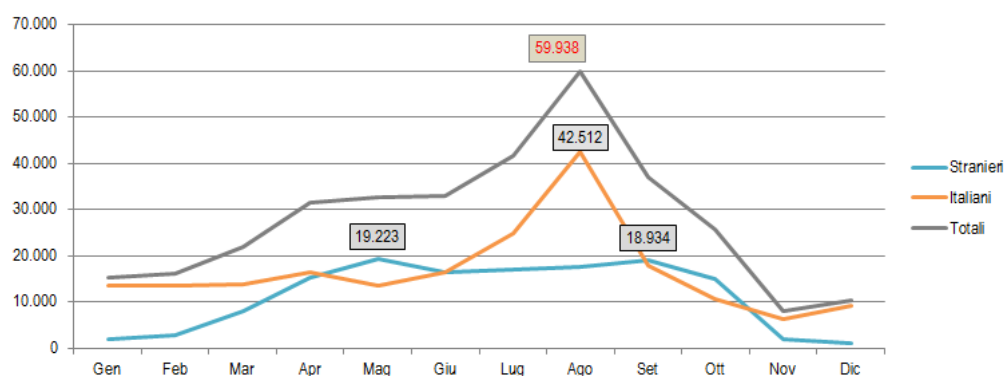


ANNEX

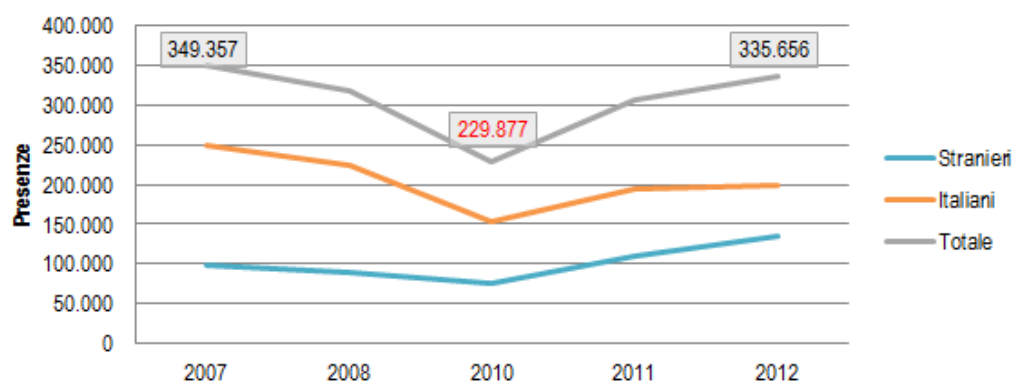
Tables and diagrams



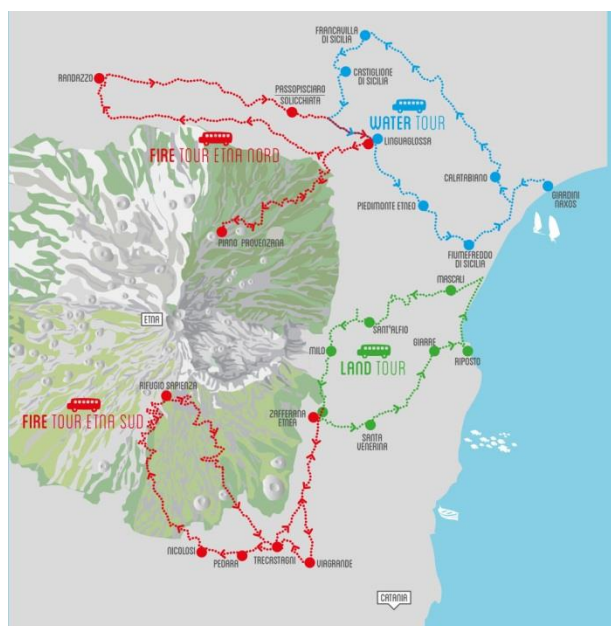
-Overnights stays – Territory “Regional Etna Park



-Seasonal umber of Italian and foreign visitors



-Overnight stays of Italian and foreign visitors

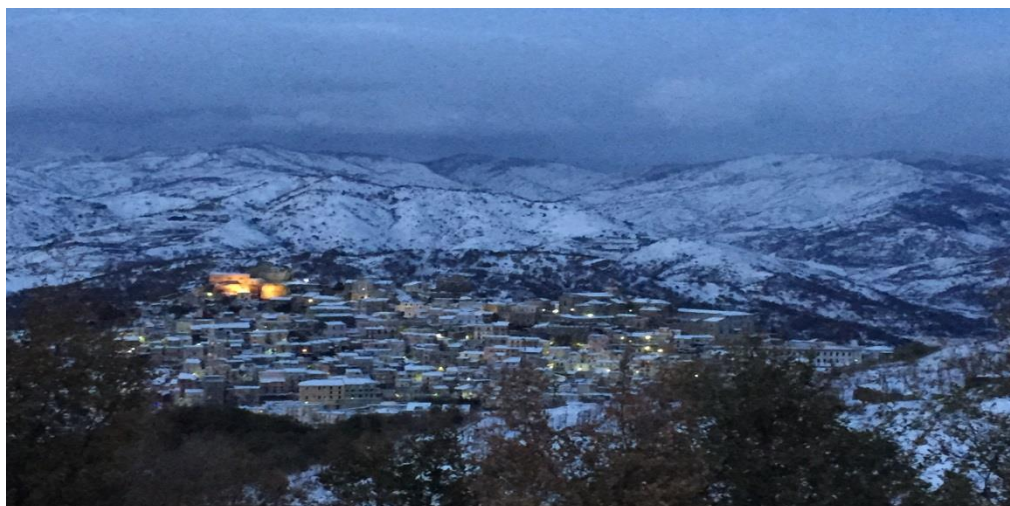


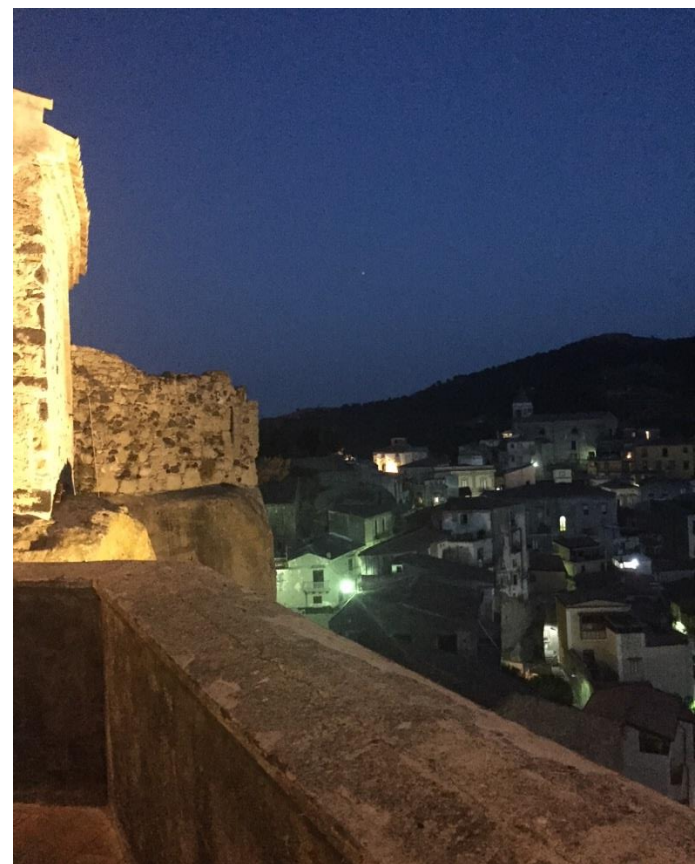
-Map of drop in-drop off “Around Etna” rural sightseeing



-Municipality territory of Etna

Photographs







Self-evaluation table

CRITERIA / KPITHPIA		Score
C1 Proud local people	1-10	9
C2 Institutional recognition	1-10	10
C3 Reputation	1-10	9
C4 Legends and myths	1-10	10
C5 Power of inspiration	1-10	10
C6 Picturesque landscape	1-10	8
C7 Unique ecosystems	1-10	8
C8 Particular cultural identity	1-10	8
C9 Sustainability and anthropogenic environment	1-10	7
C10 Historic places	1-10	8
TOTAL	10-100	87

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