Role of Artificial Intelligence in enhancing Rural banking and Financial Inclusion

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Abstract: *This research explores the transformative potential of Artificial Intelligence (AI) in addressing long-standing challenges of rural banking and financial inclusion in India. Despite significant strides through schemes like the Pradhan Mantri Jan Dhan Yojana, true financial inclusion which is characterized by active and informed usage of financial services—remains limited in rural regions. The study investigates how AI technologies such as machine learning, natural language processing, and computer vision can overcome critical barriers including poor credit history, language diversity, low financial literacy, and operational inefficiencies. Using Assam as a focal case, the paper combines primary data from a rural survey with in-depth analysis of AI applications including alternative credit scoring, multilingual conversational banking, AI-powered advisory, and fraud detection. Key findings reveal high mobile penetration but low comfort with digital banking, and a strong preference for vernacular, voice-based, and human-assisted financial solutions. The study also highlights region-specific AI opportunities in flood-resilient banking, tea grower financing, and tribal community inclusion. It concludes with a comprehensive set of policy and design recommendations to ensure AI solutions are explainable, inclusive, context-aware, and co-developed with rural communities. AI, the paper argues, is not merely a technological upgrade but a paradigm shift essential for bridging India's rural-urban financial divide*

Keywords: Artificial Intelligence (AI), Rural Banking, Financial Inclusion, Alternative Credit Scoring, Conversational Banking, Digital Literacy, Vernacular Interfaces, AI in Agriculture, Voice-Based Financial Services, Multilingual NLP, Financial Advisory Systems, Fraud Detection, Inclusive Finance, AI in Fintech, Explainable AI