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ong-term dynamics analysis of the agras cultural landscapes in Northern Spain



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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 Agra de Balai. It has kept its original shape and boundaries though its agricultural use has mostly been abandoned. In 1957, this agra was still used as cropland, while the 2008 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 or Villares de Bosende & Pradieiro, as well as other landscape features, such as landmarks 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 also still in use. In the third case, the historical map displays the location and extent of the Agra do Canaleiro, Agra de Mesoiro and Agra 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 landscapes are still kept as long as the agricultural use is maintained. Moreover, availability and quality of data seem to be key factors for identifying cultural landscape features in the field and therefore, for analyzing their dynamics.



1957

1957



2008

2008

2008

Case study I: *Agra de Balai(Arteixo)*

Plano d'Aqua que manificora la Agra d'Insua de Balair Sira enta Frá de Santa D Mana de Louxeda Coro de Ario, y partida Sobre que Disputan el Marques de Camarasa Mana, M. Pedro Plamon Pardo Esono, y sies ono Una delas Contenedas enel Toxo echo a Juan Cancelo you muge

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14 --- Leina de D. Fran Pore quecultiva Dievo dos Santos. 15. -- Leina quelleua, recognizió el cuado Santos, y sele comprendió enel Prounates del espresado

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18.... Lerna quellena Diego dos Santos. 19.... Lerna quellena Than Vodruguez de d'Hacinto Freixe. 20.... Lerna queestà acampo, gliena Toreph de valary.

Tolmo de Diego dos Santos.

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23. Pontillon queena enel Luo. via paso para el Molino 24. Pasos queestan enel no, vitacilitan eltranovio para los Montes Traga dela citarquesa iorraro. Otaviendose Enterado D. Julian de Veiras y Lomay Como Liocurador del Marqueso de Camarowa y de Larga, y d. Ledro Ramon Lardo Osono Cleeste Mapa, Con-binieron y Oseounaron queesta Vien y fielmente Echo, y manifiesta Verdadera mente el Mora d'Insua de Dalay, Lezas y mas élequese Conpone, Sinque tensan quendra, ni adbentir cora alounor enquanto aello, y solo lohair echo de lo que comprende la Caplicación fudicial, Tirman Conel Mapista d'Inar Dennavo del Rio, y mi coeniuano de Comara. Coruña Monos demillo

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This map is the example with more detailed representation of an *agra* we have found so far. It shows the internal division of the agra in open plots, its agricultural use, boundaries and access paths of the Agra de Balai. The orthoimage of 1957 shows that part of the agra was cultivated (bright colour) 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 *agra* 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.

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





This map shows roughly the location of the agras or Villares de Bosende and Pradieiro, and other landscape features such as landmarks, 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 the 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 *agra de Bosende* was managed homogeneously by the farmers' community at the time the orthoimage was taken, while in the agra 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 III: Agra de Canaleiro, Agra de Mesoiro and Agra de Currelos (Coruña) 1957







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 Agra do Canaleiro, Agra de Mesoiro and Agra 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* do Canaleiro and Agra do 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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