

POLITECNICO DI TORINO
SECOND SCHOOL OF ARCHITECTURE
Master of Science in Sustainable Architecture
Honors theses

Straw, Wine and Architecture:

Analysis and Project of a Winecentre build in straw and wood in a Region of Piedmont

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The theme of sustainability, very present in recent times, is crossing new frontiers related to building zero impact. After consolidated building construction techniques, we proceed towards the rediscovery of materials such as straw, which was used centuries ago to construct buildings where other types of raw materials were in short supply.

These high-performance and zero-impact buildings, using local materials (usually waste in cereal production) are very durable and provide a lot of comfort like in building erected with industrially materials.

Like straw, the region provide us different materials who can be used in building construction: wood, hemp, stone, bamboo ...



straw bale (35x45x90 cm)

As in other states of the world, straw packed in prismatic forms, is used in loadbearing option (straw compose the structure of the building). In Italy, straw can only be used inside the wall as infill; the structure must necessarily composed by other materials such as steel, concrete or wood.

This thesis try to propose, an analysis of the characteristics of this natural material, linking it to a small project, which has the task of promoting the territory in which it will be inserted.

To maintain a zero kilometer approach, we will identified the project area within Canavese territory.

A series of considerations will be carried out to be sure to make the best use of what nature provides us without impoverish resources that will not be forever inexhaustible.

Pretext for the architectural design is represented by the wine and wine-making in this "region". Canavese has suffered a significant decline in productivity and cultivation of the territories that return different between the products of italian elite.

The engineering and architecture, are now core parts of the operating companies. Engineered processes lead to productive savings, improved production and thus to sustainable development.

Feeding the Earth through the use of new technology, quality and safety is the key issue of the Expo 2015.

As a student of the Polytechnic of Turin, I'd give my answer about all "'sustainable supply of the globe."

In the end, the analysis is developed for a building material, straw, assisted by a structural system, wood, who meet with the third element, the wine, linked to the Canavese and its long tradition, for the design of a building linked to the area and also to the promotion of the same. The building, designed with local materials, a Winecentre more modest in size and shape compared to other placed outside of this area, due to a logic of sustainability, cohesion and approach to nature, has the task of impact as little as possible with the territory - touch the world as little as possible - to put in relation to the agricultural tradition with the building tradition, the most simple, genuine, natural and elemental.



concept

The frame of the argumentation, want to promote constructive straw activity through the advancement of nationally and internationally wine-making, trying to awaken those old production and construction systems encouraging renewed cultural social and economic tradition.

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