Abstract

In this research we present some results of using an integrative approach for the analysis of long-term dynamics of agras cultural landscapes. Our approach involved the integration in a GIS of historical records, with geodatasets of place names, orthoimages and local knowledge. The three case studies were chosen from historical maps of the 18th century, with toponymy referring to agras and depicting explicitly this field system. The first historical map shows a highly detailed representation of the Agro de Balai. It has kept its original shape and boundaries though its agricultural use has mostly been abandoned. In 1957, this agras was still used as cropland, while the 2006 orthoimage shows the conversion to woodland and to scrubland in more than half of its extent. The second map shows roughly the location and extension of the agras in Villares de Bosende & Pradieiro, as well as other landscape features, such as landforms and wetlands. Here, we were able to identify in the terrain and study the agras at plot level since the toponymy was kept in current land property records. We also learned about the farming system and recent dynamics by interviewing a local farmer. As in the previous case, we observed that part of the agras are being reforested, though here cropland still occupies more than 70% of their extent. Tree hedgerows marking the outer border of the agras have been preserved, as well as the access paths leading to the plots inside the agras. To some extent, traditional cereal rotations are still in use. In the third case, the historical map displays the location and extent of the Agro do Canaleiro, Agro de Mesoiro and Agro de Currelos. The loss of toponymy, as well as the intense landscape transformation since 1957 from cropland to industrial uses, makes only possible an approximate identification of the location of these past landscape features.

As a conclusion, we observe that despite agricultural modernization some features of the traditional agras cultural landscapes are being reforested, though here cropland still occupies more than 70% of their extent. Tree hedgerows marking the outer border of the agras have been preserved, as well as the access paths leading to the plots inside the agras. To some extent, traditional cereal rotations are still in use. In the third case, the conversion to woodland and to scrubland in more than half of its extent.

Study area

Case Study I: Agra de Balai (Arteixo)

1957

This map is the example with more detailed representation of an agras we have found so far. It shows the internal division of the agras in open plots, its agricultural use, boundaries and access paths of the Agro de Balai. The orthoimage of 1957 shows that part of the agras was cultivated (bright colours) while the remaining land was either kept as fallow or meadow at the time of the image was taken. In 2008 is noticeable that the agras has kept its original shape and boundaries though its agricultural use is in decline. It is noticeable the conversion to woodland and to scrubland in more than half of its extent.

Methods

This map shows roughly the location of the agras in Villares de Bosende and Pradieiro, and other landscape features such as landforms, rivers and wetlands. Here, we were able to identify in the field and study the agras at plot level since the toponymy was kept in current land property records. We also learned about farming system and recent dynamics by interviewing a local farmer.

In 1957 the agras were still using the traditional system of cereal rotation. It is noted that the agro de Bosende was managed homogeneously by the farmers’ community at the time the orthoimage was taken, while in the agro de Pradieiro agricultural uses were more heterogeneous (difference in brightness). As in the previous case, we observed that in 2008 part of the agras are being reforested, though here cropland still occupies more than 70% of their extent. Tree hedgerows marking the outer border of the agras have been preserved, as well as the access paths leading to the plots inside the agras. To some extent, traditional cereal rotations are also still in use as indicated by the farmer.

Case Study II: Villares de Bosende and Pradieiro (Vilalba)

1957

1957-2008

Here we see in detail agricultural uses such as meadows, orchards, and permanent cropland, in particular it is shown the location and extent of three agras: the Agro do Canaleiro, Agro de Mesoiro and Agro de Currelos. Due to the lack of legibility of the legend we could only analyse the graphical aspects of the map. Typically, the agras occupy larger areas in comparison to the other agricultural uses.

The 1957 orthoimage shows that in this period the agras were still mostly used as cropland (bright colours). In 2008 the Agra de Canaleiro and Agro de Mesoiro disappeared as the area was turned into an industrial area. The other agras have kept the agricultural use though cropland has been replaced in many cases by permanent grassland. The loss of toponymy, as well as the intense landscape transformation since 1957 from cropland to industrial uses, makes only possible an approximate identification of the location of these agras.

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