



ASSESSMENT OF INEQUALITY IN THE DISTRIBUTION OF WATER FACILITIES IN LAPAI, NIGERIA

OCENA NIERÓWNOMIERNOŚCI DYSTRYBUCJI URZĄDZEŃ WODNYCH W LAPAI W NIGERII

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Abstract

Rapid urban growth and expansion pose daunting challenges in urban areas of the developing world. These challenges include the provision and equitable distribution of sustainable public water supply facilities. This study therefore aimed at assessing the extent of spatial inequality in the distribution of water facilities provision among major segments in Lapai urban centre, Nigeria to aid policy formulation and framework in achieving sustainable water supply. This study utilizes the Gini coefficient composite statistical tool to examine the distribution inequality of three main sources of public water facilities in the study area, which includes; hand pump boreholes, motorised boreholes, and wells. The study area is divided into four quadrants (quadrants A, B, C, and D). It was found out that 17.31%, 21.15%, and 37.50% Gini coefficients were recorded for hand pump boreholes, motorised boreholes, and well facilities. This indicates that there is inequality in the distribution of public water supply facilities among the four quadrants in the study area. It was therefore recommended that both the public and private sectors should provide public water facilities equitably to achieve Sustainable Development Goals (SDGs).

Keywords: Distribution, inequality, Gini coefficient, Sustainable Development Goals, Urban growth, Water facilities

Streszczenie

Szybki rozwój i ekspansja miast stanowią trudne wyzwania w obszarach miejskich rozwijającego się świata. Wyzwania te obejmują zapewnienie i sprawiedliwą dystrybucję publicznych urządzeń wodociągowych. W związku z tym badania miały na celu ocenę zakresu przestrzennych nierównomierności dystrybucji wody w głównych obszarach centrum miejskiego Lapai w Nigerii w celu wsparcia formułowania polityki i ram w osiąganiu zrównoważonego zaopatrzenia w wodę. W niniejszym opracowaniu wykorzystano złożone narzędzie statystyczne ze współczynnikiem Giniego w celu zbadania nierównomierności dystrybucji trzech głównych publicznych obiektów wodociągowych na badanym obszarze, w tym: odwierty z pompą ręczną, odwierty z napędem silnikowym i studnie. Badany obszar podzielony jest na cztery ćwiartki (ćwiartki A, B, C i D). Stwierdzono, że współczynniki Giniego 17,31%, 21,15% i 37,50% odnotowano dla odwiertów z pompą ręczną, odwiertów silnikowych i obiektów studniowych. Wskazuje to na nierównomierność w rozmieszczeniu publicznych urządzeń wodociągowych w czterech ćwiartkach badanego obszaru. W związku z tym zalecono, aby sektor publiczny i prywatny zapewnił sprawiedliwy dostęp do publicznych obiektów wodociągowych tak, aby osiągnąć cel zrównoważonego rozwoju (SDG).

Słowa kluczowe: dystrybucja, nierówność, współczynnik Giniego, cele zrównoważonego rozwoju, rozwój miast, obiekty wodne

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