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Landscape Archaeology in the Venetian Plain (Northern Italy)

Abstract: This study underlines the links between environmental sciences and social sciences and aims for a better understanding of the landscape dynamics in the Venetian plain. The geodynamic constraints resulting from natural forces and the historical land occupation patterns are approached jointly. The analysis of the agrarian morphology of the plain is integrated with the geomorphological data. The prevalence of the irrigation networks constructed in order to control the hydrous flows, by irrigation or draining is highlighted. This includes 1) centuriation forms, understood as a remarkable tool for agrarian improvement, 2) patterns of land planning, dating from the 12th and 13th centuries AC, 3) modern networks accompanying the Venetian nobility's colonisation campaign of the plain. These agrarian dynamics allow us to pinpoint the complexity of the historical heritages, closely combined with the natural components, while restricted to the Venetian plain landscape.

Introduction

This study focuses on the history of agrarian landscapes in the central part of the Venetian plain. Firstly it discusses the environmental geodynamics and the human dynamics, aiming to locate the forms of land occupation over more than two millennia. The main thread of the argument will be based on the magnitude of the transformations which man has imposed on his natural environment from prehistoric to modern times.

The Venetian plain, situated between the lagoon and the foothills of the Dolomites, can be separated into two main parts: the high and the low plain which are characterized by the different granulometry of the deposits. The anthropic dynamics were systematically oriented toward the water organisation in a region where hydraulic conditions were critical: there was lack of water in the high plain and difficulties of drainage in the low plain. Throughout these areas are the Roman centuriations which represent the dominant structure of these territories since antiquity.

Our aim is to explore and define, on the one hand, the nature and the forms of control that man has exercised over the environment and on the other hand, the influence of water resources on the anthropic dynamics in this area. This approach addresses the correlation between the archaeological agrarian forms and the natural components of the Venetian plain. Therefore, be it a protohistoric settlement, antique land-planning, distribution of medieval foundations or the organisation of modern irrigation networks, these dynamics are directly linked to soil

properties. In this study, we focus on the Brenta's high plain, a sector particularly well documented from the geomorphological, archaeological and historical points of view.

Tools and Methods

We utilised GIS in order to manage and analyse the large set of georeferenced data coming from environmental sciences (i.e. geology, hydrology, geomorphology) and human sciences (i.e. history, archaeology, geography). The understanding of the natural environment begins with the recognition of the main geomorphological units based on the planimetric documentation offered by the Environmental Protection Agency of Veneto (ARPAV 2005). Of particular interest is the digital elevation model of the landscape specifically designed for geomorphological analysis. Built by the Department of Geography of the University of Padua – in collaboration with the ARPAV – it interpolates the elevation points of the *Carta Tecnica Regionale* (C.T.R.) on a 1 : 10,000 scale. The C.T.R., published in Italy some twenty years ago, possesses a higher number of points than the Italian army's (Istituto Geografico Militare) topographical maps on a 1 : 25,000 scale.

In the context of an analysis of natural landscape forms, only the representative points on the alluvial model were selected. The anthropic structures are separated. In addition to this topographic documentation, all available planimetric documentation was georeferenced, from IGM's topographical maps to historical maps consulted in the State Archives in