

# LOST AND FOUND

Processes of abandonment of the architectural and urban heritage  
in inner areas. Causes, effects, and narratives (Italy, Albania, Romania)



Edited by Annunziata Maria Oteri

ArchistoR  
EXTRA

## L'abbandono e il trasferimento dei paesi nel sud della costa ionica in Calabria

Nino Sulfaro (Università degli Studi *Mediterranea* di Reggio Calabria)

*I frequenti e spesso devastanti eventi sismici verificatisi soprattutto nella parte meridionale dell'area ionica della Calabria tra il XIX e il XX secolo determinarono notevoli esodi, sia in termini di emigrazione che di migrazione, sia di spostamento all'interno della regione; inoltre, il dissesto idrogeologico, con alluvioni, frane e smottamenti, specie negli anni Cinquanta del Novecento, influenzò spesso in modo significativo le dinamiche insediative e la relativa struttura del territorio. L'esodo fu all'origine del fenomeno dei cosiddetti "paesi erranti", basato sulla divisione tra gli antichi insediamenti in collina o in montagna e i nuovi insediamenti sorti nel tempo sulla costa o in aree bonificate. A volte l'antico insediamento è abbandonato, a volte è abitato solo in parte, a volte il centro storico e quello nuovo distano solo pochi chilometri, a volte la distanza è notevole. Tuttavia, questo fenomeno è dovuto anche ai "fatti della storia" e, più specificamente, alle risposte che le persone – politici, abitanti, esperti e intellettuali – hanno dato a quei problemi nel corso del tempo. In questa prospettiva, il presente articolo cerca di far emergere come i fattori ambientali si intersecano e si sovrappongono a questioni sociali, culturali, economiche e politiche, spesso a livello nazionale.*

## LOST AND FOUND

Processi di abbandono del patrimonio architettonico e urbano nelle  
aree interne. Cause, effetti, narrazioni (Italia, Albania Romania)

[www.archistor.unirc.it](http://www.archistor.unirc.it)

ArchistoR EXTRA 13 (2024)

ISSN 2384-8898

Supplemento di ArchistoR 19/2023

ISBN 978-88-85479-11-1

DOI: 10.14633/AHR399



# The Abandonment and Relocation of Small Towns and Villages in the Southern Ionic Area of Calabria

Nino Sulfaro

In 1961, the geographer Lucio Gambi, dealing with the dynamics of settlements in Calabria, highlighted a heavy increase in internal mobility from the mountainous hinterland toward the coast, which occurred between the unification of Italy (1861) and the post-World War II period<sup>1</sup>. According to Gambi, this phenomenon marked the end of a centuries-long historical phase of a gradual retreat of native communities up to the perched and rugged reliefs of the region, far from more exposed, coastal areas, and, therefore, with an economy based only on pastoralism and poor agriculture<sup>2</sup>.

It is very difficult to define the triggering factor in this process, as some factors are deeply interlaced. In truth, the process of abandonment of mountainous and inner areas had started in the second half of the 19<sup>th</sup> century, involving all the South of Italy; then, it continued throughout the 20<sup>th</sup> century, leading to an unstoppable depopulation of the “highlands” also in the rest of Italy<sup>3</sup>. For some scholars, the crisis corresponds mainly with the decline of pastoralism based on transhumance which, till that moment, played a main role in the mountain economy. This decline, in turn, was due to the

1. GAMBI 1961; on this argument see also TINO 2002.

2. GAMBI 1961, p. 520.

3. TINO 2002, p. 17.

reclaiming of coastal plains affected by malaria and the development of intensive agriculture<sup>4</sup>; at the same time, the eradication of malaria, in itself, represented an incentive for urban development along the coast during the 20<sup>th</sup> century. In addition, we should mention that the decline of pastoralism was inevitably accompanied by the waning of some other activities and domestic industries exploiting local resources, such as textiles, wrought iron, pottery production, etc., due to the development of road networks and railways and to the consequent increasing competition of imported products, even if often from within the same region<sup>5</sup>.

The above-mentioned issues, amongst others, are fundamental in extending the theme of abandonment and relocation of small towns and villages in Calabria – generally associated only with migration and natural disasters in a direct cause-effect relationship – to a wider frame. Apart from some recent contributions on the theme aimed at focusing on the causes of the abandonment of small towns in Calabria<sup>6</sup>, we should observe how the discourse has been mainly developed through the analysis of the effects, paying particular attention to the social and anthropologic aspects and considering earthquakes and floods as triggering factors<sup>7</sup>. The frequent and often devastating earthquakes that occurred especially in the southern part of the Ionic area of the region between the 18<sup>th</sup> and 19<sup>th</sup> centuries certainly caused considerable exodus, both emigration, migration, and movement within the region; moreover, hydrogeological instability, with floods, landslides, and mudslides, especially in the 1950s, often significantly influenced the settlement dynamics and the relative structure of the territory. However, the configuration of this area is mostly due to “the facts of history”<sup>8</sup> and, more specifically, to the answers that people – politicians, inhabitants, experts, and intellectuals – have given to those problems over time.

In this perspective, the present paper tries to bring out how the environmental factors intersect and overlay social, cultural, economic, and political issues, often at the national level<sup>9</sup>. More precisely, in the period between 1861 and 1961, this phenomenon occurred in several small towns and villages in the southern part of the Ionic area and led to the still current system concerning the coexistence of both old towns and new settlements: sometimes the former is abandoned, sometimes it is only

4. Between 1908 and 1938, the number of livestock in Calabria went from 640000 to 490000; *ivi*, pp. 31-32.

5. *Ivi*, p. 33.

6. See OTERI, SCAMARDI 2020.

7. See TETI 2004; TETI 2008.

8. See GAMBÌ 1965.

9. *Ibidem*.

partially inhabited, sometimes the old and the new towns are only a few kilometres away, sometimes the distance is quite far<sup>10</sup>. This dynamic, particularly evident on the Ionic side of the region, had consequences which were significant both in terms of the physical organization of the territory and in terms of socio-economic dynamics. Not only was there an increase in population in the existing towns along the coast, through a simple transfer of people from one place to another<sup>11</sup>, but there were also consequences in terms of territorial transformations, through the construction of new towns, and changes in the use of the land. Over those one hundred years, it is possible to recognize some salient phases of the process: the late 19<sup>th</sup> century; the first half of the 20<sup>th</sup> century; the 1950s and 1970s. These periods are of different duration, characterized by different historical events – such as the consequences of the Unification of Italy, the two World Wars, and the Post WWII –, influenced by diverse socio-political and economic trends, and marked by some catastrophic events. However, they are united by the intertwining of some common issues, and, above all, they represent the main steps that slowly led to the end of life in inner areas in Southern Calabria.

### 1. *The late 19<sup>th</sup> century: malaria as an obstacle to transferring toward the coast*

The area between *Capo dell'Armi* to the South-West and the *Stillaro* river-bed to the North-East includes many different geographical areas, partially overlapping, and identified according to different names, such as the so-called *Grecanica*, (or *Bovesia*), and *Locride* areas, and part of the so-called *Serre*, today all belonging to the Metropolitan City of Reggio Calabria<sup>12</sup>. It corresponds, with good approximation, to the Ionian side of the province of Calabria Ulteriore Prima, one of the administrative subdivisions of Calabria, in the 19<sup>th</sup> century, during the Kingdom of the Two Sicilies (fig. 1). In the aftermath of Italian unification, the scientist Giuseppe Antonio Pasquale, in his survey “*Relazione sullo stato fisico-economico-agrario della Prima Calabria Ulteriore*” (a report on the physical-economic-agrarian condition of *Prima Calabria Ulteriore* district)<sup>13</sup>, described this part of Calabria as «a virgin field

10. On the theme of the so-called “paesi doppi” (double towns), see TETI 2008.

11. MARTINOTTI 2011, pp. 133-138.

12. In this area the Byzantine cultural heritage and, above all, Greek language contaminated with the native dialect, are all still present. It includes small towns that underwent complex relocation between the 19<sup>th</sup> and 20<sup>th</sup> centuries, such as Africo, Ferruzzano, Brancaleone, Roghudi, and Pentidattilo; other villages and towns preserved their communities in their older settlements, such as Palizzi and Bova; other villages, such as Galliciano and Roccaforte del Greco, are dramatically depopulated.

13. Calabria Ulteriore Prima was the name of the province of Reggio Calabria within the Reign of Two Sicilies between 1817 and 1860; see COPPOLA 1997.

far from any progress», as it was a sparsely populated area with a very poor economy<sup>14</sup>. According to the first national census in 1861, this part of the region, considering data regarding the province of *Calabria Ulteriore Prima*, registered a decrease in population, probably due to a first phase of emigration; then, the population remained stable until the aftermath of World War II<sup>15</sup>. The general data for Calabria in 1861 show how the population density values were, on average, high in the medium-altitude areas, while the lowest values, except for the area of the Strait of Messina, were in the coastal areas; around 66% of the population lived in the former areas (8% of whom lived above 750 m asl)<sup>16</sup>.

In truth, an increase in population with a high birth rate and a decreasing mortality rate was registered earlier, between the 18<sup>th</sup> and 19<sup>th</sup> centuries, due to a general improvement in the health of the population in Calabria<sup>17</sup>. However, that increase, together with the development of some local productive activities – such as the commerce of silk and citrus fruit –, did not represent a significant need for new lands and urban settlements along the coast<sup>18</sup>.

One of the main reasons for the sparse population along the coast may be realistically due to the presence of malaria over nearly the entire coastal territory, which represented an obstacle to new settlements near the sea<sup>19</sup>. In 1882, Senator Luigi Torelli published the “Carta of Malaria in Italy” through which the dramatic situation of Southern Italy emerged. In particular, it shows how the disease was endemic along the coasts of Calabria (about 738 km), along its most important rivers, and within the valleys of its wide streams (fig. 2)<sup>20</sup>.

In order to better understand the reasons for so massive a spread, we should underline how Calabria, and especially the southern part of the region, presents the particular complexity of the orographic and hydrogeological conformation of the territory, with a predominance of mountain and

14. PASQUALE 1863, p. 23. It was a survey conducted for “Regio Istituto d’Incoraggiamento alle Scienze naturali di Napoli” (Royal Institute for the Encouragement of Natural Sciences in Naples) in 1861, in order to describe the conditions of pastoralism, agriculture, and industries in the southern Italian provinces.

15. *Censimento* 1864; on the Italian national census see ALFANI *et alii* 2012. On the theme of demography in Calabria, among others, see CARCHEDI, VITIELLO 2014; TINO 2002; PLACANICA 1993; SORI 1990; GAMBÌ 1965.

16. See TINO 2002.

17. PLACANICA 1993, p. 326.

18. The increase in population also led to an imbalance between population and resources; as a consequence, the impossibility of supporting the demographic burden, in terms of regional economy, in turn, led to emigration, especially toward the United States of America; see PLACANICA 1993.

19. *Ivi*, p. 326.

20. Malaria was prevalent in 52% of the Calabrian territory (7,877.31/15,080.32 km<sup>2</sup>); TAGARELLI 1997, pp. 117-119.

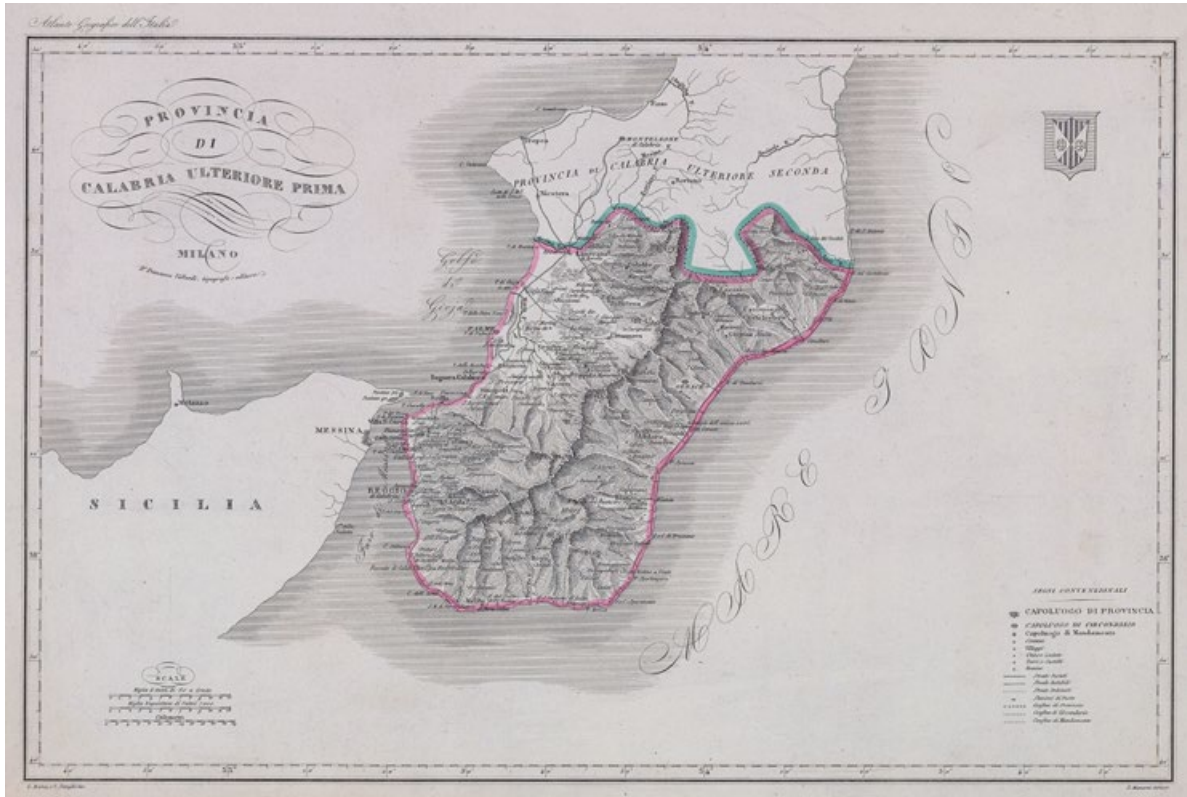


Figure 1. The Province of Calabria Ulteriore Prima, one of the administrative subdivisions of the region, in the 19th century, during the Kingdom of the Two Sicilies (Provincia di Calabria Ulteriore Prima, Atlanta Geografico dell'Italia, Dr. Francesco Vallardi Editore, Milano 1868).

In the next page, figure 2. The spread of malaria in Calabria. Particular from the *Carta dell'Italia compilata a cura dell'Ufficio Centrale del Senato incaricato dell'esame della legge intorno alla malaria d'iniziativa del Senato stesso*, 1882 (Map of Italy compiled by the Central Office of the Senate responsible for examining the law on malaria on the initiative of the Senate itself, 1882).





hill areas<sup>21</sup>; this complexity is also accompanied by a variety of pedo-climatic zones, marked by the presence and activities of inhabitants over the centuries<sup>22</sup>. The element that unquestionably left its mark on territories is the disappearance of forests which had covered the entire region since ancient times, and which had undergone a slow, extensive, and documented destruction. Deforestation due to economic uses of lands caused a “spiral” of degradation of most of the area, with violent erosion phenomena, which modelled Calabrian landscape with the well-known seasonal rivers (*fiumare*), gullies and bare slope areas<sup>23</sup>. The earthquake of 1783 aggravated this situation: its tremors caused massive landslides that obstructed the course of rivers, creating numerous swamp formations, and thus, between 1783 and 1787, 215 lakes were formed throughout the territory affected by the earthquake<sup>24</sup> (fig. 3). This hydrogeological disorder, together with terrible hygienic conditions, favoured a persistent epidemic of malaria, which persisted for centuries and caused a very high number of deaths<sup>25</sup>.

In addition, the Ionic area presented several natural factors fostering the spread of the virus: physical features included a rich hydrographic reticulation due to the nature of soils which contributed to increasing the hydrogeological disorder, thus creating many swamps, which is a favourable environment for the *Anopheles* mosquito<sup>26</sup>. According to Francesco Genovese, a Calabrian doctor who dedicated himself to studying malaria in the province of Reggio Calabria<sup>27</sup>, the presence of marl and clay in the soil made many lands impermeable and created outcrop water in the steepest points. These accumulations of stagnant water were insufficient for the population's needs but were sufficient to maintain a state of paludism even around many small towns<sup>28</sup>. In addition, marl and clay transported

21. Calabria is a region characterized by a series of mountain groups that occupy, together with the hill system, almost the entire territorial surface (48.7% is represented by mountains and 49.2% by hills), leaving very little space for the scarce and narrow coastal plains (9%), even though the coast extends for about 780 km.

22. COLONNA, GUIDOBONI 2000, pp. 283-286.

23. *Ivi*, p. 284.

24. GENOVESE 1924, pp. 14-15. On the hydrogeological disorder due to the earthquake in 1783, see PLACANICA 1982; more in general, on the 1783 earthquake see PRINCIPE 1976; PRINCIPE 1985; On the abandonment regarding the 1783 earthquake see MUSSARI 2020.

25. This situation continued to favour the spread of malaria which was eradicated only with the arrival of DDT with the American army at the end of the World War II.

26. See GENOVESE 1921.

27. GENOVESE 1924; on Genovese's works and activities see DOUGLAS 1915, pp. 420-431; ZANOTTI BIANCO 1925.

28. This condition was typical of the hills that slope from Caulonia to the sea, between Camini and Riace down to the





Figure 3. Map of Calabria with the lakes formed after the 1783 earthquake (*Carta geografica della Calabria con i laghi formati dopo il terremoto del 1783, di Stile Ignazio, Cataneo Aniello - sec. XVIII*).



Figure 4. Particular of a map of the Ionic Southern area of Calabria with toponyms that testify to the creation of swamps along the coast (Carta Austriaca del Regno di Napoli di Rizzi Zannoni, 1847).

downstream also made the sandy alluvial fan on the shore impermeable, creating swamps along the coast. The toponymy of the entire area testifies to this phenomenon: there were many places with names evoking marshy contexts, such as *giunghi*, *giungheto*, *canneto*, (reeds, cane thicket), *pantano* (quagmire), and *lacchi* (lakes)<sup>29</sup>. Some of these places still maintain old toponyms referring to malaria, such as the area of Pantano Piccolo (small quagmire) between Bruzzano and Brancaleone and Pantano Grande (big quagmire), in the terminal stretch of the Bruzzano riverbed<sup>30</sup> (fig. 4).

In addition, among other anthropic factors for malaria, there was the very poor living conditions of the rural people: along with Basilicata, Calabria was the most underdeveloped region of the

sea; GENOVESE 1924, p. 9.

29. Two areas named Lacchi were between the La Verde riverbed and the small town Bianconovo and between Bianco and Bovalino; *ivi*, pp. 10-11. A description of the places affected by malaria along the Ionic coast is in DE STEFANI 1884, pp. 10-11.

30. The two Laws for reclamation in 22nd of March 1900 and 7th of July 1902 provided weirs and embankments, which were built in 1913; GENOVESE 1924, p. 38.

country after unification. As is well known, the so-called “Inchiesta Jacini”, a report by the Lombard deputy Stefano Jacini in 1885, highlighted the horrendous living conditions of Southern Italy, to raise awareness among the ruling class and start a process to reduce the strong disparities between North and South<sup>31</sup>.

The construction of the railway in Calabria was one of the elements aimed at improving the living conditions of the population: in addition to the economic benefits due to the construction of the new infrastructure, the government's intent was to reclaim the lands crossed by the railway network; however, it paradoxically represented a further negative anthropic factor in the permanence of malaria. On the one hand, we have to underline that the construction of the railway, in itself, promoted the movement of a trickle of people from inner areas toward the coast<sup>32</sup>; the works lasted from 1866 to 1875, but only at the end of the 19<sup>th</sup> century did the railway drive urban development: the first villages began to rise near the coast, with the station square as the main urban feature<sup>33</sup>. On the other hand, in some cases, works for the construction of the railway along the Ionic coast improved the condition of the hydrogeological disorder, through the creation of points of drainage along the railway ballast; in others, they aggravated the situation, through the excavation of the so-called “*cave di prestito*” (extemporary quarries) with the aim to extract materials for the embankments which were then abandoned and in which the rainwater stagnated. In a letter dated 17 May 1870, a local representant of the area of Amendolea River reported to the Prefect of the Province of Reggio Calabria on the serious health damage caused by the construction of the railway, because the natural rainwater conduits, which flowed into the sea, were buried and no care was taken to restore them. Furthermore, in the same area, numerous “*cave di prestito*” had been excavated where the rainwaters had stagnated. Despite the many complaints, nothing had still been done in 1876, when the Mayor of Condofuri pleaded with, and requested, the Prefect of Reggio Calabria to fill in the four “pestilential” swamps which were located near the Amendolea River<sup>34</sup>. The Law for Reclamation of 1906 provided for interventions on the Amendolea swamps; however, the quagmires Vivò, San Carlo,

31. See CARACCILO 1973.

32. PLACANICA 1993, p. 325. The first section of the railway, from Reggio to Lazzaro, was inaugurated on 3<sup>rd</sup> of June 1866, followed on 1<sup>st</sup> October 1868, by the opening of another section up to Bianconovo; FORESTA 2018, p. 124. On the history of railways in Calabria, see also COSTANZO 2005.

33. FORESTA 2018, p. 124.

34. GENOVESE 1924, pp. 35-36.

and Limmara (from the Greek limne, swamp) were still along the river in 1924<sup>35</sup>.

Obviously, there was an inverse relationship between the incidence of malaria and the altitude of towns. In 1911, the district of Gerace was the least populated area of the province of Reggio Calabria and the most affected by the disease. All the small towns and villages in this area were affected by malaria, apart from Agnana, Bivongi, Martone, and San Giovanni di Gerace, which are located above 200 m, Canolo, above 480 , and Staiti, above 500mt. Ferruzzano, located above 468 mt, was not affected by malaria; however, during the Easter of 1920, following heavy rains, a large landslide occurred on the north-eastern side of the town; the debris blocked the mouth of the valley so that a very large swamp formed in a location called Le Gorne. This swamp caused a serious malarial pandemic among the inhabitants. ANIMI, the National Association for the interests of Southern Italy (ANIMI), led by Umberto Zanotti Bianco had the pond/swamp drained at his own expense and opened an anti-malarial clinic in the town<sup>36</sup>.

Other anthropic factors for malaria included deforestation, which also contributed to hydrogeological disorder: between the 18<sup>th</sup> and 19<sup>th</sup> centuries, widescale deforestation started due to the demand for wood, both as an energy resource and building material<sup>37</sup>. In a more general perspective, apart from reclaiming the land and other issues connected with malaria<sup>38</sup>, in the second half of the 19<sup>th</sup> century the idea emerged whereby the presence of a healthy forest in the mountains guaranteed hydro-geological equilibrium in the valleys. It became the *leitmotiv* of all the legislative provisions from 1877, the year of the first Italian national law on forests<sup>39</sup> (fig. 5). For some decades, this idea was also accompanied by the debate between, on the one hand, those few politicians from mountain areas who wanted to defend autonomous decision-making processes and the survival needs of local populations and, on the other hand, those politicians, economists, and technicians who wanted to develop the hydroelectrical use of water<sup>40</sup>. According to the latter perspective, at the beginning of the 20<sup>th</sup> century, mountains started to be identified more and more as a resource

35. *Ivi*, p. 37.

36. *Ivi*, p. 112. On the activities carried on by ANIMI see ZANOTTI BIANCO 1960; MANADORI SAGREDO 2011; PESCOSOLIDO 2011.

37. Forested land passed from 48% of the territory in 1830 to 8.4% in 1911; PLACANICA 1993, pp. 331-332; see also GAMBI 1965. On the theme of land use and the history of woods and forests in Southern Italy between the 18<sup>th</sup> and the 19<sup>th</sup> centuries, see also SANSA 2000; PALMIERI 2000.

38. In 1910 Giustino Fortunato argued that the only way to eradicate malaria was the reclaim; GENOVESE, p. XIII.

39. See Law on Forest 20<sup>th</sup> of June 1877, n. 3917 (*Legge Forestale*).

40. PICCIONI 2002, pp. 127-128.



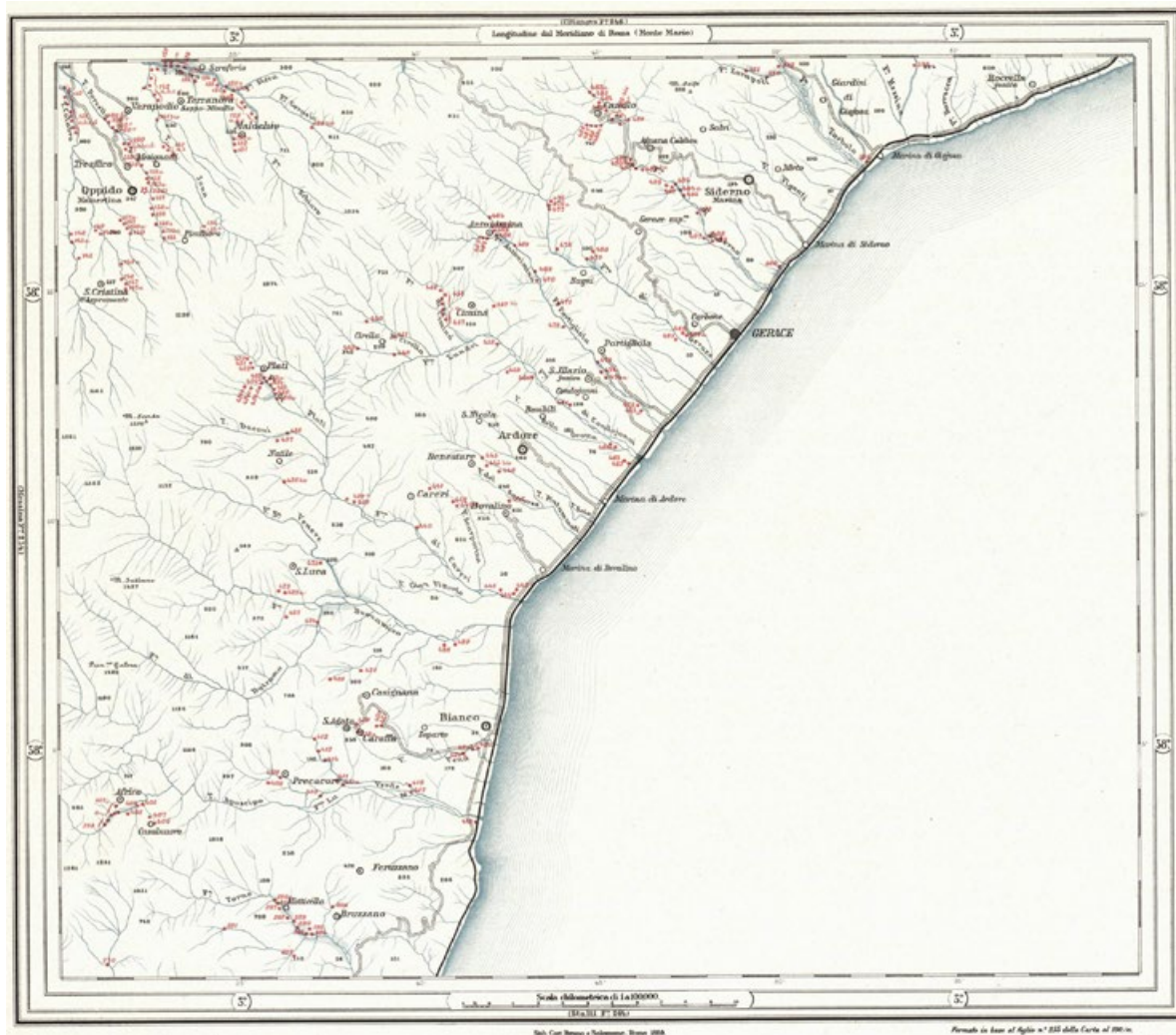


Figure 5. The hydrographic conditions of Calabria at the end of 19th century (*Carta idrografica del Regno d'Italia, 1887*).

made up essentially of forest and water and, consequently, were seen as a piece of a wider mosaic aimed at satisfying the needs of the plains and urban areas: reforestation and regulating water meant guaranteeing safety against landslides and floods, but also producing a great quantity of cheap electricity, and assuring water to irrigate cultivations on the plains<sup>41</sup>. The process of abandonment of the inner area in Calabria could start.

## *2. The first half of 20<sup>th</sup> century: earthquakes and geological issues as an impetus to abandon the internal settlements*

Despite malaria remained an obstacle in transferring people from inner areas to the coast and it was eradicated only after WWII thanks to the introduction of DDT by the Americans, the first half of the 20<sup>th</sup> century represented a key period for abandonment processes. Since the first years of that century, in fact, it was almost always necessary to undertake emergency interventions dealing with the continuous and violent flood events due to deforestation, and many catastrophic earthquakes, such as the one in 1905 in the Central Tirrenian Calabria, the two in 1907 and 1908 in Southern Calabria, which caused victims and damage to settlements. Therefore, hydrogeological disorder and seismicity ended up intertwining not only in terms of effects but also in measures taken by governments.

In this context, progress in the field of geology – and the role of geologists and technicians involved in territorial development, such as mining and railway engineers – emerged forcefully, addressing choices and strategies that concerned the abandonment of inner areas and the location for new settlements.

We should underline how interest in the geology of Calabria had already begun to appear after the 1783 earthquake when this catastrophic event had wide relevance in the international scientific community<sup>42</sup>. The most illustrious chronicler of the earthquake is undoubtedly Deodat de Dolomieu, who traveled through the region a few months after the earthquake. He surveyed the territory, highlighting its particularities, criticizing the work of most Neapolitan scientists, such as Sarconi and Vivencio, who forcibly tried to correlate earthquake shocks with electrical phenomena and meteorological conditions<sup>43</sup>. Dolomieu gave the tragic event worldwide resonance, so much so

41. *Ivi*, p. 129. On the hydroelectricity in Southern Italy see, among others, CIUFFETTI, MOCARELLI 2021; RIENZO 2000.

42. CONSOLE, FABBI, PANTALONI 2018.

43. Dolomieu was criticized in turn by local scholars, who accused him of neglecting evidence and making flights of



that it was mentioned in *Principles of Geology* by Charles Lyell in 1835, where it was defined as a one-of-a-kind earthquake, even though it was (at the time) neither the strongest, nor the longest, nor the most destructive in history. However, it was the first strong earthquake to occur in a place frequented by a sufficient number of people with scientific knowledge to be able to describe both the event and its effects in a systematic and modern way<sup>44</sup>.

The 19<sup>th</sup> century saw a vast improvement in the knowledge of geology in Calabria through the first attempt to categorise rock formations chronologically by Leopoldo Pilla, the first geological maps drawn up by Rodolfo Armando Philippi and Pierre Alexandrowitsch De Tchihatcheff, and, above all, the detailed studies by Giuseppe Seguenza, at the end of the 1870s<sup>45</sup>. In the same years, many studies were aimed at supporting the construction of the railway in Calabria: the engineer Vincenzo Rambotti was commissioned by the Ministry of Public Works to study the geological sections for the construction of the Reggio-Taranto railway section<sup>46</sup>; unfortunately, he was affected by malaria and died at the age of thirty in 1877<sup>47</sup>. The geologist Carlo De Stefani, one of the founders of the Geological Italian Society, can be considered the father of geology in Calabria: in 1876 the Ministry of Public Education urged him to carry out a geological excursion in Calabria. The result of his work, which saw him «busy for 14 hours a day for 45 days», is a detailed "Geological map of southern Calabria" at 1:50,000 scale in 23 sheets<sup>48</sup>. In addition, in 1882, Emilio Cortese, an engineer of the Royal Geological Office, began to focus on geological features in Calabria, in the context of the construction of the railway, identifying two large almost perpendicular faults that cut the southern sector of the region, whose existence has also been confirmed in the most recent literature<sup>49</sup>. In 1891 the geological survey of Calabria was completed and only needed general revision work; however, the geological map was not published due to «the lack of large-scale topographic map without hatching»<sup>50</sup>: the geological knowledge of the region was more advanced than the general knowledge of the territory.

fancy, so much so that Vivenzio himself (1788) responded to the French naturalist by refuting his theories; *ivi*, p. 120.

44. *Ibidem*.

45. See PILLA 1837; PHILIPPI, 1842; TCHIHATCHEFF 1842; SEGUENZA 1879.

46. RAMBOTTI, NEVIANI 1888.

47. CONSOLE, FABBI, PANTALONI 2018, p. 123.

48. *Ibidem*. See also DE STEFANI 1884.

49. CORTESE 1883; CONSOLE, FABBI, PANTALONI 2018, pp. 123-124.

50. *Ibidem*.

After 1783, perception of the geological risk in Calabria was also spread by the landscape descriptions and the iconography of Calabria conveyed by the Grand Tour travellers, where the suggestion of ruins is very strong<sup>51</sup>. The so-called *flagello* (scourge) changed the face of modern Calabria, modifying its landscape, settlement system, roads, etc., and spreading the image of a dangerous, wild region, not only due to banditry but also from a natural point of view, which persisted throughout the 20<sup>th</sup> century<sup>52</sup>. In 1915, the English traveller Norman Douglas, author of one of the most famous travel books in Calabria, stressed the image of geological disorder in his description of Aspromonte, the mountains in the southern part of the region: «It is an incredibly harsh agglomeration of hill and dale, and the geology of the district [...] reveals a perfect chaos of rocks of every age, torn into gullies by earthquakes and other cataclysms of the past»<sup>53</sup>. The same perception remains in the 1950s, as the writer and journalist Guido Piovene described Calabria as the “strangest” of the Italian regions: «It would seem that the debris of different worlds has collapsed together here; that an arbitrary divinity, after having created the continents and the seasons, enjoyed breaking them to mix the shiny fragments»<sup>54</sup>.

However, it is above all in the sphere of politics and, in particular, among parliamentary chronicles, where it is possible to find the centrality of the theme of geology and the perception of risk. In 1904, the historian and politician Giustino Fortunato underlined the anthropic and natural factors that contributed to “Italy’s Southern Question” and defined Calabria as *un vero sfasciume* (“totally wrecked”) due to its geological disorder<sup>55</sup>. This impressive image, then often mentioned in the form *sfasciume pendulo sul mare* (“wreckage hanging over the sea”) was particularly impressive and seems to have influenced the political discourse on Calabria’s issues throughout the 20<sup>th</sup> century<sup>56</sup>.

This general perception helps to explain the extraordinary measures undertaken by the national government after the 1907 earthquake in Ferruzzano and, above all, after the disastrous earthquake in the Strait of Messina area in 1908. These earthquakes hit most of the Ionian area of Calabria, bringing together the geological instability due to seismic activity and the hydrogeological instability due to deforestation, seeing a massive relocation process of towns and villages as the main solution

51. See MENOZZI, MANIACI 1992; SULFARO 2016.

52. See PLACANICA 1992.

53. DOUGLAS 1915.

54. PIOVENE 1957.

55. FORTUNATO 1904, pp. 9-11.

56. The expression by Fortunato was also used, among others, by Manlio Rossi-Doria; see ROSSI-DORIA 2005.

to the problem. In truth, the relocation of towns was a trend that had been already tested in the process of reconstruction after the earthquake of 1783, when the engineers appointed by the Bourbon government had the task of identifying new sites for the location of the new modern settlements<sup>57</sup>. However, while for them the criteria for the selection of new sites were the nature of the soil, the easy water supply, the proximity to the coast or public roads, and the proximity to the destroyed villages<sup>58</sup>, the processes of relocation of the settlements carried on by Italian Governments, more than 100 years later, were not established through general criteria and delegated to the local administrations.

Law n. 445, 9<sup>th</sup> July 1908 (Provisions for Basilicata and Calabria) can be considered the first national measure aimed specifically at resolving the damage caused by earthquakes and hydrogeological instability through relocations. It had a very wide scope, such as developing public works, such as roads and other infrastructures, regulating rivers and rainwater, compensating owners of pastures to be reforested and incentivizing silviculture, and distributing chinchona-based products to treat malaria; above all, it was the first Italian law that concerned the relocation of those small towns which had been seriously damaged by earthquakes and hydrological instability or were undergoing the risk of being damaged. Part 4 of the Law provided that, in the light of the level of damage and risk, some towns and villages were to be repaired and made safe, while others were to be moved to other locations<sup>59</sup>; however, it made relocation the main solution to the problems, as it allocated a much larger amount of money for transferring inhabitants and building new towns in different places, in comparison to the funds allocated for repairing and rehabilitating damaged towns<sup>60</sup>. The

57. In February and March of 1783, about 5 tremors reached the 11<sup>th</sup> degree of the Mercalli scale, several hundred of less intensity. The victims, overall, were between 30,000 and 50,000. On the theme of relocation of towns after the earthquake of 1783, see PRINCIPE 1976; PRINCIPE 1985; ZINZI 1994.

58. The last criterion was considered important not only for the proximity of the old fields to be cultivated but above all for the procurement of building materials: especially in those cases of the poorest new houses, the materials, such as bricks, stones, and wood, were recovered from the houses destroyed by the earthquake. This last criterion was considered important not only for the proximity of the old fields to be cultivated but above all for procuring building materials. Especially in the cases of the poorest new houses, the materials, such as bricks, stones, and wood, were recovered from the houses destroyed by the earthquake.

59. The option of relocation had been already anticipated in Law n. 255, 25<sup>th</sup> June 1906, (Provisions for Calabria), aimed at allocating funds for the damage provoked by the earthquake in 1905. In particular, Article 39 provided that, having consulted the Royal Commission, the king's government, for reasons of safety and hygiene, could order and have carried out, at its own expense, the demolition of buildings located in places recognized as permanently dangerous, and determine, after consulting the local Townhall and the Province offices, the new locations to rebuild the new towns. On the earthquake of 1905 in Calabria, see ALFANI 1909.

60. The Law (article 62), provided L. 1,200,000 for rehabilitation works of damaged towns listed, L. 1,530,000 for buying

two lists attached to the Law indicated no towns to be repaired or rehabilitated (Table D), while it reported 62 small towns and 27 hamlets to be moved (Table E) in Calabria. Between 1908 and 1916, 36 settlements to be moved were in the province of Reggio Calabria (fig. 6)<sup>61</sup>. On the Ionic side of the province, several small towns, such as Roghudi, Staiti, Brancaleone, Bruzzano, and Ferruzzano; the list was continually updated, with additions and deletions, throughout the 20<sup>th</sup> century and beyond<sup>62</sup>. Just to give some examples, in 1928 Brancaleone was taken away from the list, for no apparent reason; in 1938, Mammola, Staiti, and San Giovanni di Gerace, were the same; Ferruzzano remained on the list as long as the law remained in effect.

The inclusion or not on the list of towns to be moved was established by a Royal Commission<sup>63</sup>; for each town included in the list, the civil engineering offices had to draw up two plans, one of which indicated the old area to be abandoned and the other the location where the new town was to be built. In addition, also in cases of partial relocations, they could indicate which public buildings needed to be moved, taking into account the number of inhabitants and the distance from other towns where there already were those public buildings. A list reporting the identification of the houses to be abandoned was to be published in the municipal register for a month; then, within two months, the owners had to decide if they should move or not to the new location. Apart from the procedures for relocation<sup>64</sup>, Law n. 445 provided that the owners would have to demolish their houses if located in dangerous places within ten years; after that deadline, the local administration

areas where build new towns, and L. 3,200,000 for building roads, squares, town halls, churches, and new schools in the new towns.

61. Towns to be relocated in the province of Reggio Calabria between 1908 and 1916 (extracted from “Table E - attachment to Law n. 445, 9<sup>th</sup> July 1908 and updates”). In 1908: Bagaladi, Bianco (hamlet Pardesca), Bianco (hamlet Zoparto), Brancaleone, Bruzzano, Caraffa del Bianco, Caridà, Casignana, Caulonia, Condofuri, Ferruzzano, Mammola, Melicuccà, Oppido Mamertina, Palizzi, Precacore, Rogudi, San Pier Fedele and the hamlet Garopoli, Sant'Agata di Bianco, Sant'Eufemia d'Aspromonte, San Giovanni Gerace, Sant'Ilario dello Ionio, San Lorenzo, San Roberto and the hamlet San Peri, Scido, Sinopoli Inferiore, Staiti, Terranova Sappo Minulio and the hamlet Scroforio; in 1911 (Law n. 311, 13<sup>th</sup> April 1911): Calanna, Melito Porto Salvo (hamlet Pentedattilo), Maropati and the hamlet Tritanti; in 1913 (Law n. 1023, 11<sup>th</sup> July 1913): Cataforio and the hamlet Mosorrofa; in 1916 (Decree n. 299, 2nd March 1916): Caulonia (hamlet Ursini).

62. The last update of Law n. 445 was in 2002 (Decree n. 302, 27<sup>th</sup> December 2002); the last update of the list (tables D and E) was in 1941.

63. It was the same Commission designated by the of Law n. 255, 25<sup>th</sup> June 1906.

64. The law provided a 100 mq area to each owner of a house to be abandoned and to each householder resident in the settlement to be moved (Article 67); the Municipal Council, taking into account the declarations of the owners and any complaints, had to establish the new locality and draw up the list of owners and householders to whom the areas are to be assigned (Article 69).



Figure 6. The settlements to be moved in the province of Reggio Calabria according to Law n. 445, 9<sup>th</sup> July 1908 (Provisions for Basilicata and Calabria). In red are the small towns listed in Table E in 1908; in orange in 1911; in yellow in 1913 and 1916 (elaboration by the author).



would have demolished the buildings again at the owners' expense, possibly deducting the value of the demolished materials if acquired.

The earthquake of the 28<sup>th</sup> of December 1908 consolidated the policy of relocation of smaller towns and villages as the main solution for emergencies<sup>65</sup>. Evaluations on pre-existing buildings were quite absent in these studies: apart from some well-known damage estimates, such as the one by the geologist Giuseppe Mercalli<sup>66</sup> and the one by Mario Baratta<sup>67</sup>, which referred to the absence of anti-seismic technologies, to architectural typologies and the height of buildings in the two main cities, Messina and Reggio Calabria, the analysis in the small towns and villages damaged in Calabria were often reduced to prejudices on building quality. Guido Alfani, seismologist and meteorologist of the Ximenian Observatory of Florence, was one of the first to write about the 1908 earthquake. He underlined “the miserable state of buildings in Calabria”, basing essentially on the effects that earthquakes had historically always had on it: «These are houses in general with a very problematic resistance even in normal times, which unfortunately, cease to be houses and begin to be tombs at the first impact of a slight earthquake»<sup>68</sup>.

Venturino Sabatini, an engineer of the Royal Mining Office, and then geologist of the Royal Geological Office, analyzed the effects of the earthquake on the ground (now called co-seismic) correlating them to the damage to buildings, anticipating the principles of seismic zoning currently in use by the scientific community, and highlighting that the specific characteristics of the ground increased the action of the earthquake. In the analysis of the “buildings conditions”, like Alfani, he underlined the “deplorable construction techniques” still used at that time in Calabria, when the art of building had instead progressed so much elsewhere<sup>69</sup>. However, Sabatini focused more specifically on the characteristics of the buildings in the southern Ionic Area, through a survey that brought out the co-responsibilities of foundations, masonries, and roofings typologies in the devastating effects of the earthquakes on the existing buildings<sup>70</sup>. Above all, he focused on the process of segmentation of sandstones, a geological formation that characterizes most of the inner areas of the Ionic Southern Calabria and which, even if it seemed stable terrain, showed great instability in many sites, such as

65. On the 1908 earthquake, see VALTIERI 2008.

66. MERCALLI 1909.

67. BARATTA 1910.

68. ALFANI 1909, p. 7.

69. SABATINI 1909, p. 83.

70. *Ivi*, p. 84-100.



Bruzzano and Ferruzzano, where these formations were reduced to a mass of blocks<sup>71</sup>.

In addition, Sabaitni supported the Government in identifying the most suitable areas for reconstructing the destroyed settlements destroyed. In 1909, a Royal Commission – composed exclusively of geologists and mining engineers – was appointed to designate the most suitable areas for reconstructing the towns hit by the earthquake and other previous ones<sup>72</sup>. The work carried on by experts pushed the government to adopt a series of legislative measures through which it attempted to plan and regulate the reconstruction. All the municipalities listed in the Royal Decree n. 595, 3<sup>rd</sup> August 1909 could adopt a reconstruction master plan by entrusting it to a specific master plan office directed by a civil engineer, regardless of the number of inhabitants. Among the small towns in the province of Reggio Calabria included in the list, there were many Ionic coast centers, such as Bruzzano and Ferruzzano<sup>73</sup>; despite some of these small towns suffering serious damages due to the earthquakes in 1907 and 1908, their relocations were not done in the first half of the 19<sup>th</sup> century.

Bruzzano has been probably the first case along the Ionic coast of a small town abandoned and relocated (fig. 7)<sup>74</sup>. The new town, Bruzzano Zeffirio, is an example of a new approach aimed at improving safety from natural disasters: located on a plain, it has a regular road network and was built following anti-seismic criteria established by Decree n. 595/1909 (figs. 8-9). It is interesting to note that the old settlement was not demolished after the abandonment, as required by Law n. 445/1908: the ruins of the buildings are still there, as in all cases of relocation (fig. 10).

In this perspective, the most significant example was represented by Ferruzzano: it was partially destroyed by the earthquakes in 1907 and 1908, and the inhabitants were obliged to

71. See also SABATINI 1908, a previous work by Sabatini focused on studying the slopes in Calabria. On the surveys by Venturino Sabatini see Sulpharo on this issue.

72. The Royal Commission was composed of: Pietro Blaserna (physicist), Angelo Battelli (physicist), Eugenio Caputo (soldier), Raffaele de Cornè (engineer), Carlo De Stefani (geologist), Paolo Marzolo (soldier), Luciano Mazzuoli (mining engineer), Annibale Riccò (astronomer), Luigi Palazzo (physicist), Giovan Battista Rizzo (physicist), Torquato Taramelli (geologist). See *Relazione della Commissione Reale 1909*.

73. The list included 108 towns and small towns in the Province of Reggio Calabria. Among the small towns in the Southern Ionic area, apart from Bruzzano and Ferruzzano, were included: Africo, Agnana, Anoa, Antonimina, Ardore, Bagaladi, Benestare, Bianconovo, Bivongi, Bova, Bovalino, Brancaleone, Camini, Canolo, Caraffa del Bianco, Cardeto, Careri, Casignana, Caulonia, Ciminà, Condofuri, Gerace Marina, Gerace Superiore, Gioiosa Ionica, Grotteria, Laganadi, Mammola, Martone, Melito Porto Salvo, Monasterace, Montebello Ionico, Palizzi, Pazzano, Placanica, Plati, Portigliola, Precacore, Riace, Roccaforte del Greco, Roccella Ionica, Roghudi, San Giorgio Morgeto, San Giovanni di Gerace, San Lorenzo, San Luca, Santa Agata del Bianco, Siderno, Staiti, Stignano e Stilo.

74. Russo 2002, pp. 88-90.

live in emergency barracks or to move to other existing villages; anyway, the old town was never completely abandoned and a new town was never actually built, despite it was in the lists of small towns to be moved attached to all laws, provisions and measures concerning the relocation emitted during the 19<sup>th</sup> century<sup>75</sup>. Ferruzzano was the epicenter of a strong seismic event (9<sup>th</sup> degree of the Mercalli Scale) on the 23<sup>rd</sup> of October 1907. According to official estimates, the deaths due to this earthquake were 167 in the entire area, 158 of which in Ferruzzano (approximately 8% of the town's population); there were also around 90 injured, 50 of which in Ferruzzano. This earthquake was also the first natural disaster after the Italian unification with a national resonance: the head of Government Giovanni Giolitti created a National Committee that would give assistance to the population, deal with the recovery of the homeless, and collect funds from public administrations and private. Other tremors continued to plague the area for several months; one year later, as already mentioned, a more devastating earthquake plagued the area of the Strait of Messina, investing also Ferruzzano, where no repairs of the 1907 earthquake had been already made. There were no victims, but 350 out of 400 buildings (87,5%) collapsed or were considered to be demolished; 25 buildings were heavily damaged and the rest had little damage<sup>76</sup>. In the subsequent two years, other minor earthquakes occurred in Ferruzzano: the intensity of the tremors was mild, but the effects on the already damaged buildings were still disastrous. The removal of rubbles took some decades; in the meanwhile part of the inhabitants lived in barracks in an emergency camp located in Saccuti, an area close to the old destroyed center; others started to move spontaneously near the coast. In addition, the old small town was slowly back to life, through some spontaneous interventions aimed at reconstructing, transforming, and repairing the built fabric<sup>77</sup>.

### 3. *The 1950s: the request for modernity and the end of life in inner areas*

In 1950, the Government promulgated Law n. 646, 10<sup>th</sup> August 1950, which created a fund for extraordinary works of public interest in the South of Italy (so-called *Cassa per il Mezzogiorno*). During

75. In this perspective, the anthropologist Vito Teti speaks about a “neverending abandonment” in the case of Ferruzzano; TETI 2008, p. 410.

76. See MERCALLI 1909.

77. See SULFARO in this volume, pp. 202-227.



Figure 7. Bruzzano in 1920s (image courtesy of Carmelo Altomonte).



Figure 8. Map of the new town of Bruzzano Zeffirio, Reggio Calabria.



Figure 9. Bruzzano Zeffirio, Reggio Calabria (photo N. Sulfaro, 2022). On the next page, figure 10. Bruzzano, Reggio Calabria. The ruins of the old settlement (photo N. Sulfaro, 2022).





the decade 1950-1960, it introduced a general plan for the execution of works aimed specifically at the economic and social progress of southern Italy, coordinating it with the programs prepared by the local and national public administrations. The plan concerned organic complexes of works relating to the arrangement of mountain basins and related waterways, reclamation, irrigation, and agricultural transformation, also depending on land reform programs, mobility, aqueducts, sewers, and plants for the enhancement of agriculture and tourism.

During the post-World War II period governments looked at emigration in Southern Italy as the price to pay for the reconstruction of the country and the huge funds received from the Marshall Plan<sup>78</sup>. Unlike in the decades before when internal and external mobility was mainly connected to structural causes, in this period, alongside economic motivations, cultural motivations also emerged: urban and metropolitan contexts began to conquer people's imagination, with the search for "industrial work" perceived as an expression of modernity<sup>79</sup>.

The traditional rural culture and farming conditions were increasingly perceived by the protagonists of the rural world as unsuitable for the needs of modern life. This is the effect of a complex process that, in Calabria, the anthropologist Luigi Lombardi Satriani calls "deculturalization" implemented by the culture of profit to the detriment of the subordinate classes, to destroy their cultural resilience and thus make them homogeneous and consumerism dependents<sup>80</sup>. In this perspective, Lombardi Satriani speaks also of "mythicization of elsewhere", in a context in which the 'here', well known, is refused in order to construct a mythical image and descriptions of different lifestyles<sup>81</sup>.

It is undeniable that the living conditions of the inhabitants of many small towns in inner areas were still poor in Southern Italy. As is well known, in July 1950, Alcide De Gasperi, head of the Italian government, became aware of the inhumane conditions of people living in Basilicata during a visit. He used an expression already formulated by the Communist Party secretary Palmiro Togliatti after a famous visit to the same places in 1948, indicating the Sassi, the oldest part of the city of Matera, with the caves and hovels inhabited by men, women, children, and animals, as "a national shame"<sup>82</sup>.

78. GRECO 2013, pp. 151-152; see also DE CLEMENTI 2010.

79. GRECO 2013 p. 153; on the argument see also BEVILACQUA 1998 and BEVILACQUA 2001.

80. LOMBARDI SATRIANI, MELIGRANA 1987, pp. 201-203.

81. *Ivi*, p. 202.

82. On May 17, 1952, the "Special Law for the rehabilitation of the Sassi" (n. 619) was promulgated. It established seven villages and districts to be built, to transfer the farmers and artisans living in 2,472 caves and houses declared uninhabitable and established the recovery of 859 partially habitable houses in the Sassi, for a total cost of 4 billion lire.



In some small towns and villages in Calabria, the living conditions were similar to the Sassi, even before the floods of the 1950s arrived, which worsened the situation. «Scratched walls, old wooden desks, a worn map and braziers to warm the bare feet: this is the elementary school of Africo»: a photo by the photojournalist Tino Petrelli appeared in the weekly magazine *L'Europeo* in 1948 with this caption, which later became famous and republished by many other newspapers, including abroad. That image, over the years, has become the realistic representation of the poverty, abandonment, and isolation of the South of Italy. The photo, together with others that documented further glimpses of the small town of Africo, accompanied the famous reportage by the journalist Tommaso Besozzi "The streets are too narrow to open an umbrella". Some years later, in 1959, the book "*Tra la perduta gente*" (*Among the Lost People*), by Umberto Zanotti Bianco was published: written between 1916 and 1928, it is a collection of short stories concerning a report on Africo by the author and Manlio Rossi Doria<sup>83</sup>. Africo was an isolated mountain small town in a landslide area, had a very high mortality rate, especially among children, had no doctor, and had a very high rate of illiteracy. Most of its land was unsuitable for cultivation; the nutrition of the inhabitants was insufficient regarding quality and scarcity of food.

In 1951 several floods plagued Italy from North to South: among the most devastating was the Polesine flood in November 1951 which was a catastrophic event that involved a large part of the provinces of Rovigo and Venice, causing about 100 victims and more than 180,000 people were left homeless, with many social and economic consequences<sup>84</sup>. One month previously, between the 12<sup>th</sup> and 18<sup>th</sup> of October 1951, a heavy flood plagued the Aspromonte area of the lower Ionian Sea. It was one of the most catastrophic floods that ever broke out in southern Calabria causing death and destruction. The amount of water that fell in just over a hundred hours was remarkable: 1770 mm of rain, an amount higher than the annual average. Many streams overflowed, flooding various villages along the coast and inner areas and causing landslides. Road and telegraphic communications were cut off in over fifteen locations; the railway line along the coast was interrupted in 22 points, the Ionian coast road (the current S.S. 106) was interrupted in several points due to the destruction of several bridges; many small towns and villages were isolated; along the coast, connections were possible only by sea. The local economy collapsed, citrus groves and crops were destroyed, and hundreds of families of farmers were left without work. For the official government toll, the victims throughout Calabria amounted to about seventy. For the province of Reggio Calabria alone, the

83. ROSSI-DORIA 1929.

84. On the Polesine Flood in 1951 see JORI 2021.

damage amounted to 30 billion lire. Four thousand five hundred people were made homeless, and 1,700 houses collapsed or were uninhabitable. Among the damaged infrastructures, there were 26 collapsed bridges and 77 damaged aqueducts. The flood caused 3 victims in Canolo where, already in the past, many natural disasters had plagued the inhabitants. Just to mention the main events, in 1880 and 1881 two heavy floods caused serious damage to the small town; in 1894 an earthquake destroyed 12 buildings and damaged the vault of the main church, which had to be demolished; it was damaged in 1907 and in 1908 earthquakes when 25 buildings and again the main church<sup>85</sup>. The effects of the flood in 1951, initially led to the evacuation of the inhabitants from the upper part of the town, which was damaged by the fall of rocks from the overlooking cliff; then it led to the unavoidable decision, issued with the Ministerial Decree of 2<sup>nd</sup> of April 1952, to transfer the town to the Melia plain, where the new town – Canolo Nuova – was born<sup>86</sup> (figs. 11-12). On the one hand, the choice to transfer the city upstream from the old one certainly could guarantee major protection from hydrogeological instability, compared to the general trend of the relocation of small towns along the coast; on the other hand, the choice was also more suited to the local economy, firmly connected to the extraction of stone material, agriculture, and farming. However, although most of the inhabitants moved to Canolo Nuova, the old city was never been completely abandoned even today, it has preserved the town hall and some services and, at the same time, some ruins from 1951 events<sup>87</sup> (figs. 13-16).

In 1952, the government promulgated several general laws and provisions for flood emergencies in the country<sup>88</sup>. However, only one year later, in the Autumn of 1953, another heavy flood affected the Ionic area, causing heavy damage in Casalnuovo and Africo, where inhabitants were evacuated and transferred to Reggio Calabria and some coastal towns. Thus the government promulgated a new Law, n. 938, 27th December 1953, to allocate provisions for the areas damaged; in particular, this law equated the homeless to war refugees, extending the welfare benefits of the Second

85. BILOTTO, SALERNO, VELTRI 2015, p. 276; see also TETI 2004.

86. See MAREGGI in this volume, pp. 152-201.

87. On the relocation of Canolo and the relationship between the old and the new town see MUSOLINO in this volume, pp. 374-395. See also MUSOLINO 2012.

88. Law n. 7 8<sup>th</sup> January 1952 - *Assistance to populations affected by recent floods; Law 10<sup>th</sup> of January 1952, n. 9 - Provisions for the areas damaged by the floods and storm surges of the summer and autumn of 1951 in Calabria, Sicily, Sardinia, Liguria, Piedmont, Lombardy, Veneto, Emilia, Tuscany, Puglia, and Campania; Law 23<sup>rd</sup> of May 1952, n. 624 - New Provisions for the areas damaged by the floods and storm surges of the summer and autumn of 1951 in Calabria, Sicily, Sardinia, Liguria, Piedmont, Lombardy, Veneto, Emilia, Tuscany, Puglia, and Campania.*



Figures 11-12. Canolo Nuova, Reggio Calabria (photos N. Sulfaro, 2022)



Figures 13-16. Canolo Vecchio, Reggio Calabria (photos N. Sulfaro, 2023).



World War refugees to the refugees from the areas affected by the floods that occurred in the autumn of 1953<sup>89</sup>. In addition, a wider set of interventions was developed through the so-called “Special Law”, Law n. 1177, 26<sup>th</sup> of November 1955 - Extraordinary provisions for Calabria, aimed at developing a plan for Calabria in 12 years, from 1<sup>st</sup> July 1955 to 30<sup>th</sup> June 1967. The plan was to involve works for the hydrogeological and reforestation arrangement of watercourses and slopes, for the stability and conservation of the land on the slopes, the reclamation of mountains and valleys, and interventions for the protection of small towns and villages from the risk of floods and landslides, including works for the rehabilitation of the damaged towns. If these interventions did not ensure the safety and economic stability of the inhabitants, the solution would be the partial or total relocation of the towns. In this perspective, the Special Law provided for updating the list attached to Law 445/1908; in addition to what was established in 1908 – assigning areas free of charge to the displaced – it assigned funds for the construction of new houses, also indicating the minimum standard typologies, consisting of three rooms and an extra room for rural or productive uses. The construction of aqueducts, sewers, internal roads, churches, schools, sports facilities, electric lighting systems, and cemeteries was also authorized at the new sites.

The relocation of Africo<sup>90</sup> opened a long debate among intellectuals and politicians, also based on experts' opinions and reports. In 1953 the writer Corrado Alvaro published an article entitled "Il dramma di un popolo" (*The drama of a population*) aimed at lashing the political class:

«It is the same area hit two years ago by a first flood of less horrendous proportions, a few days before the devastation of Polesine. There was then a bitter irony over those deaths; it was said that Calabria had the misfortune of a disaster as a good opportunity to attract attention to its evils, but another region in the north had a bigger one, concentrating the world's solidarity on itself»<sup>91</sup>.

According to Alvaro, the Government spent huge sums to consolidate slopes and riverbeds in vain: «After a few years, cracks already mark and break the bastions that hold the earth»<sup>92</sup>.

In the same year, the geologist Alberto Ducci carried out a study on the geological and geographical

89. Law n. 137, 4<sup>th</sup> March 1952 - *Assistance for refugees*. The government adopted and coordinated all the initiatives necessary for the rescue, accommodation, and assistance of the refugees, through the peripheral offices of the State and associations with charitable purposes. Costs relating to the shelter and maintenance of refugees were funded by the State. Refugees who did not need this kind of assistance had a temporary government subsidy.

90. See SANSÀ, pp. 90-105, and BUTTIGLIONE, pp. 106-125, in this volume.

91. ALVARO 1953.

92. *Ibidem*.

causes of floods and landslides in Southern Calabria, including some proposals concerning hydraulic and forestry works and consolidation of settlements<sup>93</sup>. According to the geologist, the area was affected by a strong erosion phenomenon in full swing; using the same definition by Giustino Fortunato, he defined the conditions of the area as a “wreckage”<sup>94</sup> caused by the particular and deep fracturing state of the rocks constituting the entire eastern side of Aspromonte and by the deep alteration of the lands due to geochemical processes<sup>95</sup>. Ducci was quite radical about the issue concerning the relocation of Africo: he excluded the possibility of building a new town within the area of the municipality, due to the hydrogeological instability<sup>96</sup> (figs. 17-19).

One year later, Zanotti Bianco argued with the expertise of Ducci, underlining that, as already expressed by Fortunato, the entire Calabria was a “wreckage”, that governments should have dealt with in the past through works and reclamations of mountains and valley never carried out<sup>97</sup>. Zanotti Bianco indicated a place called Caruso, in plain but close to the old small town, as a suitable location for the new settlement: he mentioned how, in the past, other villages had chosen more inland locations, for safety reasons and to escape malaria<sup>98</sup>.

However, the most widespread position was to move the new town near the coast, within another municipality, since the territory of Africo did not border the sea. The Agricultural and Forestry Department maintained that the territory of Africo had to be considered as an immense landslide, which does not allow either the reconstruction of urban settlements or the re-development of rural activities until the vast mountain and forestry reclamation was carried out which required at least fifteen years<sup>99</sup>.

In a Parliamentary debate in 1958, Eugenio Musolino, a communist Calabrian politician, argued that the unfavorable position to the relocation of the villages in Calabria was due to a “conservatory point of view”: «it does not take into account the needs of the ongoing civilization of the populations, and is convinced of the convenience of not overturning the economic structures, handed down to

93. Ducci 1953.

94. See *infra* at notes 54-55.

95. Ducci 1953.

96. *Ibidem*.

97. ZANOTTI BIANCO 1954, p. 456.

98. *Ibidem*.

99. *Ivi*, p. 456-457.



On this and in the next page, figures 17-19. Africo Vecchio, Reggio Calabria (photos N. Sulfaro, 2023).







us by our fathers»<sup>100</sup>. According to Musolino, the floods in 1951 and 1953 were caused by some particular meteorological – such as the condensation phenomena of cold air currents coming from Northern Europe and hot air currents coming from Africa –, which made the entire area more exposed to natural disasters<sup>101</sup>. For this reason, the solution was the depopulation of those inner areas that presented phenomena of hydrogeological disorder, to allow forestry technicians to carry out works of reforestation<sup>102</sup>. According to the politician, keeping alive ancient small towns and villages in inner areas was impossible as human activities, such as agriculture constituted an obstacle to reforestation. In addition, in most cases interventions aimed at reinforcing or repairing existing settlements had proven to be anti-economic; the choice to move Africo near the coast was inevitable to escape the slow and inexorable movement of the land that threatened all the poor populations of this part of Calabria<sup>103</sup>.

The position of Musolino, was also very significant since the poverty of Calabria in the 1950s could be measured, as in part in previous decades, not only per capita income but also by the number of beds in hospitals, the length of the road and railway network, the number of illiterate people and the underemployed population. In this perspective, in 1961, Law n. 705, 28<sup>th</sup> July represented a turning point for the abandonment processes, as relocation was no longer considered just a solution to seismic and hydrogeological risk, but also an aid in terms of social and cultural issues. It provided for the elimination of unsafe and unhygienic housing in Calabria and provided funds for increasing employment and for education; in particular, 10 billion lire was dedicated to housing, to accommodate families who lived in caves, shacks, basements, and unhygienic spaces; 609 million lire was allotted to equip schools with audio and television sets and class libraries. The legitimate need for better living conditions was definitely translated to an idea of development that contrasted and compared inner areas to coastal ones, the countryside to the towns, and, above all, the rural world to the modern urban way of living.

#### 4. *Conclusions: from the 1970s to the contemporary debate*

Eventually, Africo was relocated near the coast, very far from the original settlement, where the inhabitants, almost all shepherds, and farmers, realized how they would have no new job opportunities,

100. MUSOLINO 1958, p. 767.

101. *Ivi*, p.769

102. *Ibidem*.

103. *Ivi*, pp. 769-770.

as the new village was near the sea<sup>104</sup> (figs. 20-21). This launched a debate that is still, in part, active: on the Ionian coast, the exodus was at the root of the phenomenon of *paesi erranti* (wandering villages)<sup>105</sup> where depopulation weakened entire communities that were unable to support their ancient settlements and not even able to set up productive activities in the new sites. The phenomenon is also called *paesi doppi* (double villages)<sup>106</sup> and based on the division between the ancient settlements on the hills or mountains and the new settlements built over time on the coast or in reclaimed areas; the latter appear different from the ancient, pre-existing and often traditional towns and villages, since they were far from representing truly autonomous centres, as they still administratively depended on the mother town located in inner areas<sup>107</sup>. Above all, this phenomenon ended up accelerating the hydrogeological instability, which was one of the reasons of the abandonment, due to the lack of maintenance interventions on the territory that the ancient peasant communities had practiced in inner areas. This could no longer be guaranteed as they had emigrated or moved to the coastal areas, where the effects of hydrogeological instability were paradoxically harder felt. Contacts between the new settlements and the original ones were frequent, but the road connections were not satisfactory. The isolation of inner area villages – due to poor roads – was also at the origin of their underdevelopment which has continued, up to today, thus fueling the precariousness of the general living conditions of the population residing in these areas<sup>108</sup>.

In the 1970s in Italy some of the national government competencies, among which the relocation and stabilization of towns and villages<sup>109</sup>, passed to the regions. However, the approach to the issue carried on by the regional government continued to be nearly the same as the national one. The first law emitted by the regional government, Regional Law n. 16, 31<sup>st</sup> August 1973 – “Relocation and stabilization of towns and villages plagued by natural disasters”, provided for relocation plans which had to include the identification of the new areas, a preliminary project of new towns and new infrastructures, the costs and, as the only novelty, the indication of the new use of the areas to be

104. See STAJANO 1979.

105. TETI 2004.

106. TETI 2008. See also MAREGGI in this volume, pp. 152-201.

107. CARCHEDI, VITIELLO 2014, p. 85; SORIERO 1985 p. 756.

108. NOUAT 1960, p. 251; CARCHEDI, VITIELLO 2014, pp. 85-86.

109. Art. 2, comma c, lettera m of DPR n. 8, 15<sup>th</sup> January 1972, *Trasferimento alle Regioni a statuto ordinario delle funzioni amministrative statali in materia di urbanistica e di viabilità, acquedotti e lavori pubblici di interesse regionale e dei relativi personali ed uffici.*



From the top, figure 20. Africo Nuovo, Reggio Calabria (photo N. Sulfaro, 2022); figure 21. Africo Nuovo in a frame from the movie "Anime nere", directed by Francesco Munzi, 2014.

abandoned. The Regional Law n. 22, 20<sup>th</sup> August 1977 allowed the regional government to intervene also in the absence of a preliminary project and, above all, without the indication of the new uses of the areas to be abandoned. Within this legislative framework, following also the transfers planned already in the 1950s, the new towns of Cardeto, Condofuri, and Pentedattilo arose. Roghudi Vecchio was declared unusable following the two very strong floods that occurred in October 1971 and January 1973, and the inhabitants were distributed in the neighboring towns. After eighteen years, in 1988, the new Roghudi was born near the Ionian coast within the territory of Melito di Porto Salvo (figs. 22-23).

In March and April 1978 some earthquakes damaged some small towns in the Ionic area, such as Ferruzzano, where it caused some collapses and cracks to the 70% of buildings<sup>110</sup>. This pushed the Regional government to intervene with funds aimed at repairing the damages in some towns and villages. The Regional Law n. 2, 24<sup>th</sup> February 1979, didn't concern the relocation of damaged settlements, but only the reconstruction, repair, and recovery of buildings destroyed or damaged by the earthquakes<sup>111</sup>.

The tendency to propose the relocations seems to have subsided, given the high economic and social costs which were often associated with the limited success of the new towns<sup>112</sup>. On the other hand, those were years in which the recovery of built heritage became, at different levels, more central in urban policies; however, above all, the demographic crisis continued to affect Southern Italy making relocations less interesting and, above all, making the public investments less sustainable<sup>113</sup>.

For this reason, when the regional Law n. 3, 24 January 1997, allocated funds to provide for the undelayable transfer needs of the small town of Ferruzzano<sup>114</sup>, as it was particularly plagued by the seismic events of March-April 1978, the initiative failed: there had been practically left no inhabitants in the old town and building new houses was no longer necessary.

110. See BOTTARI *et al.* 1982.

111. It provided funds aimed at reconstructing and repairing buildings and stabilizing the sites in San Luca, Samo, San Lorenzo, and Roccaforte del Greco, seriously at risk in terms of geological stability; in addition, the law provided funds to recuperate or reconstruct public and private buildings also in Bruzzano Zeffirio, Palizzi, Condofuri, Bagaladi, Bova Marina, Caraffa del Bianco, Casignana, Montebello Jonico, Sant'Agata del Bianco, Staiti and Reggio Calabria. It is interesting to underline how some of these small towns – such as Bova Marina and Bruzzano Zeffirio – were new towns relocated or settled during the first half of the 19<sup>th</sup> century.

112. Russo 2002, p. 74.

113. On the demographic trends in this period, see DEL PANTA, DETTI 2019, p. 14.

114. According to the Law the municipal administration was authorized to launch, within ninety days a competition for planning and executing the works for a new town.





Figure 22. Roghudi, Reggio Calabria (photo N. Sulfaro, 2022).



Figure 23. Roghudi Nuovo, Reggio Calabria (photo N. Sulfaro, 2023).

However, today the debate on these small towns, now considered ghost towns, continues, trying to develop strategies aimed at revitalizing them and contrasting depopulation<sup>115</sup>.

In extreme summary, we can state that the triggering factors of the processes of abandonment of small towns and villages in Southern Calabria were natural disasters, such as earthquakes and floods which, due to the geo-morphological characteristics of the territory, in turn, activated processes of internal migration and relocation, much more accentuated than in the rest of Italy<sup>116</sup>. In this perspective, the events in Calabria can be seen as a lens through which to look at the processes that occurred in the entire country, as the natural disasters intertwined with other anthropic factors that were at the basis of the Italian inner areas depopulation during the 19<sup>th</sup> century: the radical transformations of the rural world, the industrial development and the establishment of the urbanized society<sup>117</sup>.

This dynamic emerged already in 1966, when the Deputy Pasquale Poerio, a member of the Communist Party, described the result of the application of the Special Law in Calabria to the then-current state of affairs. That year was once again dramatically representative of the hydrogeological disorder in Italy, with the well-known catastrophic flood in Florence between October and November which, according to Poerio was:

«A revenge of the abandoned countryside and hills against the motorways and the cars that have been preferred to them: against the motorways, collapsed by the flood of rivers and streams, and against the cars, buried in the car parks by the mud carried downstream from the hills and from the mountains due to flood rains (...) The same scenes, the same tragedy that occurred in Calabria in October and November 1951 and November 1953. Even at that time, so many deaths, so much misery, so many misfortunes, which were superimposed on the existing misery and abandonment, not by the will of the Calabrian people, but by the choice that the ruling class of our country has always made in Calabria and Southern Italy. A huge tragedy also at that time, which moved national and global public opinion, but which did not serve as a lesson to the current ruling class of our country, if it is true, as it is true, and as the dramatic events of recent days confirm, that the soil remained undefended, that the countryside remained abandoned, that the forest was devastated, that the hill was depopulated, that the first defender of the soil, the farmer, was forced to leave the land»<sup>118</sup>.

The speech by Poerio can still be agreed on today regarding the analysis of the abandonment process of inner areas and its effects on a broader level. Between 1861 and 1961 the poorest and most peripheral mountainous and hilly territories were gradually abandoned, starting from those

115. Among the vast bibliography on the issue, see OTERI, SCAMARDI 2020.

116. GIOVANNINI 2001, p. 7.

117. DEL PANTA, DETTI 2019, p. 13.

118. *Atti Parlamentari* 1966.

with less profitability, in favor of the plains and foothills centers<sup>119</sup>. Various large-scale interventions accompanied this; at the same time, industrial development has set a powerful attraction towards urban centres in motion, mainly in the North, but also in some large centers in the South. The common perception of this process is that of two communicating vessels, one that empties and the other that fills up. However, it is a naively mechanical and misleading model, as the process is interactive: as the city grows, it transforms, while as it empties the countryside profoundly changes<sup>120</sup>; at the same time, this profound transformation of the countryside has, in turn, an effect on coastal areas. These processes should be considered more and more seriously, especially in the current context of climate change.

119. MARTINOTTI 2011, p. 133.

120. *Ivi*, p. 138.



## Bibliography

- ALFANI 1909 - G. ALFANI, *Primi appunti sul terremoto calabrese del 23 ottobre 1907*, in «Rivista di Fisica, Matematica e Scienze Naturali», VIII (1907), 94, pp.5-8.
- ALFANI *et al.* 2012 - G. ALFANI, A. CORTESE, F. CRESCENZI, G. FAVERO, A. MICALI, L. POZZI (a cura di), *I censimenti nell'Italia unita. Le fonti di stato della popolazione tra il XIX e il XXI secolo*, Atti del Convegno "I censimenti fra passato, presente e futuro" (Torino, 4-6 December 2010), «Annali di Statistica», Anno 141, Serie XII, Vol. 2, Istituto nazionale di statistica, Roma 2012.
- ALVARO 1953 - C. ALVARO, *Il dramma di un popolo*, in «Corriere della Sera», 24 October 1953.
- Atti Parlamentari* 1966 - *Discussione del disegno di legge: Proroga della durata dell'addizionale istituita con l'articolo 18 della legge 26-4 novembre 1955, n. 1177 (3422); e della proposta di legge Foderaro: Delimitazione del campo d'impiego alla sola Calabria del gettito derivante dalla legge 26 novembre 1955, n. 1177, e proroga per un quinquennio (1839)*, in *Atti Parlamentari Camera dei Deputati IV Legislatura, Discussioni - Seduta del 12 dicembre 1966*.
- BARATTA 1910 - M. BARATTA, *La catastrofe sismica calabro messinese*, Società geografica Italiana, Roma 1910.
- BARONE 1986 - G. BARONE, *Mezzogiorno e modernizzazione. Eletticità, irrigazione e bonifica nell'Italia contemporanea*, Einaudi, Torino 1986.
- BEVILACQUA 1998 - P. BEVILACQUA, *Riformare il Sud*, in «Meridiana», 1998, 31, p. 21.
- BEVILACQUA 2001 - P. BEVILACQUA, *Società rurale e emigrazione*, in P. BEVILACQUA, A. DE CLEMENTI, E. FRANZINA, *Storia dell'emigrazione italiana. Partenze*, Donzelli, Roma 2001, p. 98.
- BEVILACQUA, CORONA 2000 - P. BEVILACQUA, G. CORONA (a cura di), *Ambiente e risorse nel Mezzogiorno contemporaneo*, Donzelli, Roma 2000.
- BILOTTO, SALERNO, VELTRI 2019 - C. FRASER, *Camera self-calibration in UAV photogrammetry: When is it viable?* in ASPRS Annual Conference and International Lidar Mapping Forum, proceedings of the Conference (Riva del Garda, 3-7 June 2018), MDPI 2019.
- BOTTARI *et al.* 1982 - A. BOTTARI, E. LO GIUDICE, P.G. NICOLETTI, M. SORRISO-SALVO, , *The Ferruzzano earthquake of 1978: macroseismic effects and slope-stability conditions in southern Calabria (Italy)*, in «Revue de Géologie dynamique et de géographie physique», 23 (1981-1982), 1, pp. 73-98.
- CAPPELLI, MASI, SERGI 2013 - V. CAPPELLI, G. MASI, P. SERGI (a cura di), *Calabria migrante*, Suppl. a «Rivista Calabrese di Storia del '900», 2013, 1.
- CARACCIOLLO 1973 - A. CARACCIOLLO, *L'inchiesta agraria Jacini*, Einaudi, Torino 1973.
- CARCHEDI, VITIELLO 2014 - F. CARCHEDI, M. VITIELLO, *L'emigrazione dalla Calabria. Percorsi migratori, consistenze numeriche ed effetti sociali*, Tau Editrice, Todi 2014.
- Censimento 1864 - Statistica del Regno d'Italia. Popolazione. Censimento generale (31 dicembre 1861)*, per cura del Ministro d'Agricoltura, Industria e Commercio, 3 voll., Tipografia letteraria, Torino 1864.
- CIUFFETTI, MOCARELLI 2021 - A. CIUFFETTI, L. MOCARELLI (a cura di), *Dighe, laghi artificiali e bacini idroelettrici nell'Italia contemporanea*, Rubettino, Soveria Mannelli 2021.
- COLONNA, GUIDOBONI 2000 - N. COLONNA, E. GUIDOBONI, *La desertificazione nel Mezzogiorno d'Italia: elementi di definizione*, in BEVILACQUA, CORONA 2000, pp. 275-288.
- CONSOLE, FABBI, PANTALONI 2018 - F. CONSOLE, S. FABBI, M. PANTALONI, *La cartografia geologica in Calabria nel XIX secolo*, in «Rendiconti Online della Società Geologica Italiana», (2018), Vol. 44, pp. 119-126.
- COPPOLA 1997 - D. COPPOLA, *Il riordinamento delle circoscrizioni provinciali preunitarie e la nuova provincia di Calabria*

- Ulteriore Prima (1816): aspetti storico-istituzionali*, in «Rivista storica calabrese», XVIII (1997), 1-2, 1997, pp. 181-237.
- CORTESE 1883 - E. CORTESE, *L'interruzione dell'Appennino al sud di Catanzaro*, in «Bollettino del Regio Comitato Geologico d'Italia», XVI (1883), 14, pp. 166-186.
- COSTANZO 2005 - L. COSTANZO, *Storia delle ferrovie in Calabria*, Orizzonti meridionali, Cosenza 2005.
- DE CLEMENTI 2010 - A. DE CLEMENTI, *Il prezzo della ricostruzione. L'emigrazione italiana nel secondo dopoguerra*, Laterza, Roma-Bari 2010.
- DE STEFANI 21884 - C. DE STEFANI, *Escursione scientifica nella Calabria (1877-78): Jejo, Montalto e Capo Vaticano*, Salviucci, Roma 1884.
- DOUGLAS 1915 - N. DOUGLAS, *Old Calabria*, Secker, London 1915.
- DUCCI 1953 - A. DUCCI, *Sulle cause geologiche e geografiche delle inondazioni e delle frane in Calabria: proposte preliminari per l'attuazione di opere idraulico-forestali e per il consolidamento di abitati della Regione*, in «Giornale del Genio Civile», 1953, 10, pp.
- FORESTA 2018 - S. FORESTA, *Le strade ferrate. Dinamiche e processi di trasformazione territoriale in Calabria*, in T. MANFREDI (a cura di), *Voyage Pittoresque. II. Osservazioni sul paesaggio storico della Calabria*, «ArcHistoR» EXTRA, 2018, 4, pp. 122-135.
- FORTUNATO 1904 - G. FORTUNATO, *La questione meridionale e la riforma tributaria*, Roma 1904 (Rist. Società Anonima Editrice, Roma 1920).
- GAMBI 1961 - L. GAMBI, *Dinamica degli insediamenti umani in Calabria fra il 1861 e il 1951*, in Atti del 2° congresso storico Calabrese, *Deputazione di Storia Patria per la Calabria*, Fausto Fiorentino Editore, Napoli 1961, pp. 517-525.
- GAMBI 1965 - L. GAMBI, *Calabria*, UTET, Torino 1965; Collana Le Regioni d'Italia, volume XVI.
- GENOVESE 1921 - F. GENOVESE, *La malaria in provincia di Reggio Calabria*, Vallecchi, Firenze 1924.
- GENOVESE 1924 - F. GENOVESE, *Terremoti, bradisismi ed altri fenomeni geologici in rapporto alla malaria locale*, in «La Malariologia», VII (1921), pp. 13-19.
- GIOVANNINI 2001 - M. GIOVANNINI, *Le città abbandonate della Calabria*, in D. COLISTRA (a cura di), *Le città abbandonate della Calabria*, Kappa, Roma 2001, pp. 7-15.
- GRECO 2013 - O. GRECO, *La scomparsa di un mondo. L'abbandono delle campagne calabresi nel secondo dopoguerra*, in CAPPELLI, MASI, SERGI 2013, pp. 151-170.
- JORI 2021 - F. JORI (a cura di), *La grande alluvione del Polesine. 70 anni dopo*, Silvana Editoriale, Milano 2021.
- LOMBARDI SATRIANI, MELIGRANA 1987 - L.M. LOMBARDI SATRIANI, M. MELIGRANA, *Un villaggio nella memoria*, Gangemi, Roma-Reggio Calabria 1987.
- MACCHI JÀNICA, PALUMBO 2019 - G. MACCHI JÀNICA, A. PALUMBO (a cura di), *Territori spezzati. Spopolamento e abbandono nelle aree interne dell'Italia contemporanea*, CISGE – Centro Italiano per gli Studi Storico-geografici, Roma 2019.
- MANADORI SAGREDO 2001 - A. MANADORI SAGREDO, *Immagini di Calabria. Nascita e primi interventi dell'ANIMI (1908-1923)*, Associazione Nazionale per gli Interessi del Mezzogiorno d'Italia, Roma 2011.
- MARTINOTTI 2011 - G. MARTINOTTI, *Città: la vendetta del territorio e la modernità sottratta L'urbanizzazione e l'Unità d'Italia*, in «Il politico», LXVI (2011), 3, *L'Italia che cambia: 1861-2011*, pp. 129-164.
- MENOZZI, MANIACI 1992 - L. MENOZZI, A. MANIACI (a cura di), *Le rovine nell'immagine del territorio calabrese*, Gangemi, Roma 1992.
- MERCALLI 1909 - G. MERCALLI, *Contributo allo studio del terremoto calabro-messinese del 28 dicembre 1908*, Nota letta nella

tornata del 24 giugno 1909, in «Atti del Regio Istituto d'Incoraggiamento di Napoli», A. Serino, Napoli 1909, p. 247-292.

MUSOLINO 2012 - M. MUSOLINO, *New towns post catastrophe. Dalle utopie urbane alla crisi dell'identità*, Mimesis milano 2012.

MUSSARI 2020 - B. MUSSARI, *Tra abbandono e ricostruzione: note dai carteggi degli ufficiali impegnati in Calabria dopo il terremoto del 1783*, in OTERI, SCAMARDÌ 2020, pp. 208-237.

NOVELLO 2000 - E. NOVELLO, *La bonifica in Italia: Legislazione, credito e lotta alla malaria dall'Unità al fascismo*, Franco Angeli, Milano 200.

OTERI, SCAMARDÌ 2020 - A.M. OTERI, G. SCAMARDÌ (a cura di), *Un paese ci vuole. Studi e prospettive per i centri abbandonati e in via di spopolamento*, in «ArcHistoR Extra», 2020, 7; <http://pkp.unirc.it/ojs/index.php/archistor/issue/view/48> (accessed 27 June 2023).

OTERI, SULFARO 2019 - A.M. OTERI, N. SULFARO, *Lo spopolamento dei centri abitati calabresi: cause processi, strategie per il patrimonio costruito. Il caso della Locride*, in MACCHI JÀNICA, PALUMBO 2019, pp. 243-248.

PALMIERI 2000 - W. PALMIERI, *Il bosco nel Mezzogiorno preunitario tra legislazione e dibattito*, in BEVILACQUA, CORONA 2000, pp. 27-52.

PASQUALE 1863 - G.A. PASQUALE, *Relazione sullo stato fisico-economico-agrario della Prima Calabria Ulteriore*, in «Atti del R. Istituto d'Incoraggiamento», s.l., XI, 1863.

PESCOSOLIDO 2011 - G. PESCOSOLIDO (a cura di), *Cento anni di attività dell'Associazione Nazionale per gli Interessi del Mezzogiorno d'Italia e la questione meridionale oggi*, Rubbettino, Soveria Mannelli 2011.

PICCIONI 2002 - L. PICCIONI, *Visioni e politiche della montagna nell'Italia repubblicana*, in «Meridiana» 2002, 44, pp. 125-161.

PHILIPPI 1842 - R.A. PHILIPPI, *Cenni geognostici sulla Calabria del professor R. Philippi*, in «Rendiconto delle adunanze e de' lavori dell'Accademia delle scienze, sezione della Società reale borbonica», 1842, 1, pp. 140-146.

PILLA 1837 - L. PILLA - *Catalogo di una collezione di rocce della Calabria disposte secondo l'ordine della loro posizione relativa*, in «Annali del Regno delle due Sicilie», XXV (1837), 52.

PIOVENE 1957 - G. PIOVENE, *Viaggio in Italia*, Mondadori, Milano 1957.

PLACANICA 1982 - A. PLACANICA, *L'iliade funesta. Storia del terremoto calabro messinese del 1783. Corrispondenza e relazioni della Corte, del governo e degli ambasciatori*, Casa del Libro, Roma 1982.

PLACANICA 1993 - A. PLACANICA, *Storia della Calabria dall'antichità ai giorni nostri*, Meridiana, Catanzaro 1993.

PRINCIPE 1976 - I. PRINCIPE, *Città nuove in Calabria nel tardo Settecento*, EffeEmme, Chiaravalle Centrale 1976.

PRINCIPE 1985 - I. PRINCIPE (a cura di), *1783: Il progetto della forma: la ricostruzione della Calabria negli archivi di Cassa sacra a Catanzaro e Napoli*, Gangemi, Roma 1985.

RAMBOTTI, NEVIANI 1888 - V.RAMBOTTI, A. NEVIANI, *Cenni sulla costituzione geologica del litorale Jonico da Cariati a Monasterace*, in «Bollettino della Società Geologica Italiana», 1888, 7, pp. 325-366.

RIENZO 2000 - M.G. RIENZO, *Gli impianti idroelettrici silani*, in BEVILACQUA, CORONA 2000, pp. 288-303.

ROSSI-DORIA 1929 - M. ROSSI DORIA, *Inchiesta sulle condizioni del Comune di Africo*, ANIMI, 1929.

ROSSI-DORIA 2005 - M. ROSSI-DORIA, *La polpa e l'osso. Agricoltura risorse naturali e ambiente*, L'Ancora del Mediterraneo, Napoli 2005.

RUSSO 2002 - R.M. RUSSO, *Letture da un percorso urbanistico. I trasferimenti di abitati in Calabria*, Iriti, Reggio Calabria 2002.

SABATINI 1908 - V. SABATINI, *Appunti sul terremoto calabrese del 23 ottobre 1907*, in «Bollettino del R. Comitato Geologico

d'Italia», IX (1908), 1, pp. 28-36.

SABATINI 1909 - V. SABATINI, *Contribuzione allo studio dei terremoti calabresi*, in «Bollettino del R. Comitato Geologico d'Italia», IV (1909), 10 (3), pp. 235-345.

SANSA 2000 - R. SANSA, *Il mercato e la legge: la legislazione forestale italiana nei secoli XVIII e XIX*, in BEVILACQUA, CORONA 2000, pp. 3-26.

SEGUENZA 1879 - G. SEGUENZA, *Le formazioni terziarie nella provincia di Reggio, Salvucci*, Roma 1879.

SORI 1990 - E. SORI, *Popolazione e insediamenti nel Mezzogiorno contemporaneo*, in «Meridiana», 1990, 10, pp. 45-76.

STAJANO 1979 - C. STAJANO, Africo. *Una cronaca italiana di governanti e governati, di mafia, di potere e di lotta*, Einaudi, Torino 1979.

SULFARO 2016 - N. SULFARO, «Cos'è rimasto?»: *la rovina come espressione del paesaggio calabrese. Film e documentari dagli anni cinquanta a oggi*, in A. BERRINO, A. BUCCARO (a cura di), *Delli Aspetti de Paesi. Vecchi e nuovi Media per l'Immagine del Paesaggio, Tomo I - Costruzione, descrizione, identità storica*, CIRICE, Napoli 2016.

TAGARELLI 1997 - A. TAGARELLI, *Distribuzione geografica della malaria. La Malaria in Calabria, Comitato per gli studi storico e scientifici della malaria in Calabria*, Grafiche Somma, Castellammare di Stabia 1997.

TETI 2004 - V. TETI, *Il senso dei luoghi. Paesi abbandonati di Calabria*, Donzelli, Roma 2004.

TETI 2008 - V. TETI, *Il terremoto del 1908 in Calabria in una trama di abbandoni di "lunga durata"*, in G. BERTOLASO et al. (a cura di), *Il terremoto e il maremoto del 28 dicembre 1908: analisi sismologica, impatto, prospettive*, DPC-INGV, Roma-Bologna 2008, pp. 405-424.

TCHIHATCHEFF 1842 - P. DE TCHIHATCHEFF, *Coup d'oeil sur la constitution geologique des provinces meridionales du royaume de Naples: suivis de quelques notions sur Nice et ses environs*, S. Schropp & Comp., Berlin 1842.

TINO 2002 - P. TINO, *Da centro a periferia. Popolazione e risorse nell'Appennino meridionale nei secoli XIX e XX*, in «Meridiana», 2002, 44, pp. 15-63.

VALTIERI 2008 - S. VALTIERI (a cura di), *28 dicembre 1908. La grande ricostruzione dopo il terremoto del 1908 nell'area dello Stretto*, CLEAR, Roma 2008.

ZANOTTI BIANCO 1925 - U. ZANOTTI BIANCO, *Martirio della scuola in Calabria*, Vallecchi, Firenze 1925.

ZANOTTI BIANCO 1954 - U. ZANOTTI BIANCO, *Gli spostamenti di abitati dopo le alluvioni in Calabria. Relazione del Sen. Umberto Zanotti Bianco, Presidente dell'Associazione Italiana per gli Interessi del Mezzogiorno*, in Centro nazionale di prevenzione e difesa sociale, *Atti del Congresso internazionale di studio sul problema delle aree arretrate* (Milano, 10-15 October 1954), Giuffrè, Milano 1954, pp. 456-463.

ZANOTTI BIANCO 1960 - U. ZANOTTI BIANCO (a cura di), *L'Associazione Nazionale per gli Interessi del Mezzogiorno d'Italia nei suoi primi 50 anni di vita*, Meridionale Editrice, Roma 1960.

ZINZI 1994 - E. ZINZI, *Utopia e pianificazione settecentesca nel Meridione d'Italia. Il caso della Calabria*, in «Arte Lombarda», 110-111, 1994, "Metodologia della ricerca. Orientamenti attuali", Congresso internazionale in onore di Eugenio Battisti - Parte seconda, pp. 87-95.