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Mapping Differences Between the Index of Multiple Deprivation and the Priority Places for Food Index to Better Understand Areas of Need

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Introduction & Background

Living conditions vary widely across England, and several indices have been developed to quantify spatial inequalities and support evidence-based decision-making. The Index of Multiple Deprivation (IMD) is an established measure of relative area-level deprivation, combining administrative data across seven domains including income, employment and education. The Priority Places for Food Index (PPFI) is a more recent index that also incorporates seven domains but focuses on food-related vulnerability and access. Although both indices aim to identify areas of need based on multiple domains, they capture distinct dimensions of disadvantage. As newer metrics like PPFI gain influence in policy and research, there is a growing need for approaches that enable clear comparison across indices.

Objectives & Approach

This project introduces an interactive visualisation tool designed to support systematic comparison between the newly released IMD 2025 and PPFI across England. The tool enables users to identify areas where the two indices align or differ and examine how these patterns vary by geography across domains. Developed using Python, the dashboard provides interactive choropleth maps at Lower Super Output Area (LSOA) and Local Authority District (LAD) level. Users can explore individual domains, conduct side-by-side comparisons and examine ranked mismatches using a dedicated explorer. Consistent visual design and scale-appropriate representations ensure interpretability and comparability.

Relevance to Digital Footprints

PPFI incorporates indicators derived from administrative, web-scraped and crowdsourced data on spatial food access and service availability, reflecting digital footprints of everyday life. By comparing PPFI with IMD, the tool highlights how food-related and access-based vulnerabilities can exist even in areas not identified as highly deprived by traditional administrative measures alone. For example, Druridge Bay scores in the top 10% for food vulnerability under PPFI, yet falls outside the most deprived areas under IMD, a discrepancy that would be invisible without comparison. This demonstrates the value of integrating digital footprint data with established indices to provide a more nuanced understanding of local disadvantage.

Conclusions & Implications

This tool demonstrates that while IMD and PPFI frequently overlap, approximately 50% of high-priority areas differ depending on which index is used as they reflect different forms of disadvantage. It enables transparent, accessible comparison between the two indices, supporting more informed selection based on user needs and context. It is designed for use by policymakers, local authorities, food banks, and third-sector organisations to identify and prioritise areas of need without specialist data expertise. Integrating digital footprint data with established indices can strengthen evidence-based decision-making, ensuring hidden vulnerabilities do not go unaddressed.

Keywords

deprivation, food vulnerability, interactive visualisation, area-level inequality, spatial

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