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Swarna Andhra 2047: A Critical Analysis of Deep Tech and Zero Poverty Vision

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Abstract: *The Swarna Andhra 2047 vision, unveiled by the Andhra Pradesh government, aims to transform the state into a $2.4 trillion economy by 2047, emphasizing zero poverty and deep tech integration. This study critically analyzes the feasibility and public perception of these goals through primary data collected from a survey of 920 respondents across Andhra Pradesh. Using statistical tools such as chi- square tests and logistic regression, the research examines the alignment of public awareness, socio-economic factors, and technological readiness with the vision's objectives. Results indicate strong public support (78%) for zero poverty initiatives but highlight gaps in deep tech awareness (42%) and infrastructure readiness. The findings suggest that while the vision is ambitious, challenges in education, digital literacy, and equitable resource distribution must be addressed to achieve its goals. Policy recommendations include enhanced skill development and targeted technological interventions.*

Keywords: *Swarna Andhra 2047, Zero Poverty, Deep Tech, Statistical Analysis, Andhra Pradesh.*

1. INTRODUCTION

The Swarna Andhra 2047 vision, launched in December 2024, outlines a transformative roadmap for Andhra Pradesh to achieve a $2.4 trillion Gross State Domestic Product (GSDP) by 2047, with zero poverty and deep tech integration as core pillars[1]. The vision's P4 (Public, Private, People Partnership) model and emphasis on technologies like AI, quantum computing, and green energy aim to eradicate poverty and position Andhra Pradesh as a global innovation hub[2]. However, the ambitious targets raise questions about feasibility, public perception, and implementation challenges in a state with diverse socio-economic conditions.

This study addresses two research questions:[1] What is the level of public aware- ness and support for the Swarna Andhra 2047 vision, particularly its zero poverty and deep tech components?[2] What socio-economic and technological factors influence the vision's potential success? Using primary data from a survey of 920 respondents, this paper employs statistical tools to analyze perceptions and readiness, offering a critical perspective on the vision's viability.

2. LITERATURE REVIEW

The Swarna Andhra 2047 vision aligns with India's Viksit Bharat 2047 initiative, emphasizing economic growth, social inclusion, and technological advancement[2]. Poverty eradication strategies globally often integrate public-private partnerships and technology- driven solutions[4]. In India, poverty measurement relies on

consumption expenditure data, but statistical gaps necessitate innovative methodologies like fuzzy-set analysis[5]. Deep tech, encompassing AI, quantum computing, and genomics, is pivotal for eco- nomic transformation[6]. However, its adoption in developing regions faces challenges like digital literacy and infrastructure deficits[7]. Andhra Pradesh's vision to become a global data hub and green energy leader requires addressing these gaps[8]. This study builds on these insights, using primary data to assess local readiness and perceptions.

3. METHODOLOGY

a. Data Collection

A cross-sectional survey was conducted in March 2025 across five districts of Andhra Pradesh (Visakhapatnam, Kakinada, Vijayawada, Anantapur, and Nellore) to capture diverse socio-economic profiles. The sample size was 920 respondents, selected through stratified random sampling to ensure representation across urban (40%) and rural (60%) areas, gender (52% male, 48% female), and age groups (18–65 years). The survey questionnaire included Likert-scale questions on awareness, support, and perceived feasibility of the zero poverty and deep tech goals, alongside demographic and socio-economic variables.

b. Statistical Tools

Descriptive statistics summarized respondent characteristics and perceptions. Chi-square tests assessed associations between categorical variables (e.g., awareness and education level). Logistic regression modeled the likelihood of supporting the vision's goals based on predictors like income, education, and technological access. The regression model is specified as:

$$\text{logit}(P) = \beta_0 + \beta_1 \text{Income} + \beta_2 \text{Education} + \beta_3 \text{TechAccess} + \beta_4 \text{Age} + \beta_5 \text{Location}$$

where P is the probability of supporting the vision. Data analysis was performed using SPSS v27.

4. RESULTS

a. Descriptive Statistics

The sample comprised 920 respondents (52% male, 48% female; mean age 34.5 years). Education levels varied: 35% had secondary education or less, 45% had undergraduate degrees, and 20% had postgraduate qualifications. Income distribution showed 60% earn- ing below 3 lakh annually. Awareness of Swarna Andhra 2047 was reported by 68% of respondents, with 78% supporting zero poverty initiatives and 42% aware of deep tech components. Rural respondents (62%) reported lower awareness than urban respondents (74%).

b. Chi-Square Analysis

A chi-square test revealed a significant association between education level and awareness of deep tech components ($\chi^2 = 45.32$, $p < 0.001$), indicating that higher education correlates with greater awareness. No significant association was found between gender and support for zero poverty goals ($\chi^2 = 2.14$, $p = 0.14$).

c. Logistic Regression

The logistic regression model identified significant predictors of support for the vision. Higher income ($\beta_1 = 0.32$, $p < 0.01$) and access to technology ($\beta_3 = 0.48$, $p < 0.001$) increased the likelihood of support, while rural location decreased it ($\beta_5 = -0.25$, $p < 0.05$).

5. DISCUSSION

The findings indicate strong public support for the zero-poverty goal, aligning with the vision's P4 model[4]. However, low awareness of deep tech components, particularly in rural areas, suggests a need for targeted education campaigns. The significant role of income and technological access in supporting the vision highlights socio-economic disparities that could hinder equitable implementation. Compared to global poverty eradication models[4], Andhra Pradesh's approach is ambitious but faces challenges in scaling deep tech infrastructure.

Table 1: Logistic Regression Results for Support of Swarna Andhra 2047

Variable	Coefficient	Std. Error	*p*-value	Odds Ratio
Income	0.32	0.10	0.002	1.38
Education	0.15	0.08	0.06	1.16
Tech Access	0.48	0.12	0.000	1.62
Age	-0.02	0.01	0.09	0.98
Location (Rural)	-0.25	0.11	0.03	0.78
Constant	-1.20	0.30	0.000	0.30

Limitations include the survey's cross-sectional design, which limits causal inference, and potential response bias. Future research should explore longitudinal impacts and include qualitative insights from stakeholders.

6. CONCLUSION

The Swarna Andhra 2047 vision is a bold initiative, but its success hinges on addressing gaps in digital literacy, infrastructure, and equitable resource distribution. Policy recommendations include: 1. Expanding skill development programs to enhance deep tech awareness. 2.Prioritizing rural infrastructure for technology access. 3. Strengthening public-private partnerships to fund poverty eradication initiatives.

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