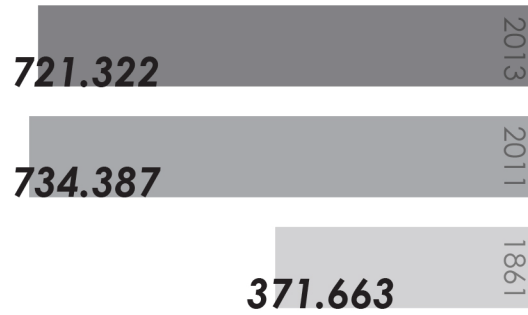


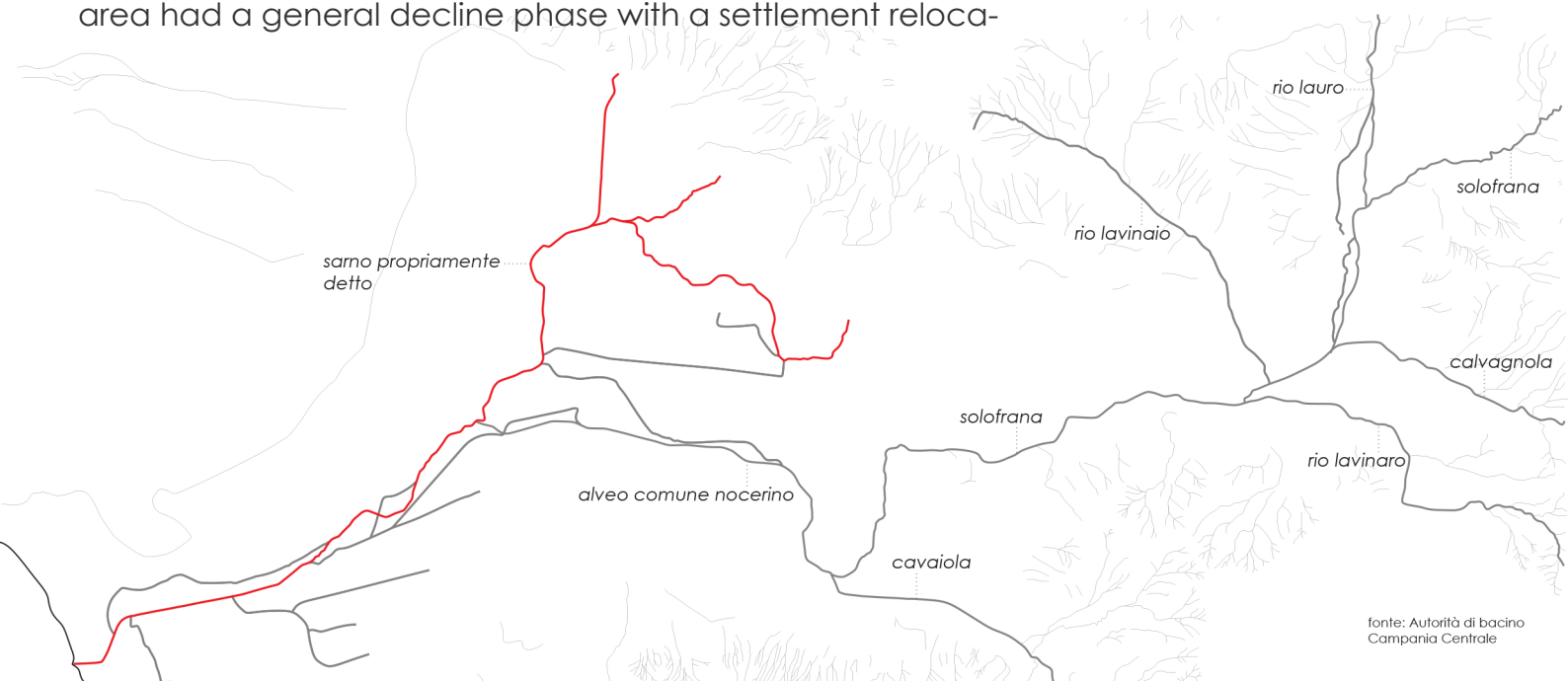
The catchment area of Sarno river

The Sarno river is in the Campania region of Italy and is 24 km long. It rises from the slopes of Mt. Sarno near the town that also bears that name and it grows from various sources. The main tributaries are: Santa Maria la foce, Mercato- Palazzo, Santa Marina di Lavorate, Cerola and San Mauro; Estuary is located in Torre Annunziata town, overlooking the Bay of Naples. The hydrographic structure is composed by a main course (Sarno river) and a system of secondary tributaries and canals: Cavaiola, Solofrana, Alveo Comune Nocerino and Calvagnola. A secondary system of tributaries is composed by: rio Lauro, rio Lavinaro and rio Lavinaio. The hydrological system as a whole covers a linear length of about 1600 km. River Sarno basin includes 35 municipalities as follows: Angri, Boscoreale, Boscotrecase, Bracigliano, Calvanico, Castel S. Giorgio, Castellammare di Stabia, Cava de' Tirreni, Corbara, Fisciano, Forino, Lettere, Mercato S. Severino, Montoro, Nocera Inferiore, Nocera Superiore, Ottaviano, Pagani, Poggiomarino, Pompei, Roccapiemonte, S. Antonio Abate, S. Egidio del monte Albino, S. Giuseppe vesuviano, S. Maria la carità, S. Marzano sul, Sarno, S. Valentino torio, Sarno, Scafati, Siano, Solofra, Striano, Terzigno, Torre Annunziata, Trecase, belonging to the provinces of Napoli, Salerno and Avellino. The population currently residing in the whole area of the basin is 721,322 inhabitants, according to the last 2013 ISTAT census. The most populous town is Castellammare di Stabia, with 66,232 inhabitants and an average density of 3,752.5 inhabitants / km²; less populous town is Calvanico, with 1,574 inhabitants and an average density of 105.3 inhabitants / km².

The first settlements in the area were built in the sixth century BC, when a population of Greek origin, the Sarrasti (from the name of Sarno river, originally called Sarro) came from the Peloponnese lands to the Vesuvius coast. Traces of these settlements have been found in the archaeological site of Poggiomarino-Longola. The Romans, as is well known, lived these territories, as witnessed by the archaeological sites of Pompeii, Stabiae and Nucera Alfaterna. In the Middle-Age period, the area had a general decline phase with a settlement reloca-



fonte: censimenti ISTAT



fonte: Autorità di bacino Campania Centrale

tion from downstream lands along the river to the upper lands on the surrounding hills. Consequently there was a partial dereliction of land along the river.

In the early 1300, the first industrial settlement arose. It was Solofra tanning industry for leather treatment, using Solofrana creek water. Since only from early 1500 the situation changed. Urban settlements started to grow again, and as consequence, an economic development occurred. The progress, however was not supported by the road and infrastructural network that was really poor and barely accessible. Just in this period some important and critical events for the Agro Nocerino Sarnese territory occurred.

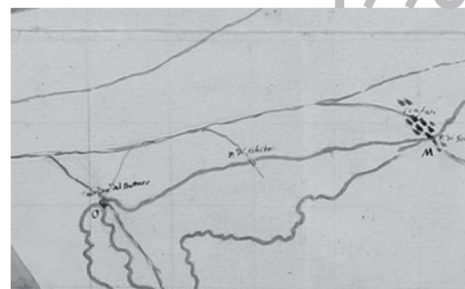
At the end of 1500, the Count of Sarno , Muzio Tuttavilla, decided to pick up the northernmost source and build a canal to direct Sarno water to Torre Annunziata, where a system of mills was built. In the course of following centuries mills gave energy for the milling of wheat, textile factories and arms factories. Several other mills were built along the main course of the river or along the secondary canals, to exploit water as a driving force.

Between 1600 and 1700, the Count of Celano, with same purpose, ordered to build three bulkheads and later a barrage close to Scafati, to divert the river and feed the Bottaro channel. Since then the modification of natural water courses prevented the river navigability and caused the extinction of numerous plant and animal species. All of hydrographic system, which until now had been preserved in its integrity and naturalness, was compromised. The fertile agricultural lands of Sarno plain were gradually turning into marshland and devastated by frequent flooding. Several works were done to overcome the problem and an artificial canal system was built to drain the excess water, limit the effects of flooding, and at the same time be functional to irrigate fields.

In 1800, under the house of Bourbons reign, reclamation works for the Sarno river started. This was done by adjusting the hydrographic network and then increasingly compromising the river ecosystem. This practice increased over years and today the river system and canals are almost all artificially built. In the same century textile industrial sites were built and marked the turning point of industrial and economic development of the area. The water plays an increasingly important role in the production chain. It is used not only as a driving force but also as a tool for material processing and as a means to ward the production scraps. Towards the end of the century the infrastructure network has been enhanced, it became a support to all the industrial companies already acquired over the century and the union between industry and agriculture took place.

In 1882 the Cirio Industry settled in Pagani with a processing plant of agricultural products thus canning industry development began. This kind of industry represented and still today represent the prevailing activity of the area (the ISTAT data coming from "Census of Agriculture" reveal it). The production chain for canning industry is complete, from intensive agriculture to industrial process-

1795



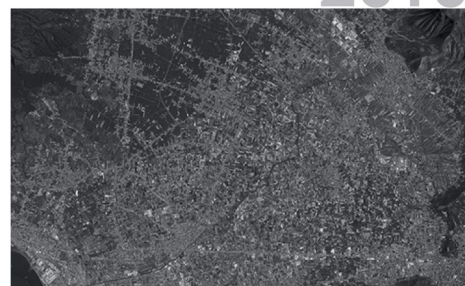
1838



1980



2010



ing of products up to canning.

Some example data

Industrial production of tomatoes in Campania:

_5.365 hectares

_589,2 Quintals / hectare

_3.131.240 Tons / year

From the second half of the '900 territorial setting start to consolidate, along major roads and railways some of the largest industrial production are located, relying on location and resource advantages. Consequently, the residential building pattern is going to saturate spaces close to infrastructures, creating a dense, continuous but fragmented land uses over the years. The housing situation changes radically according to the new population demands, the majority of manpower has gone from carrying out activities as farm laborer mainly to construction worker. The new development does not follow any rules and generates environmental and social discontinuity instead. In addition to agriculture, food and canning industry other production chains are present in this area. Chemical, pharmaceutical and manufacturing (textiles, paper mills, tanning, shipyards) are industries of great relevance that make this area a point of reference for Southern Italy. All industrial plants have a strong impact on environment spreading large amounts of toxic substances in air and water, most of them are harmful to humans, fauna and flora. Through illegal dumping, production scraps without any prior treatment drain in the streams. It is required that all manufacturing sites should establish special sewage plant treating waste water before entering it in the river network. In turn these waters should be further purified, as in the collecting system are also spilled neighboring communities sewage that often have incomplete sewerage. It thus generates a chain of pollutants that affect the environmental system and rivers in a particularly critical way. Hydrographic structure of Sarno river is then used first as a driving force, then as open sewer.

Another serious problem is the massive uptake of water from underground aquifers through wells. This practice took place either legally or illegally. Since 1800, during a strong prohibition period, peasants began to withdraw water illegally from wells to avoid the tax payment to landowner. The spread of this practice does not allowed to carry out a census of drawing of water and we can only make an estimation that reveal about 10,000 illegal wells spread over the territory. The consequence is aquifer depletion and whole upheaval of natural water cycle .

