

AREAS WITH AGROTOURISM POTENTIAL IN THE CITRUS REGION OF NUEVO LEON, MEXICO: A MAP ALGEBRA ANALYSIS¹

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In Mexico, from the 1970s onwards, tourism has become a very important economic activity and one of the main strategies for the promotion of economic development at the national, regional and local levels. While its growth has depended mainly on investment in the existing infrastructure and the construction of new tourist resorts along the Mexican coastline, alternative tourism has also been expanding throughout the many existing natural and cultural sites in the country. This is the case of agrotourism, a variety of tourism that takes place in the rural areas, combining traditional ways of recreation with an introduction to agricultural activities, so that visitors get to know the rural ways and traditions. Some tours even include direct participation in daily rural practices, so that tourists, for example, get an understanding of the various stages of crop development.

Though not indigenous to Mexico, citrus cultivation has very deep roots in the country and an important place in agriculture and trade. In the state of Nuevo León, it has been practiced along the Eastern Sierra Madre mountain range for over a hundred years, playing a key role in regional development and territorial organization, especially between 1940 and 1970. The production of oranges, tangerines and grapefruits has given way to the development of packaging and processing industries, as well as marketing and other related activities. However, in the 1980s, citrus plantations suffered severe frosts that resulted in great harvest losses and, in some cases, even trees were lost. The decrease in production caused great economic problems that have not been offset to this date. This situation has evidenced the need to diversify the economy and support economic development in the region by linking citrus agriculture to other economic activities and generating income from other sources.

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One of the strategies directed at rescuing the citrus culture has been the implementation of agrotourism, an activity that links citrus cultivation to the existing natural and cultural resources. The authors of this paper believe that in order to ensure successful implementation of tourism in the region, vocational territorial studies have to be conducted. This research project was aimed at identifying and evaluating potential agrotourism sites and areas in terms of the following variables: 1) the extent of agricultural and agribusiness activity; 2) the presence of tourist resources; 3) the quality of basic infrastructure; 4) existing tourist services, and 5) accessibility.

The spatial analysis of tourism potential at the regional level began by locating each selected variable, so as to determine their territorial concentration or dispersion as factors that would either facilitate or hinder the creation of a tourist product. The methodology took into account not only the location of each variable but also their attributes. Data were collected on field trips and positioned with the aid of a global positioning system (GPS), and later digitized and geo-referenced on a geographic information system (GIS). Maps were produced for each specific item.

Since tourism is conceived of as an integrated and articulated activity, areas with a high concentration of variables were deemed as areas with a great agrotourism potential. Applied to local maps, the algebra analysis method allowed for the drawing of new layers from one or more preexisting layers, and the overlaying of maps drawn for each element through an arithmetic treatment. The density and accessibility layers were then added up, so as to define those areas that concentrate attributes in the same space. Higher values indicated concentration and lower values dispersion, just as in the accessibility analysis short travel distances were given higher values, while to long ones lower values were assigned. The result was a hierarchy of areas according to their agrotourism potential: Areas with a high concentration of all elements have the greatest potential; areas with medium concentration values have an intermediate potential, and areas with low concentration values are unsuitable to support agrotourism.

Areas with high potential are usually located within the municipal capitals or adjacent to them, so the kind of tourism to be developed there would be urban tourism immersed in rural areas. The quality of the existing resources and infrastructure in these areas needs to be carefully assessed. Areas with intermediate potential correspond with citrus production (although not with agribusiness), their tourism resources are located far from each other or inaccessible, and they have little or no tourist services. Developing agrotourism in these areas would require larger investment. Finally, in those areas where the development of tourism is not viable, a new economic strategy more in tune with the territorial characteristics would need to be defined.

Given the existing resources and the way citrus production is structured in the region, the development of a tourist itinerary would need to concentrate on natural and cultural attractions rather than on citriculture itself. Devising a route that links areas with very high and high tourist potential with those of medium and low potential would strengthen regional economic development as a whole. Investment to improve the existing infrastructure and accessibility, as well as to adapt in-house accommodation for visitors is essential. The region is already considered a one-day tourist destination by nearby Monterrey dwellers and travellers from nearby cities across the international border.

The implementation of agrotourism in the region would benefit the local economy and contribute to raise the standard of living of the population at large. Aside from offering an alternative source of income, it would also help curb land use change and encourage farmers to continue in business, which would eventually result, among other things, in the reappraisal of local customs and culture, the preservation of natural and cultural landscapes and the improvement of basic infrastructure. It is essential for tourism to be planned in a comprehensive manner, so as to be able to retain visitors for longer periods; otherwise, the region risks becoming a camping site, with no benefit for the local population. Tourism in the region must be thought of as an inclusive activity that brings in all sectors of society. Different roles may be assigned to different people, so as to ensure that benefits do not flow in the direction of the big entrepreneurs only. Finally, it is necessary to emphasize that tourism is not the solution to economic, social and environmental problems. On the contrary, if not properly planned, it can deepen these problems or generate new ones.

