

The Italian struggle “No scarico a mare” to save the environment and boost the local employment

Nicolò Giangrande

Global Labour University (GLU) Alumni and Students Representative of the State University of
Campinas (Unicamp), Campinas, São Paulo, Brazil
giangrande.n@gmail.com

Abstract

In Apulia, a Southern Italian region, from 2005 there is a project to build a water treatment plant which would discharge the wastewater into the sea through an undersea pipeline, right between two natural reserves. This plant, as designed, would have a negative impact on the local environment and employment. Indeed, it would hit the local biodiversity, its peculiar flora and fauna, and the fragile economy based on agro-food and tourism sectors, which are characterized by seasonal work. There is an environmentally sustainable alternative, which was presented by the “no scarico a mare” movement to the local and regional authorities. This proposal would allow a complete reuse of the treated wastewater for agricultural, civil and industrial sectors, as well as to fight the salinisation process of the aquifer. In the last eleven years, the movement has been able to influence the political framework, to bring the dispute outside of the local area and to involve local, regional and national mass media. In 2016, a new project without the undersea pipeline was presented by the authorities as requested for a long time by the movement. This is a concrete experience of a popular movement that not only opposed frontally to the construction of polluting pipeline, but was also able to suggest a sustainable, environmentally friendly and even cheaper alternative. This work aims to strengthen the understanding on how the consequences of lack of institutional planning can be corrected with proposals made by a social movement, the academic community and local specialists.

1. Introduction

Italy has some serious delays in the implementation of the European Union (EU) directive that provides the retrofitting of sewage and water treatment systems. About 25% of the Italian population is still not covered by water treatment. During the summer of 2016, the Italian environmental association *Legambiente* analysed 7,400 kilometres of Italian coastline and in 52% of 265 samples of water high bacterial loads were found.

The matter of sewage in Apulia, a Southern Italian region, is even more urgent. Indeed, Apulia is the third place - after Campania and Calabria regions - in the ranking of crimes related to water pollution, that includes 457 offenses recorded, 431 people reported and 196 seizures according to the *Legambiente* report.

Currently the city of Manduria (31,420 residents) is served by a sewage treatment plant that discharges the urban wastewater directly into a chasm, such as many other Italian municipalities that do not comply with the water treatment. The marine of Manduria – extended 18 kilometres – is totally deprived of water supply and sewerage.

This condition forces the coast’s inhabitants to stock up on water with tanker trucks from neighbouring cities. Moreover, they discharge their organic residues in septic tanks that should be cleaned by gully emptier or, worse, they discharge them in cesspits. In short, a very embarrassing

situation for a country from the European Union. The situation is even worse in the city of Sava (16,208 residents), next to Manduria, that is not served by any sewage treatment plant.

In order to solve the lack of water treatment a new sewage treatment plant has been designed to serve the cities of Manduria, Sava and the marine of Manduria.

However, this solution is well far from being a real solution to the above-mentioned problem, and could actually trigger even more significant issues for the local population.

In fact, this plant has been designed to be in the middle of a place protected by regional and national laws. Moreover, it should be built 200 meters from Urmo Belsito, a tourist residential hamlet of the neighbouring city of Avetrana (6,793 residents).

The project has been issued by the Regional Government of Apulia, the *Acquedotto Pugliese* (AQP, Apulian water supply company) and the Municipal Government of Manduria. It plans the construction of a 17 km long pipeline to convey the sewage from the cities of Sava and Manduria up to the treatment plant. Moreover, the pipeline should be put under pressure in some parts of the path.

Subsequently, an additional pipeline of 1.5 kilometers should connect the water treatment plant to Specchiarica, a small village on the coast of Manduria. Later, another 900 meters of undersea pipeline should carry out the discharge of wastewater to the marine depth of 14.80 meters.

The treatment plant and the undersea pipeline that discharges into the sea are surrounded by two natural protected areas: the *riserve naturali regionali orientate del litorale tarantino orientale* and the *area naturale marina protetta di Porto Cesareo*. In addition, the sea in front of Specchiarica is a Site of Community Interest (SCI) because of the *Posidonia oceanica*, an aquatic plant that is a bio-indicator of the quality of marine waters.

This is one of the most wild and uncontaminated places of the Ionian coast of Apulia region, right between the provinces of Taranto, Lecce and Brindisi. It attracts tourists from all around the world because of its crystal waters, clear bottom sea, free beach and coastal dunes that still maintains the native vegetation.

2. Brief timeline (2005-2016)

The first project of the water treatment plant design and the discharge into the sea was established in 2005 by the Municipal Government of Manduria, led by Mayor Francesco Massaro (2005-2009), and AQP.

During the design phase, Mayor Massaro's Administration indicated a location far from the city centre of Manduria and near its coast. The reason of that choice was to serve the marine area. The water treatment plant should discharge the wastewater into the sea according to the Apulia's *Piano di Tutela delle Acque* (PTA, Water Protection Plan). Initially, the project involved discharging wastewater into the shoreline, but later it was decided to build the undersea pipeline in order to move the tube away from the beaches.

In Avetrana, in November 2006, the *Associazione Grande Salento*¹ led by Rino Giangrande and the *Confcommercio*² led by Leonardo Giangrande summoned local associations and institutions in order to warn them about the environmental and economic consequences of such infrastructure determined by the neighbouring municipalities.

As a result, it was founded the “no scarico a mare” movement, which means “do not discharge (the wastewater) into the sea”. The movement is favourable to building the water treatment plant but against the discharge of wastewater into the sea and against the location of the construction site, considered too close to the tourist area. The reasons are that it would affect the quality of seawater and it would waste waters that could be reused if well treated.

In February 2011, the procedure of the Environmental Impact Assessment (EIA) was presented. Despite that there was the AQP availability to change the plant’s location and the subsequent discharge into the sea, the then Manduria’s Mayor Paolo Tommasino (2010-2012) did not take this opportunity. Therefore, the EIA was approved keeping the treatment plant near Urmo Belsito and the undersea pipeline.

It is from the summer of 2011 that the movement “no scarico a mare” enlarged its membership thanks to previous information actions in the local community about undersea pipeline risks. In this way, other local associations, parties, committees and also some municipal governments joined the movement. From that moment, the struggle became popular and the opposition to the project was expressed through various pacific demonstrations organized on the coast, in the concerned cities and in the regional capital as well.

The Manduria’s municipal government led by Mayor Roberto Massafra (2013-incumbent) started its opposition to the construction of the undersea pipeline driven by popular pressure. Meanwhile, the municipal government of Sava, led by Mayor Dario Iaia (2012-incumbent), has always preferred to highlight the need to build the water treatment plant as soon as possible, regardless of the location and the final discharge point.

The AQP, that is the operating arm of the Regional Government of Apulia as well as the plant manager, has always demanded the construction of an undersea pipeline, justifying its use only in emergency cases (*e.g.* malfunctioning or overflow).

The company *Giovanni Putignano & Figli Srl* was contracted in 2013 after winning a tender issued by AQP. It supplies both the construction works and the undersea pipeline for which the AQP should invest over 15 million euro.

The former Governor of Apulia Nichi Vendola (2005-2015) - national leader of the *Sinistra Ecologia Libertà* (SEL, Left Ecology Freedom) – has refused to dialogue with the movement and has remained totally indifferent to the local demands to modify the design and adopt alternative solutions. Mr Vendola justified the construction of the undersea pipeline in order to avoid the payment of the fine for infringement of the EU environmental legislation.

The current Governor, Michele Emiliano (2015-incumbent) of the *Partito Democratico* (PD, Democratic Party) has listened to the requests of the movement and agreed with the idea that wastewater should not be wasted. Under the pressure of the movement and the Regional Council of Apulia³, he asked to the new AQP management to change the project.

¹ An Avetrana-based local environmental association.

² The Italian General Confederation of Enterprises, Professions and Self-Employment.

³ It is the supreme and unicameral legislative body of the Apulia Region.

In February 2016, AQP presented a new draft of the project to the local institutions that confirmed the location but without the undersea pipeline. This project now is being analysed by the National Ministry of Environment. Nevertheless, AQP has sent expropriation decrees for the lands between the treatment plant and the beaches that should be crossed by the pipeline.

3. Environmental and socioeconomic issues

This infrastructure has been designed in total absence of detailed studies on biodiversity loss and wave motion. It would lead to the degradation of the landscape, including the two natural reserves on the coast: the source of *Chidro* river and the *Salina Monaci*.

The discharge of wastewater at only 900 meters from the coast and at a sea depth of only 14.80 meters would determine a bathing prohibition of at least one kilometre. In addition, together with the action of two predominant winds (Sirocco from South-East and Libeccio from South-West) it would damage the aquatic ecosystem from Torre Colimena to San Pietro in Bevagna.

Ferdinando Boero, a Marine Biology Full Professor at the University of Salento, is favourable to the discharge into the sea but he believes that it is essential to build water treatment plants that work. For him, the undersea pipeline should discharge the wastewater below the thermocline, at least 50 meters depth and avoid the habitats of Community importance.

Therefore, the construction of an undersea pipeline, and the subsequent discharge into the sea of poorly treated or non-treated wastewater to a low depth such as 14.80 meters would introduce contaminants that could compromise the purity of the water irreversibly.

Elvira Tarsitano, Biologist and President of the *Associazione Biologi Ambientalisti Pugliesi* (ABAP, Association of Apulian Environmental Biologists), confirms that the safety and quality of the sea water and the sanitary conditions of the area are strongly influenced by proper urban wastewater management. However, the water treatment plants that discharges into the sea often set limits of quality of the effluent that do not guarantee maximum environmental and sanitary safety.

In addition, Ms Tarsitano argues that the main cause for the malfunctioning of the current treatment plants is the management model, that continues to propose itself as a solution when it has already been confirmed as a failure.

The local population's concerns about the proper management of the future treatment plant have always been followed by reassurances of some regional politicians and AQP managers for the safety of the new plant. However, the people's worries are confirmed by the judiciary seizures of other treatment plants that discharge sewage without any treatment directly into rivers, lakes and the sea and by the annual surveys on Italian seawater quality published by *Legambiente*. In fact, malfunctioning due to disorganisation and negligence of the plant manager is not an improbable hypothesis but a daily matter both in Apulia and in the rest of Italy.

In addition, despite the fact that the new treatment plant should be built near the coast in order to serve the coastal villages, it would not be possible because those areas do not have any sewerage infrastructure. So, the plant would be disproportionate compared to the real needs of the territory.

Apart from the sanitary concerns, there is another issue that is already an emergency: the salinisation of the aquifer.

This phenomenon consists in an accumulation of salt in the soil, which becomes unsuitable for agriculture. One of the causes of salinisation is represented by the decrease of the groundwater level below the sea one, which draws seawater that contaminates the aquifer. This event happens in coastal areas due to massive uncontrolled groundwater extraction.

A team of academics⁴ led by Mario Del Prete – Environmental Geology Full Professor at the University of Basilicata and scientific advisor to the Avetrana's Municipal Government and to the "no scarico a mare" movement - put forward an environmentally sustainable proposal that would make the wastewater reuse and the avoidance of sea pollution possible. This alternative presented by Mr Del Prete is based on the purification and disinfection of wastewater for reuse in agriculture, civil and industrial sectors, and to fight the salinisation process of the under groundwater.

A great achievement if we think that this area: a) has a real risk of desertification due to the salinisation of the aquifer, an increase of temperatures and a decrease in precipitation, b) has a strong tourist vocation and is internationally known for the wine *Primitivo di Manduria*; c) has an urgent need of water treatment plant that does not pollutes the territory.

Hence, water and sea are precious resources in Apulia. Water is worth more than gold in a land characterized by droughts and desertification risk while the sea's purity and crystallinity attracts tourists from everywhere. Indeed, the seawater quality has been certified by Igenia laboratory analysis upon the request of the *Associazione Grande Salento* and the *Confcommercio*. Both organisations wanted to reply with scientific evidence to Mr Fabiano Amati (PD) - former Regional Minister for Public Works - who argued that the seawater of Specchiarica was already polluted.

The construction of a water treatment plant with an undersea pipeline for the discharge of wastewater – few or not purified - opens up a series of social and economic issues related to the vocation of the territory.

In the so-called *Grande Salento* area - the southern provinces of Apulia (Brindisi, Lecce and Taranto) – there are a number of popular struggles for the defense of the territory and the protection of public health. The *Lega Italiana Lotta contro i Tumori* of Lecce (LILT, Italian League Against Cancer) has been monitoring the cancer mortality and the oncologist Giuseppe Serravezza, LILT president, supports local communities in struggles against the pollution with his research.

All the local struggles for the environment protection highlight the contradictions of unsustainable development which is harmful to human health and disrespectful to the landscape beauty and the history of the territory. A wonderful land that has been contaminated for decades by highly polluting sectors – steel, cement and coal-fired plants above all - where workers have been exchanging their health for jobs.

The case of "no scarico a mare" movement is a kind of struggle that opposed frontally to the construction of the undersea pipeline but it has also been able to suggest a sustainable, environmentally friendly and even cheaper alternative.

The bathing prohibition and the damage to the aquatic ecosystem, including the two natural reserves above-mentioned, could undermine the fragile economy of the area based on agro-food and tourist sectors.

⁴ This group is composed by Antonio Federico (Geotechnical Full Professor at the Polytechnic University of Bari, Italy), Marco Saroglia (Aquaculture Full Professor at the University of Insubria, Varese, Italy), Salvatore Masi (Sanitary Engineering Associate Professor at the University of Basilicata, Italy) and Angelo Caliandro (Agronomy Full Professor at the University of Bari, Italy).

The local employment is above all seasonal work that resists thanks to the tourist flows, which increased in the last years due to the fact that the natural beauty of the region has been praised by many important newspapers, magazines and international guides such as National Geographic, Lonely Planet, The Guardian, The Huffington Post and The New York Times.

The discharge of wastewater into the sea and its consequent pollution, would destroy the tourist sector which is one of the few that generates income for local people.

4. The popular struggle against the undersea pipeline

Inside the movement "no scarico a mare" there were always different points of view on alliances, proposals, and the purpose of the struggle – to suggest an alternative solution or not. Among the proposals made, there are: a) total elimination of the current project and creation of a new one based on two different treatment plants, one for Sava and another for Manduria; b) the construction of a vast artificial wetland for a phytodepuration system; c) the above-mentioned proposal made by Prof. Mario Del Prete that would allow the total reuse of wastewater in agriculture during summertime and to fight salinisation of coastal under groundwater during winter.

The first two proposals did not have many followers, whereas the latter had a great support not only by the movement, but also by some local and regional institutions.

The movement is basically divided into two main currents: i) radical, less inclined to debate with political and technical counterparts, always ready to propose legal actions to resolve the dispute; ii) proactive, open to dialogue with all counterparts and able to propose serious alternatives.

Beyond the daily divisions, both movement's currents have had a clear non-negotiable point: the discharge into the sea of the wastewater. All the people's rallies have been convened based on this point.

The two first rallies were during summertime: a demonstration on the coast road towards the village of San Pietro in Bevagna on August 18th 2011, and the flashmob danced with "Ballo del Qua Qua" song at Specchiarica beach on August 16th 2012.

Another part of the strategy of the popular struggle was reached on June 26th 2014, with a demonstration in Avetrana. Workers, traders, children, local associations and committees, municipal councillors and Mayors of different municipalities of the area rallied in the streets of the city. All the commercial activities stopped, saying "better to close one day than forever." In Avetrana, the streets had not been full of demonstrators since the 80s during the struggle against the installation of a nuclear power plant.

Another important popular demonstration happened on August 04th 2014 in Bari - the region's capital - during the meeting between local and regional politicians and technicians about the undersea pipeline. On that occasion, the Mayors of Avetrana, Manduria and Sava signed, with different motivations, an agreement in favour of the undersea pipeline despite the popular opposition.

In 2014, the *Agenzia Regionale per la Prevenzione e Protezione dell'Ambiente* (ARPA, Regional Agency for Environmental Protection and Prevention) said that the stretch of sea concerned is pristine. In addition to the analysis made by *Associazione Grande Salento*, *Confcommercio* and *Legambiente*, there is also the official one of the regional agency.

Despite the several demonstrations, the project was not modified. So, the movement has started a great pressure through social networks in the view of the political campaign for the regional primary election. This allowed the movement to organise through Twitter a public debate in Avetrana with the Apulia centre-left primary candidates for Governor - Michele Emiliano, Guglielmo Minervini, Dario Stefano - on November 6th 2014 in which only Mr Emiliano participated. In that occasion, he said that in case of his victory he would reconsider the project, particularly the construction of the undersea pipeline.

On the contrary, a public debate with Apulia centre-right primary candidates for Governor was not possible to organise due to the lack of availability of its candidates and a subsequent break of the coalition.

The movement “no scarico a mare” decided to call the attention of all the decision makers with two other demonstrations a few weeks before the regional elections: the first in Manduria on April 19th 2015, and the latter in Specchiarica on May 24th 2015.

Michele Emiliano (PD) was elected Governor at the regional elections held on May 31st 2015. Almost all the regional councillors elected in the Regional Council of Apulia were against the discharge into the sea even if they belonged to the three different political groups: centre-left coalition, centre-right coalition and the *Movimento 5 Stelle* (M5S, Five Stars Movement).

A great achievement because until that moment, no regional councillors had supported the movement requests. Indeed, only on October 13th 2015 in the Regional Council of Apulia a request to amend the PTA was approved unanimously, as requested for a long time by the movement.

Finally, the *Consiglio Nazionale delle Ricerche* (CNR, National Research Council), on October 15th 2015, delivered a reasoned opinion evaluating the impact of each alternative solutions proposed. In this document, the CNR considered the proposal made by Prof. Mario Del Prete - strongly supported by the majority of the movement - as a solution that appears interesting to reduce the pressure on the underground aquifer, to limit the intrusion of salt water and, therefore, to ensure environmental benefits.

5. Conclusion

The movement “no scarico a mare” has been able not to fall in the Not-In-My-Back-Yard (NIMBY) syndrome. Indeed, the majority of the movement has always criticise only those points – such as the discharge into the sea and the location – that would have a negative impact on the local environment and economy.

In fact, the core of the movement’s strategy has always been to save the environment in order to boost the local and fragile employment. The valid and innovative alternative to reuse the total wastewater in a land with desertification risk could create good work conditions that respect the territory’s vocation. Indeed, it could generate opportunities for workers cooperatives and microcredit projects in agricultural, food production, and sustainable tourism sector which could reduce the unemployment.

Moreover, during this decade the movement has demonstrated to be able to involve all parts of the local society - activists, workers, entrepreneurs, professors, technicians, politicians, cartoonists, journalists, musicians, video-makers, photographers, etc. In fact, it has been producing

informational material to explain the reasons of the struggle (e.g. maps, pictures, videos, etc) and organising demonstrations, meetings and public debates.

Indeed, the movement has actively influenced the change of the political framework and has brought this dispute outside of the local area using social networks, involving the local and regional mass media - such as *Casalnuovo il Giornale*, *CiakSocial*, *Cosmopolis*, *Il Nuovo Quotidiano di Puglia*, *Il Tacco d'Italia*, *La Gazzetta del Mezzogiorno*, *La Voce di Manduria*, *ManduriaOggi*, *QuiSalento*, *RTM* and *VivaVoce* - and the national newspaper *Il Fatto Quotidiano*.

In addition, the movement was able to bring the argument to national TV shows – such as *Striscia la Notizia* and *Le Iene* - and to involve the famous comedian Sabina Guzzanti. This was possible thanks to Mimmo Fontana and Pasquale Greco, both of them members of the “no scarico a mare” movement.

The international solidarity arrived through a video in which people from different nationalities that have been to that coast supported the “no scarico a mare” movement.

In February 2016, after eleven years of controversy, the AQP took into account some proposals made by the movement and presented a project draft without the undersea pipeline.

The protracted dispute seems to be heading towards a good solution, gained as a result of a determined struggle. Anyway, until the dispute is not completely closed the movement should not lower its guard.

Conflicts of interest

The author declares to be part of the “no scarico a mare” movement.

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