

The “rural houses” in Torviscosa (Udine, Italy): from construction to abandonment

by Maria Vittoria Santi*, Anna Frangipane*, Giovanna Saveria Laiola*

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The knowledge of places for the development of the territory

Abstract

In the late 30s, the important industrial group SNIA Viscosa invested huge resources in the construction of the agricultural-industrial complex of Torviscosa, addressed to the production of autarchic textile fibres, starting from the cultivation of giant cane. The complex gave work to several thousands of agricultural and factory workers, the first settled in 7 centres, scattered in the territory recently reclaimed (the agricultural Agencies), the latter in the residential settlement next to the industry, a significant example of Modern factory-town.

The rural houses were built between 1937 and 1950, according to original typologies which reinterpret the stylistic features of rural Italian architecture, combining production efficiency and domesticity, ‘modern’ and traditional techniques and materials. They are now in state of degradation and partial abandonment. The paper provides, through a detailed study of the buildings, a tool for possible processes of valorisation, restoration and retrofit.

1. Introduction

On the area of the former settlement of Torre di Zuino (Deluisa, 1961), laying in the north-east Italy plain, the SNIA Viscosa company (*Società Nazionale Applicazioni Viscosa*, National Company for Viscose Implementation) created, starting from the late 30s, the new agricultural-industrial town of Torviscosa, inaugurated by the Dux on the 21st September 1938 (Tomaselli, 1938; [s.a.], 1938a; Nicoloso, 2003). The company invested huge resources (Spadoni, 2003) in the construction of the complex and the organisation of its farmland, intended for the production of autarchic textile fibres ([s.a.], 1938b; [s.a.], 1938c; Lensi, 1940), starting from the cultivation of the giant cane (*Arundo donax*). Main player of the entire project was Franco Marinotti (1891-1966), relevant businessman of the Fascist era and of the post-war reconstruction (Setta, 1993; Castronovo & Falchero, 2008).

The industrial production was therefore combined with the agricultural production in the "Agencies", managed by the SAICI company (*Società Anonima Agricola Industrial per la Cellulosa Italiana*, Industrial Agricultural Company for Italian Cellulose), a fully paid-up capital from SNIA company, established in 1938 with the acquisition of the most important agricultural companies and properties in the area, around 6000 ha in extension (SNIA, 1941). The cultivation of giant cane and other farming activities were organised in the fields conquered from the sea by the large land reclamation project carried out in the 20s and 30s (Caroncini, 1940; Canali, 2016), which becomes an icon of the autarchic policy of the fascist period (Tassinari, 1940; Bortolotti, 1988). Today, its geometric structure, characterised by wide, regular plots of land, divided by long, straight tree-lined canals and roads, is still visible in the wide landscape around Torviscosa, almost unchanged since its reclamation (Fig. 1).

As the industrial plant and the activity in the countryside gradually employed several thousand people (nearly 1000 in the factory and up to 4000 in the farm ([s.a.], 1951; Fornasir 2003)), the need to house workers and their families and to organise their life activities led to the construction, up to the 1960s, of a model factory-town, with

* University of Udine, Italy, mariavittoria.santi@uniud.it, anna.frangipane@uniud.it, giovannasaveria.laiola@phd.units.it

collective and public spaces, in the urban centre, and workers housing, both in the town centre and in the countryside (Reggiori, 1938; Bortolotti, 1988; Biasin *et al.*, 2003; Baldassi *et al.*, 2006; Frangipane & Santi, 2019).

The urban project for the company town, designed by the architect Giuseppe De Min (1890 - 1962), defines a precise organisation of the public and residential areas, according to the employees' role in the company: houses for clerks, managers and technicians are located in the most central areas of the town, the houses for workers are located in a dedicated neighbourhood and the rural houses for agricultural workers are, instead, distributed in the company territory, as said.

From the foundation of the town up to the late '60s, the SNIA Viscosa company, through its affiliated company SAICI and its Technical Office, was directly involved in the construction, the extensions and the maintenance of the building stock of Torviscosa (Puppini, 2007).

At the beginning of the 1960s, once the cultivation of the cane had ceased, due to the transition from a textile to a chemical production in the SNIA Viscosa industrial plant, the agricultural company was addressed to the agri-food sector, strengthening the cattle breeding and increasing the production of fruits, fodders and cereals, thanks to the new TORVIS brand, locally referring to the Milk Centre, the Fruit Centre and the Milk Bars (SNIA, 1967).

The changed economic conditions, implying important changes in the local industry and community, led the progressive disposal, since the 70s, of the agricultural and rural housing estate of the company, partly sold to the tenants and mainly left abandoned (Bertagnin *et al.*, 1985).



Fig. 1 – The company town of Torviscosa in 1948 - Source: Historical archive SNIA Viscosa, Torviscosa, FFSCN_TV-0187

2. The Agencies and their rural buildings

Since its foundation, the company town of Torviscosa reveal a dual nature, as it is both an industrial and agricultural planned community (Fornasir, 2003; Ferraresi & Turrini, 2006). The rural area of the town was designed, organised and managed according to the company's needs of cellulose (from the cultivation of giant cane *Arundo donax*) and agricultural food products for the population; this led to the creation of seven (later planned 8) agricultural Agencies (Fig. 2), each one consisting of a rural centre, with residential buildings and rustic annexes organised around a courtyard, and isolated rural buildings, scattered in its reference area (Fig. 3).

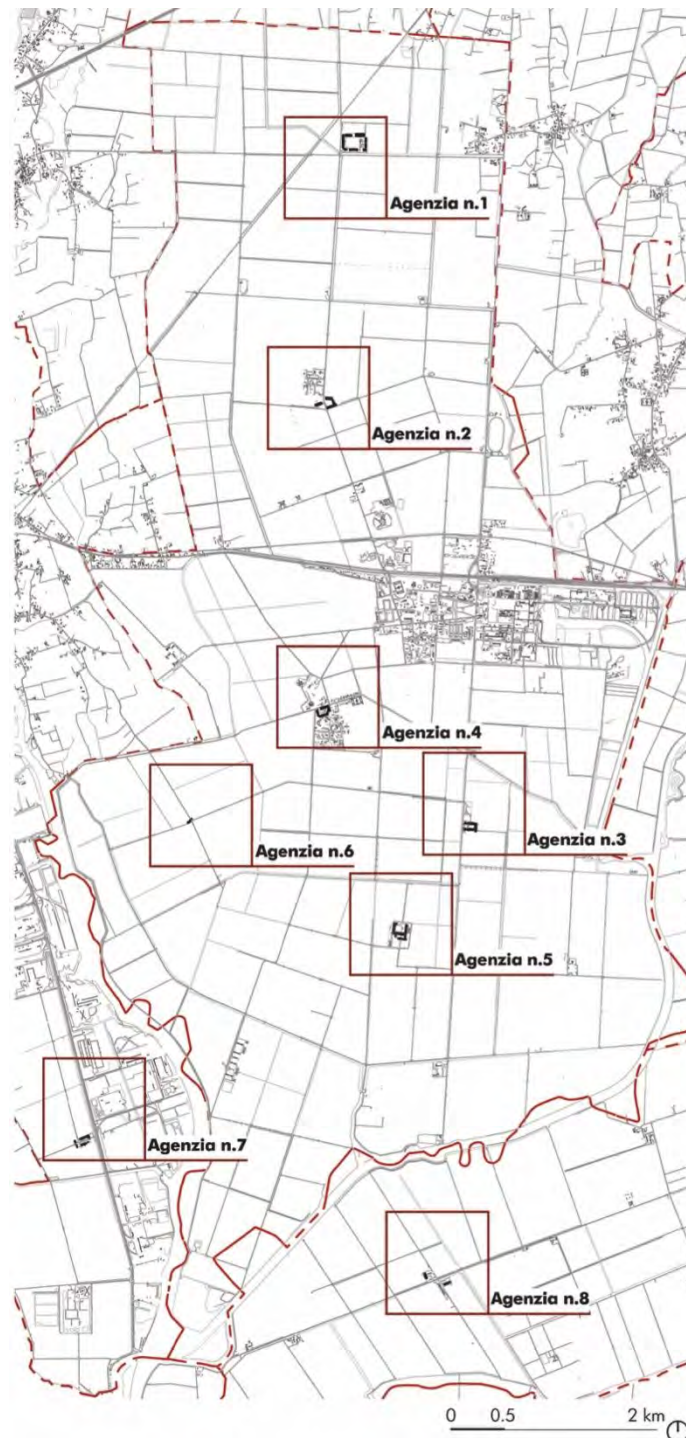


Fig. 2 – Agricultural Agencies of Torviscosa



Fig. 3 – Agricultural centres of the eight Agency in 2019

In detail, the **Agency 1** complex is located in the northern part of the territory of Torviscosa, in the Arsa area, and is characterized by the typical court layout of the Agencies' centres. The settlement, built between 1937 and 1945, includes: an entrance pavilion with portico and offices, stables for cattle breeding, warehouses and farm buildings, dwellings for the Agency's agricultural workers (breeders) and a votive chapel.

The **Agency 2** is located in the northern area of the Torviscosa territory and includes the groups of buildings in the localities of Molini, Portelle, Fornelli di Sopra, and Vitelleria, built between 1880 and 1948. The Vitelleria "calf breeding" complex, near the "Villaggio Roma" small settlement, is characterized by the typical court arrangement of the agencies with a pass-through entrance portico. The buildings were used as houses for agricultural workers, stables, and warehouses.

The **Agency 3** is located in the south-east area of the territory of Torviscosa. The complex is made up of buildings for different uses - houses, warehouses, stables and other farm buildings - and it is distributed around a fenced court. The Agency originated from a pre-existing rural nucleus, that of Casali di Sopra (1860), renovated in 1940.

The **Agency 4** is located in the centre of the village of Malisana, south-west Torviscosa. The complex, originally designed by the architect De Min and built in 1942, is organised around a large central courtyard and includes a series of buildings with administrative, residential and productive functions: two identical agricultural warehouses, a rustic building partly used as a stable, an entrance building of three levels with a pass-through portico, intended for homes and offices.

The **Agency 5**, as Agency 3, derives from an rural nucleus existing before the Torviscosa foundation: the farmhouses of 1860 and early 1900, designed according to the rural architecture of the area, in 1940 were adapted and destined for Agency homes and offices; the new construction of stables, warehouses and agricultural machinery depots completed the complex around a courtyard.

The **Agency 6** includes the south-west part of the territory of Torviscosa, near the Agency 5, with farm buildings in the areas of Cesarolo, Famula and Olmarie, built from 1925 to 1965. The project (never completed) presented by SAICI in the 1950s for the buildings of the agency centre, in the Olmarie area, devised a complex organized around a courtyard, with a pass-through entrance portico and houses, offices, a recreation space, stables, and warehouses.

The **Agency 7** is located south-west of Torviscosa in Planais area (now part of the close municipality of San Giorgio di Nogaro). Built between 1941 and 1952, it has the typical courtyard layout of buildings, which are intended for houses, offices and agency warehouse, carport shelter, fuel storage, stables, and sanitation. The complex is, nowadays, completely abandoned.

The **Agency 8**, the last one developed, is located in the extreme south of the municipality of Torviscosa, in

the area of Salmastro (in the municipality of Terzo di Aquileia). The few existing buildings have different uses: workers' houses, stable and barn, portico and warehouse with barn.

Close to the Agency 3, a further rural settlement, **Gallinazza**, stood before the company town and was developed in parallel with the Agencies. It was a populated rural village built at the end of the 1920s. It was transformed during the 40s, by adding a primary school, shops and dormitories for agricultural workers. The entire agricultural complex was later abandoned and completely demolished in 1979. Today, the only remaining building is the church of San Matteo, designed by Giuseppe De Min: a small central-plan oratory with a small bell tower, today in complete decay.

The consistency of rural built territory is complete by the buildings and houses for agricultural labourers, linked to the activities of the various Agencies, spread in the Torviscosa countryside, as it is the case of the houses for milkers (1950 - 1960) and the rural houses of Malisana (1949 - 1963).

3. The “rural houses” of Torviscosa: survey on types, building techniques and materials

As said, the rural houses of Torviscosa were built between the late 30s and the 60s, introducing original types, which refer to the formal features of rural Italian architecture, highlighted in parallel dedicated studies (Pagano & Daniel, 1936), combining production efficiency with domesticity and ‘modern’ and traditional techniques and materials. Recently (see Credits), some of them have been studied in detail.

3.1. Rural houses for the cattle breeders of the Agency 1

The houses for agricultural workers in Agency 1 are organised in the south-east part of the building complex and were built in 1944-1945 to accommodate the cattle breeders. The building type consists of two blocks of two storeys, connected by a central single-storey block. The two levels are connected by external stairs characterised by a peculiar bearing structure, “gooseneck” shaped, which was inspired by the rural architecture of central-Italy. Each building originally housed four apartments, two for each block, organised in a central aisle and kitchen, living room, two bedrooms, bathroom and closet (Fig. 4).

The vertical structures are made of brick masonry, the floors are realised partly in hollow brick and reinforced concrete (r.c.) and partly in timber (basement); the buildings are covered by a pitched roof in timber frame and barrel tiles; the facades are finished in plaster with base and decorations in fair-faced brickwork; original windows have wooden frames; the external stairs are in brick masonry and artificial stone; the flooring is in ceramic tiles in utility rooms and in wooden planks in the living space.

The buildings are generally in need of maintenance and renovation and several apartments are disused.



Fig. 4 – The rural houses in the Agency 1, Arsa area, Torviscosa, under construction in 1944 and today - Source: Historical archive SNIA Viscosa, FFSC_A33-18

3.2. Rural houses of the Agency 3

The buildings of the Agency 3 were derived from the conversion, in 1940, of existing rural buildings of the nucleus of “Casali di Sopra” (dating the late 19th century, as reported in archive documents and cartography), conceived according to the usual typologies of the rural architecture of the area. The two residential buildings, facing symmetrically on the central courtyard, were intended for the families of the Agency-managers of the SAICI company. Each building is a semi-detached housing unit which rises to three storeys, with a single storey protruding block on the east side. The southern building houses two large dwellings of different sizes, with independent entrances, organised on two levels through an internal staircase: on the ground floor the living area, on the first and second floor the bedrooms and bathrooms.

The vertical structures are made of brick and stone masonry, the floors are in timber; the buildings are covered by a pavilion roof in timber frame and barrel tiles; the facades are plastered and painted in dark red and white for the frames; windows and doors consist in turquoise painted wood frames with single glazing; the flooring is in exposed aggregate concrete tiles and in wooden planks.

Today, while the complex of Agency 3 is still partially used for farming, the two residential buildings are abandoned (Fig. 5).



Fig. 5 – Houses in the Agency 3 in the 40s and today - Source: Historical archive SNIA Viscosa, FFSC_A21-015

3.3. Houses of the Agency 4 in Malisana

The residential units of the Agency 4 are organised in the entrance blocks of the courtyard complex, connected by a portico, as designed by Giuseppe de Min in 1942.

On either side of the porch the two buildings - intended both for the offices and the dwellings of the agency - rises on several levels (two storeys and a partial attic) and are arranged symmetrically to the entrance (Fig. 6).

Each building has a main entrance on the street front and a secondary entrance on the courtyard, which allow to access the stairwell connecting the three levels. The ground and first floor house two units of different sizes, the attic is occupied by four storage rooms.

The vertical structures are made of brick masonry, the floors of hollow bricks and r.c. slab, the roofs of timber frame, with barrel tiles placed on hollow tiles; the facades are plastered and painted in yellowish and reddish paint and decorated with fair-faced bricks; original windows and doors have green-painted wooden frames and single glazing; internal stairs have a concrete finishing or an artificial stone cladding, the flooring is realised in ceramic tiles and wood planks.

The complex of Agency 4 is still partially used as a storing facility and parking place, while the two residential buildings are now abandoned.



Fig. 6 – Agricultural Agency 4, Malisana area, Torviscosa, in the 50s and today - Source: Historical archive SNIA Viscosa, FFSC_A22-108

3.4. Agricultural workers' housing in Malisana

The residential development of the ancient settlement of Malisana originated as a housing area for the agricultural labourers, who had to be fully included within the industrial society linked to the production of fabrics based on artificial fibres. The housing context of Malisana presents some typological singularities represented by the residential buildings with external stairs, supported by ‘gooseneck’ shaped bearing arch. There are six units of this type, built between the 40s and the 60s.

The typical configuration (found in the two buildings arranged symmetrically along main street) includes an “angular” staircase with two straight flights, the second one with “gooseneck shape”, which runs along two sides of the building. The building has three levels, including a mezzanine, with four external stairs, which enable the independent access to the dwellings on the first and second floors. Each building houses six apartments, symmetrically developed on each level. The volumetric composition gives vivacity to each facade of the building, symmetric to the two axes (Fig. 7).

The vertical structures are made of brick masonry, the floors are partly in hollow brick and r.c. and partly in timber beams and planks; the roof is in barrel tiles on timber structure; the facades are plastered in various colours with base in brick; original windows have a green wooden frame; the external stairs are in masonry and concrete, the flooring is mainly in cement tiles.



Fig. 7 – Rural houses in Malisana area, Torviscosa - Source: project in Historical archive SNIA Viscosa, (Torvis), TORVIS_P_PROGETTI_97-1

3.5. Houses for milkers

From the 50s, in the territory of Torviscosa, the breeding of cattle allowed a self-production of milk, later used to supply the Milk Centre and the Milk Bars in the area. Thus, the agricultural organization of Torviscosa in Agencies corresponds to the presence of several units dedicated to cattle breeding, including one or more “house for milkers”, intended for agricultural workers assigned to cattle breeding and milking, in some cases arranged symmetrically, and a stable for the livestock (Fig. 8).

The model building, repeated for all the houses with this function, is a semi-detached block with two residential units, arranged symmetrically on two levels, with internal stairs and side independent entrances from a portico. In the dwellings the two levels are connected through an internal staircase with three flights: on the ground floor a large kitchen, the living room and a storage basement; on the first floor three bedrooms and a bathroom.

The walls are made of brick masonry, the floors of hollow brick and r.c., the roofs of barrel tiles on timber frame and hollow tiles; the facades are plastered and painted in different colours (originally white or dark red) with a base in fair-faced brick; original windows have green wooden frames; the internal stairs and the flooring are in concrete, exposed aggregate cement tiles and wooden planks on the first floor.

Most of the houses for milkers in the countryside of Torviscosa are still inhabited, but many of them have experienced substantial modification in their interior organisation and external appearance.



Fig. 8 – Houses for milkers in 1954 and today - Source: Historical archive SNIA Viscosa, FFSC_A21-004

Conclusions

After a long spanning industrial activity related to the production of artificial textiles, strongly connecting the industrial activity with the agricultural crops, the rural area of Torviscosa, relevant Italian company town of the twenty century, followed the dissolution of its built estate, as related to the mechanisation of cropping activity and the moving of the breeding sector to foreign countries.

The paper refers about the consistency of this rural estate, as related to its history, building types, building techniques and materials, documenting the abandonment process, with the combined aim of providing a “state of the art” framework and increasing the interest in it, due to its peculiar aspects, witnesses of the attention paid in the 30s to the Italian rural traditional architecture.

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References

- Biasin, E., Canci, R., Perulli, S. (edited by) [2003]. *Torviscosa: esemplarità di un progetto*, Udine: Forum.
- Baldassi, E., Bazzoffia, A., Regattin, P. [2006]. *Torviscosa: architettura e immagine fotografica della nuova città industriale del Novecento*, Udine: Guarnerio editore.
- Bertagnin, M., Burelli, A., Dolcetti, G., Grandinetti, R. [1985]. *Progetto Integrato Torviscosa: elaborati del Comitato Tecnico-Scientifico*, Udine: Provincia di Udine.
- Bortolotti, M. [1988]. *Torviscosa: nascita di una città*, Udine: Casamassima.
- Canali, M. [2016]. “Quando la Bassa era chiamata Olanda d’Italia”, *Messaggero Veneto*, 17 ottobre 2016.
- Caroncini, O. [1940]. *Realizzazioni di bonifica nel Friuli. le opere pubbliche del regime fascista*.
- Castronovo, V., Falchero, A.M. [2008]. *L'avventura di Franco Marinotti*, Milano: Christian Marinotti Edizioni s.r.l.
- Deluisa, L. [1961]. *Torviscosa (cenni storici)*, Udine: Arti grafiche friulane.
- Ferraresi, A., Turrini, D. [2006]. “Torviscosa. Fabbrica città rurale”, in *Costruire in laterizio*, n. 109, pp. 50-55.
- Fornasin, A. [2003]. “La fondazione di un centro agro-industriale: Torviscosa”, in *Popolazione e storia*, vol. 4, n. 1, pp. 7-12.
- Frangipane, A., Santi, M.V. [2019]. “Industrial heritage of the Modern Movement: Torviscosa factory-town”, *TICCIH Bulletin*, n. 83, pp. 13-15.
- Lensi, M. [1940]. *La cellulosa: applicazioni industriali e realizzazioni autarchiche*, Firenze: C. Cya.
- Nicoloso, P. [2003]. “Settembre 1938: Mussolini nella Venezia Giulia. Indirizzi totalitari e architetture per il fascismo”, in Biasin E., Canci R., Perulli S. (edited by). *Torviscosa: esemplarità di un progetto*, Udine: Forum, pp 27-55.
- Pagano, G., Daniel, G. (edited by) [1936]. *Architettura rurale italiana*, Milano: U. Hoepli.
- Puppini, M. [2007]. “Il Novecento e la nascita di Torviscosa”, in Rustico L. (edited by). *Malisana Zuino Fornelli: Torviscosa*, Torviscosa: Comune, pp 109-138.
- Reggiori, F. [1938]. “Una nuova città industriale: Torre di Zuino”, *Rassegna di architettura, rivista mensile di architettura e decorazione*, n. 12, pp. 489- 501.
- Rustico, L. (edited by) [2007]. *Malisana Zuino Fornelli: Torviscosa*, Torviscosa (Ud): Comune.
- [s.a.] [1938a]. “L’inaugurazione degli stabilimenti di Torre di Zuino voluti da Mussolini per l’autarchia della cellulosa nobile”, *La Stampa*, 22/09 n. 225, p. 2.
- [s.a.] [1938b]. “Il problema della cellulosa e gli impianti di Torre di Zuino”, in *Textilia e le industrie tessili*, n. 10, pp. 501-504.
- [s.a.] [1938c]. “Il duce a torre di Zuino”, *Raion rivista tecnico economica dei tessili moderni*, n. pp. 12-13.
- [s.a.] [1951]. “Gli impianti di Torviscosa, grande risorsa per il Friuli”, in *Friuli 50 anni*, pp. 78-79.
- Setta, S. (1993) *Profughi di lusso. Industriali e manager di Stato dal fascismo all’epurazione mancata*, Milano: FrancoAngeli.
- SNIA Viscosa (edited by) [1941]. *Torviscosa: La città della cellulosa*, Milano: Alfieri e Lacroix.
- SNIA Viscosa (edited by) [1967]. *Torviscosa: Saici Snia Viscosa*, Milano: Pan.
- Spadoni, M. [2003]. *Il gruppo SNIA dal 1917 al 1951*, Torino: Giappichelli.
- Tassinari, G. [1940]. *Autarchia e bonifica*, Bologna: N. Zanichelli.
- Tomaselli, C. [1938]. “Il Capo inaugura la città della cellulosa”, *Corriere della Sera*, 22/09/1938, p. 2.

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France

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València, Spain

Luigi Petti, ICORP - International Committee on
Risk Preparedness (ICOMOS)

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Italy

Maria Rita Pinto, University of Naples “Federico
II”, Italy

Mario Pisani, University of Campania “Luigi
Vanvitelli”, Italy

Piergiuseppe Pontrandolfi, University of
Basilicata, Italy

Giancarlo Priori, University of Naples "Federico
II", Italy

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Italy

Gianvittorio Rizzano, University of Salerno, Italy

Michelangelo Russo, University of Naples

“Federico II”, Italy

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Italy

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