



## FACULTAD DE CIENCIAS E INGENIERÍA ESCUELA PROFESIONAL DE INGENIERÍA DE SISTEMAS E INFORMÁTICA

### TRABAJO DE INVESTIGACIÓN PARA OBTENER EL GRADO ACADÉMICO DE BACHILLER EN INGENIERÍA DE SISTEMAS E INFORMÁTICA

Where is the Highest Rate of Children with Anemia in Peru? An Answer using Grey Systems

PRESENTADO POR

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# Where is the Highest Rate of Children with Anemia in Peru? An Answer using Grey Systems

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#### ABSTRACT

Anemia, or chronic malnutrition, in children under 5 is a social problem that affects the infant crucially in his or her growth and cognitive development. However, this problem presents itself in different ways in each department of Peru. Thus, in this work, the methodology of grey clustering, which is based on grey systems theory, was applied. The case study was conducted in the 25 departments of Peru, to analyze the departments most affected by chronic malnutrition in children under 5 years of age. The results of the study were that the departments of Cajamarca, Huancavelica, Loreto and Pasco have the highest rate of children with anemia; this may be due to the fact that these departments have greater poverty or negligence with respect to proper food handling. The results of this study could help local authorities such as the Ministry of Health to combat malnutrition, and also serve as a basis for future studies to evaluate the social impact of other conditions on health from a mathematical perspective.

Keywords: Anemia; CTWF; grey systems; grey clustering

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