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# Geographical indications and environmental sustainability: An institutional analysis of Mezcal

Alberto Gabino Martínez-Hernández<sup>1</sup>, Mara Giua<sup>2</sup>, Renaud Metereau<sup>3</sup>, Claire Bernard-Mongin<sup>4</sup>

**Abstract** – Geographical indications (GI) have been widely used as a policy instrument aiming at fostering rural economic development across the world. Nonetheless, recent studies suggest that they have also been surrounded by significant issues of equity and sustainability. The present paper analyses the case study of the Mezcal GI due to its institutional complexity. The goal is to better understand to what extent institutional proximity elements have played a role in the acknowledgement of this GI, as well as its relationship with sustainable practices. To this end, we articulated the Learning Regions (LR) and the Localized Agri-food systems (LAS) frameworks, to analyse three different territories within the GI area of Denomination (Oaxaca, Guerrero and Michoacan). Our results indicate that institutional proximity has played a positive role in the acknowledgement of the Mezcal denomination of origin (DO) in Mexico, but it has also been associated to changes in the DO to enlarge the protected area. Moreover, the initial legal setting of the Mezcal DO and its evolution are associated to important environmental issues since its legal recognition in 1994, but some institutional proximity elements have played against this process.

**Keywords** – Geographical indications (GI) – Sustainability – Institutional proximity – Mezcal – Mexico – Agave

## INTRODUCTION

Throughout the world there have been many collective initiatives, often informal, which seek to highlight and to preserve the importance of the cultural heritage of food products with important economic and environmental benefits (FAO, 2018; Vandecandelaere et al., 2020). This has been the case of geographical indications (GI) or protected denominations of origin (DO), like Tequila in Mexico. The learning regions (LR) literature has stressed the importance of formal and informal institutions to strengthen economic performance and certification of GI producers. Besides, the localized agri-food systems (LAS) literature has emphasized the potential of local institutions to foster sustainable agri-food systems (Torres Salcido, 2017). Nonetheless, negative socio-environmental impacts of GI have also been found, particularly in the case of

developing countries with weak governance and public bodies (Fournier et al., 2018). Mezcal is a Mexican spirit constituted as a DO with significant economic benefits, but also surrounded by institutional and environmental issues, such as exclusion of small producers and biodiversity loss (Bowen, 2015). For this reason, it results highly relevant to carry out an in-depth analysis of the institutional architecture of this DO and to identify how environmental issues have been addressed accordingly. Therefore, the following research questions will guide the present paper: In Mexico, have institutional proximity elements (either formal or informal) promoted the acknowledgment of the Mezcal DO since its legal recognition in 1994? What has been the relationship between the institutional architecture of Mezcal and its main environmental issues?

## METHODS

Throughout this work, an attempt will be made to answer these questions in a two-step process. The first part represents an in-depth review of different types of literature (academic, grey, legislation, newspapers and technical) to identify the most pressing institutional and environmental issues. Secondly, by narrowing the research to three case studies (Oaxaca, Michoacan and Guerrero) which were found to be relevant for this study. To this end, explorative interviews were carried out with key stakeholders throughout the Mezcal value chain, to deepen our knowledge of issues found in the literature review, as well as to discover ones that we might overlooked. Furthermore, these interviews were analysed according to their most relevant formal and informal institutional elements.

## RESULTS

With respect to the first research question, alternative certification methods might emerge in response to the capture of the legal framework of the Mezcal DO by a small group of actors, which fostered its economic expansion at the individual level rather than at the col-

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lective one. Formal and informal institutional proximity elements played a decisive role for the case of Michoacán, Oaxaca and Guerrero to find certification alternatives. Cooperation links were established between groups of producers, universities and/or international organizations to carry out political lobbying to enlarge the area protected under the DO, as well as to develop agroecological participatory certification methods.

With respect to the second research question, our results suggest that since its legal recognition in 1994, the legal setting of the Mezcal DO and its evolution have led to biodiversity loss, overconsumption of water and firewood and deforestation. However, at the state level some institutional proximity elements have played against this process. The institutional architecture of Oaxaca has been characterized by an important role of cooperation ties between local universities and federal authorities to transfer technology to producers, with and a minor relevance of informal institutions. In Guerrero, both the formal and informal architectures have worked in favour of sustainability, either in the form of cooperation with international organizations or through diverse indigenous practices. In Michoacan there are few examples of formal and informal institutions in favour of sustainable practices.

#### **DISCUSSION AND CONCLUSIONS**

Regarding institutional issues, the capture of the legal structure of the Mezcal DO by a small group of actors as the DO expands confirms the claims made by FAO (2018) and Fournier et al. (2018). With respect to environmental issues, actors in the state of Guerrero emerge as a very interesting case study, since they developed an alternative certification method (participatory agroecological certification) to guarantee the bio-cultural value of their Mezcal, in addition to the common DO certification provided by the Mezcal Regulatory Council. This case study supports the arguments made by Crescenzi et al. (2022) about the importance of informal ties, mostly neglected in public policy, as one of the most important drivers of regional development. The initial legal setting of the Mezcal DO and its evolution have been the cause of significant environmental issues, which supports the findings of FAO (2018), Larson (2007) and Vandecandelaere et al. (2020). Nevertheless, some institutional proximity elements have recently emerged to cope with these environmental issues, which might represent a bio-cultural localization of Mezcal as depicted by the recent literature on LAS (Torres Salcido, 2017).

The relevance and significance of this work stems in three main points. Firstly, it proposes for the first time a theoretical synthesis of concepts coming from two different institutional frameworks (LR and LAS) to analyse sustainability and acknowledgement issues of a DO. Secondly, the theoretical framework constructed was reframed into accessible questions, which were discussed with relevant stakeholders across the Mezcal-value chain. Thirdly, our work sheds light about what institutional architecture favours a denomination of origin that localizes the bio-

cultural value of agri-food products, instead of fostering massive production with significant social and environmental issues. The case study of Guerrero represents a very interesting example of this type of GI. Hence, further research is needed to explore its main institutional assets, such as the relevance of informal institutions and cooperation with international organizations to foster sustainable development.

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