

GEOGRAPHIC INFORMATION SYSTEM MAPPING AND PATTERN DISTRIBUTION  
OF SALT PRODUCTION IN THE MUNICIPALITY OF SAN LORENZO, GUIMARAS

A THESIS

Presented to

The Faculty of the College of Agriculture, Resources and Environmental Sciences

Central Philippine University

Iloilo City

In Partial Fulfillment

of the Requirements for the Degree

Bachelor of Science in Agricultural and Biosystems Engineering



By

CHERRYLYN F. DELA CRUZ

May 2024

# **GEOGRAPHIC INFORMATION SYSTEM MAPPING AND PATTERN DISTRIBUTION OF SALT PRODUCTION IN THE MUNICIPALITY OF SAN LORENZO, GUIMARAS**

Cherrylyn F. Dela Cruz

## **ABSTRACT**

Salt is one of the oldest commodities produced, traded, and consumed in the Philippines. Before any colonial influences, a long history of indigenous salt-making already existed. However, by the year 2000, the supply had reduced dramatically due to a variety of factors. Although remote sensing technologies, such as Geographic Information System (GIS) mapping, have been extensively utilized to enhance agricultural productivity in the Philippines, the spatial dynamics and patterns of salt production remain relatively understudied. Through the integration of GIS technology and field surveys, this study aims to produce a map and analyze the pattern distribution of salt production in the Municipality of San Lorenzo, Guimaras. Three out of 12 barangays were identified as salt-producing sites and recorded with 13 actively operating salt farms. Ocular visits and interviews were done utilizing a profile data sheet to gather salt production information. The geographic coordinates were recorded using a GPS and the DA-Geocamera and Google Earth images of the salt production areas were digitized in ArcGIS 10.8.2 software to generate the maps. Results show that salt production in the Municipality of San Lorenzo is located mainly at Brgy. Cabano, Brgy. M. Chavez and Brgy. Suclaran and has a total area of 30.85 ha with 134 salt producers, producing an average annual production of 468.5 metric tons of salt. Spatial analysis techniques, including point pattern analysis was employed to identify spatial trends and patterns in salt production. The findings revealed that the production of salt within the Municipality of San Lorenzo in Guimaras is considered dispersed as to production index.

## REFERENCES

- Ali, E. (2020, March). Geographic Information System (GIS): Definition, Development, Applications & Components. Retrieved from Geographic Information System (GIS): Definition, Development, Applications & Components
- Bartolome, G. J., and Magpantay, J. P. (2022). GIS Mapping of Salt Farms and Salt Supply Chain. 1-2
- Cardinoza, G. L. (2022, September 4). 'Salt industry needs govt management. <https://www.manilatimes.net/2022/09/04/news/regions/salt-industry-needs-govt-management/1857157>
- Cities and Municipalities Competitiveness index*. CMCI. (n.d.). <https://cmci.dti.gov.ph/lgu-profile.php?lgu=San+Lorenzo>
- DiCarlo, L. (2022, December ). Old Salts, New Tricks. <https://www.foodandbeverageunderground.com/sea-salts.html#:~:text=Surrounded%20by%20pristine%20waters%2C%20the%20Pan%20gasinan%20region%20of,for%20its%20mineral%20rich%20and%20fine%20salt%20beds>
- Ghosh, P., and Kumpatla, S. P. (2022). GIS Applications in Agriculture. 28. [guimaras.gov.ph](https://guimaras.gov.ph). (2022, December 6). Province of Guimaras. <https://guimaras.gov.ph/profile/>
- Hontucan, R. M., and Acedo, C. E. (2017, February 24). PH Salt Industry Reeling from Climate Change. <https://su.edu.ph/ph-salt-industry-reeling-from-climate-change/>
- <http://www.ncp.org.ph>. (2010, December). [http://www.ncp.org.ph/uploads/4/5/5/3/45531383/ncp-2010-salt\\_survey-final\\_report.pdf](http://www.ncp.org.ph/uploads/4/5/5/3/45531383/ncp-2010-salt_survey-final_report.pdf)
- <https://fisharticle.com/applications-of-gis-in-fisheries-and-aquaculture/>. (2022, December )
- <https://fisharticle.com/applications-of-gis-in-fisheries-and-aquaculture/>
- <https://www.cnnphilippines.com/news/2022/10/25/PhilASIN>. (2022, October 25). <https://www.cnnphilippines.com/news/2022/10/25/PhilASIN-salt-import-2030.html#:~:text=According%20to%20data%20shared%20by,occupied%20by%20Philippine%20salt%20makers>
- IloiloToday. (2017, May 11). Day Tour: Inland Attractions in Guimaras. <https://www.iloilotoday.com/day-tour-inland-attractions-in-guimaras/>
- Leon, D. D. (2022, October 25). What led to the demise of the Philippine salt industry. <https://www.rappler.com/newsbreak/explainers/what-led-demise-needs-to-be-done-salt-industry-philippines/>

- Lopez, D., and Calonzo, A. (2022, September 8).  
<https://businessmirror.com.ph/2022/09/08/sugar-salt-shortage-worsens-phls-food-supply-problems/>
- Ocampo, Y. (2022, October 6). GIS, Supply Chain for Salt Farms in the Philippines.  
<https://opengovasia.com/gis-supply-chain-for-salt-farms-in-the-philippines/>
- Panthi, M. F., and Hodar, A. (2021). GIS Technology and its Application in Fisheries Sector. 22
- (PDF) study of the weather parameters effect on the ... - researchgate. (n.d.-  
[https://www.researchgate.net/publication/350573600\\_Study\\_of\\_the\\_weather\\_parameters\\_effect\\_on\\_the\\_maduris\\_salt\\_production](https://www.researchgate.net/publication/350573600_Study_of_the_weather_parameters_effect_on_the_maduris_salt_production)
- sanlorenzoguimaras.gov.ph. (2022, December 6). Municipality of San Lorenzo.  
<https://www.sanlorenzoguimaras.gov.ph/infrastructure-facilities-and-utilities/>
- Shahbandeh, M. (2022, September 1). Salt industry worldwide - statistics & facts.  
<https://www.statista.com/topics/5939/salt-industry-worldwide/#topicOverview>
- Sornito, I. (2022, September 2). BFAR: 'Enough salt in Western Visayas'.  
<https://www.panaynews.net/bfar-enough-salt-in-western-visayas/>
- Tran, P., and others. (2022). Environmental changes in salt production.  
<https://iopscience.iop.org/article/10.1088/1755-1315/1028/1/012002/pdf>
- www.nationmaster.com. (2022, November). Philippines - Salt Production.  
<https://www.nationmaster.com/nmx/timeseries/philippines-salt-production>
- www.nnc.gov.ph. (2022, March 31). National Nutrition Council.  
<https://www.nnc.gov.ph/regional-offices/visayas/region-vi-western-visayas/7511-regional-bantay-asin-task-force-monitors-salt-distributors-in-san-lorenzo-guimaras>