



REIMAGINING AGRICULTURE: ASSESSING YOUTH PERCEPTIONS, CONSTRAINTS AND PROSPECTS FOR AGRARIAN SUSTAINABILITY IN RURAL EASTERN INDIA

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RESEARCH ARTICLE



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Abstract

Agriculture is the backbone of rural livelihoods in India, commanding around 60% of the workforce and still stands at the waning end today. Due to paced socio-economic- mental mobility, educational migration and aspirations, rural youth have undergone transformation with regards to their relationship with agriculture. This study examines the changing perception of rural youth towards agriculture in Kotasahi Gram Panchayat of Tangi-Choudwar block of Cuttack district in Odisha, an east Indian state as a case study. The study is based on primary data collected from 180 sample across nine villages of the Panchayat to understand shifting occupational preferences, *raison d'etre* and future livelihood aspirations. Descriptive statistics, Spearman's rank correlation and Perception Development Index (PDI) were employed to assess perception patterns and identify the factors influencing occupational shifts. The findings reveal that there is unfavourable perception towards agriculture, with a mean perception score of 2.52 and low profitability, climate change and the lucrative salaried jobs emerged as the major drivers of this shift. Nearly 60.56% of respondents reported negative attitudes towards farming. It also highlights the need for policy interventions aimed at making agriculture financially rewarding, modern, entrepreneurship worthy and socially respectable for sustainable future.

Keywords: *Youth perception shift, Agriculture, Odisha*

Introduction

India's rural economy sustains on agriculture, since it has traditionally shaped social identity, culture and livelihood. Historically, farming has been regarded as a natural occupation inherited through family, but, the past two decades have witnessed shifts in rural livelihood. Education, employment opportunities, transportation and communication have improved and is leading to rural emmigration and youth is seeking jobs with better and stable incomes, social prestige and social mobility, rather than agriculture, often associated with uncertainty and low returns. Consequently, rural youth aspirations today differ considerably from their previous generation aspirations and a constant decline in youth participation in farming forms an important area of academic research. Researchers argue that structural transformation of rural economies often compels youths to move away from farming towards service and industrial sectors.

White (2012) finds that youth sees intricate association between agriculture, economic insecurity and social marginalisation. Bezu and Holden (2014) and Shijagurumayum (2024) found that migration opportunities and access to education significantly influence occupational decisions among rural youth. Within Indian context, Tripathy and Das (2020) emphasized the contribution of agricultural distress, land fragmentation, and uncertain market conditions to declining youth participation in farming (Rietveld *et al.*, 2025). Studies indicate that while agriculture remains important for household survival, it is increasingly viewed as a supplementary rather than primary occupation. Proctor and Lucchesi (2012) highlighted that this generation youth views agriculture as a "last resort" occupation due to low profitability and limited social mobility and has emphasised the need for agricultural modernisation to attract youth towards agriculture. Crop diversification and agricultural innovation have shown positive impacts on rural incomes, yet such benefits often fail to alter broader perceptions regarding farming as a desirable profession. Despite growing literatures on the topic, micro-level studies in India still remain limited.

Odisha, an East Indian state with significant dependence on agriculture, still has experienced diversification of rural livelihoods. Coastal districts such as Cuttack, Khurdha, Balasore etc have particularly witnessed increasing connectivity with nearby urban areas and educational migration, creating new employment possibilities for rural youth, such developments reshaping youth attitudes towards traditional agricultural occupations. Kotasahi Village Panchayat, located in east India, provides a case study

setting to examine such changes. The Panchayat comprises nine villages where agriculture continues to be traditionally practiced, yet increasing urbanisation, climate change, educational migration, attitude towards non-farm employment and human-animal conflict, especially elephant attacks on crop field and consequent loss (Girdžiūtė *et al.*, 2022; Biswal and Patra, 2026) is gradually transforming youth perceptions. Understanding how young people view agriculture is important for policy-making that would ensure development and sustainability (Mishra, 2022). This study aims at examining the socio-economic profile of rural youth in Kotasahi Panchayat, analysing their perception towards agriculture and identifying factors responsible for changing attitudes towards farming. The study further assesses their future occupational aspirations and recommends policy measures for increasing youth engagement in agriculture.

Study Area

Kotasahi Gram Panchayat is situated in the Tangi-Choudwar Block of Cuttack district of Odisha, an east Indian state (figure 1). It is located approximately between 20°32'–20°34' North latitude and 85°59'–86°01' East longitude and consists of nine villages (namely Kotasahi, Jakana, Kolha, Atanga, Bandal, Kandarkana, Hadua, Kairapari and Ramagarh ct) and is agriculturally productive due to alluvial soils. It has tropical monsoon climate with hot summers and moderate winters. The area is predominantly rural, with paddy cultivation serving as the principal economic activity. However, agriculture as a livelihood is now facing challenges due to market prices fluctuations, uncertain profitability and climatic variability. The proximity of Kotasahi to cities like Cuttack and Bhubaneswar has increased access to educational institutions, transportation facilities, and employment opportunities, which in turn has shifted occupational attitude among rural youth.

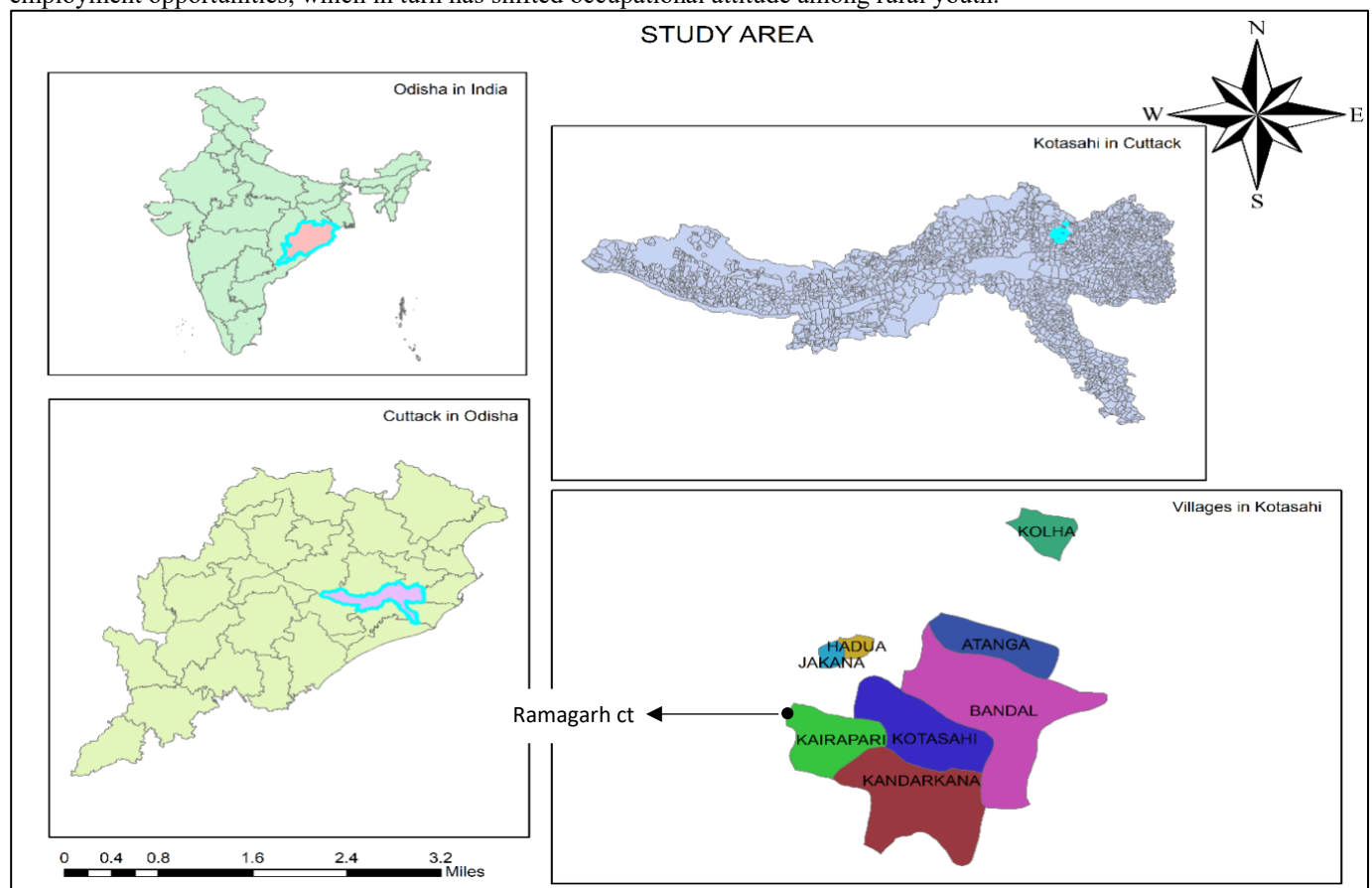


Fig. 1: Study Area Map (by author using ArcGIS)

Data and Methodology

The study is based on primary data collected through field surveys and secondary data obtained from government, non-government publications, newspaper and published literature. Random sampling was adopted for 180 respondents with 20 samples from each village (total 9 villages in the Panchayat). The respondents included rural youth aged between 18 and 35 years, including students, farmers, self-employed and salaried workers. A structured questionnaire survey was conducted with personal interview after obtaining informed consent from the participants.

The methodology flowchart is presented in figure 2. The collected data was analysed using descriptive statistics like percentage analysis and Spearman's Rank Correlation (to examine the relationship between perception towards agriculture and selected socio-economic variables). Spearman's correlation was preferred because a perception variable was measured on an ordinal scale and did not require assumptions of normal distribution (migration exposure on likert scale from 1 to 5 and education score as

equivalent to class from 1 to 12 and 13 for higher education). Perception score (obtained on a 5-point Likert scale ranging from 1- very negative to 5- very positive) served as the dependent variable and age, education, landholding size, agricultural income, migration exposure as independent variables.

Perception Development Index (PDI) was also calculated to identify the major reasons behind declining youth interest in agriculture), for which, respondents rated 8 factors on a 5-point likert scale of weightage. Higher PDI values indicated stronger perceived importance of a particular factor in contributing to shifting occupation. PDI was calculated using the standard weighted index approach, i.e.-

$$PDI = \frac{\sum W_i}{N \times 5} \times 100$$

Where:

$\sum W_i$ = Total weighted score for a factor (sum of all respondents' rating)
 N = Number of respondents

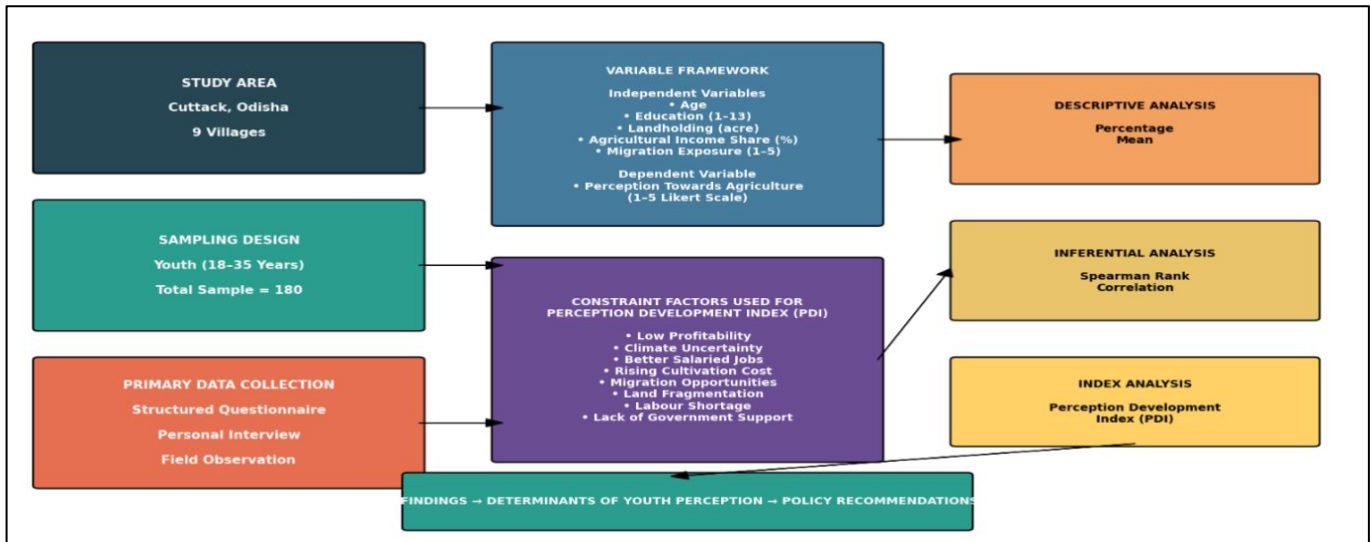


Fig. 2: Methodology Flowchart (by author using python)

Results and Discussion

General Perception of Youth Towards Agriculture

The findings (figure 3) reveal that while agriculture still continues to be an essential occupation for food production and household sustenance, people no longer consider it as the only livelihood option. The average perception score (2.51) indicates a moderately favourable attitude towards agriculture, suggesting that youth have not completely rejected farming but is concerned about its sustainability. 20.56% respondents expressed a very negative perception, while 40.00% reported a negative perception, whereas only 11.67% reported a positive perception, only 10.56% very positive and 17.22% maintained a neutral stance.

Correlation Analysis:

Spearman's rank correlation analysis (figure 3) shows that the relationship between age and perception towards agriculture was weak ($r = -0.016$, $p = 0.832$), indicating that socio- economic factors play a more important role than age alone in shaping perceptions. Educational attainment showed a weak negative but statistically significant negative relationship with agricultural perception ($r = -0.195$, $p = 0.009$). This pattern reflects that better educational opportunities expose youth to wider range of career options jobs and social mobility. Some highly educated respondents however expressed interest in high- tech agriculture. Landholding size displayed a positive association with agricultural perception ($r = 0.679$, $p < 0.001$), which may be attributed to the fact that larger land provides greater yield, income and capacity to absorb agricultural risks. Agricultural income emerged to be the most influential positive determinant of the same ($r = 0.791$, $p < 0.001$), indicating financial return as the primary determinant of practical youth attitudes. Migration exposure displayed a strong negative relationship with perception towards agriculture ($r = -0.770$, $p < 0.001$). Urban job was perceived as providing more stable income, improved living conditions, and higher social status.

Perception Development Index

The index identified the major factors influencing youth disengagement from agriculture (figure 3). Low profitability emerged as the highest-ranking factor (88.56), followed by climate uncertainty (84.22), indicating widespread concern regarding the economic viability and environmental risks associated with farming. Better salaried jobs ranked third (79.56), highlighting the growing attractiveness of non-farm occupations. Rest factors also contributed to it, like as rising cultivation costs (76.89), migration (73.78), land fragmentation (66.89), labour shortages (60.11) and inadequate government support (57.67).

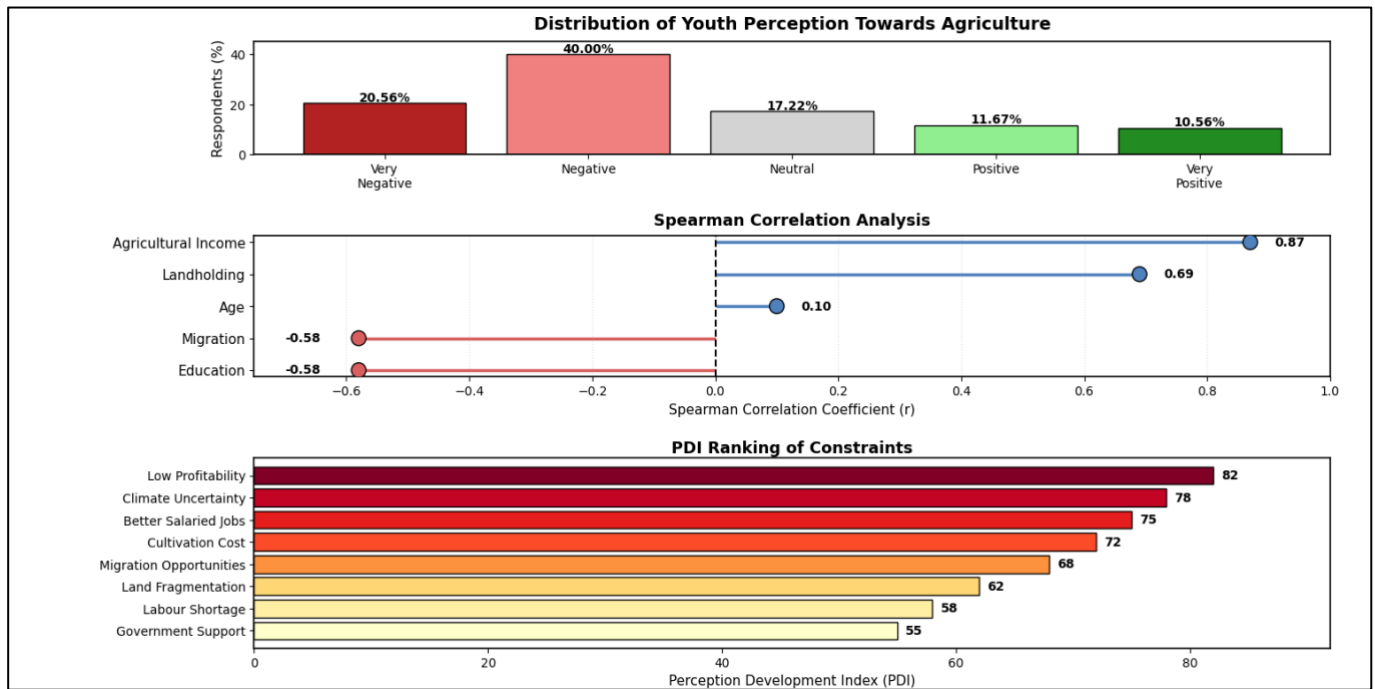


Fig. 3: Statistical Results Of Spearman Rank Correlation And Perception Development Index (by author using python)

Recommendations for Sustainability

The results present an important challenge for sustainable rural development. More than 60% of respondents expressed negative perceptions towards agriculture and income-related factors and migration opportunities significantly influence these attitudes. If this trend continues, agriculture may face even more challenges like labour shortages, ageing farmers, and declining generational continuity etc, getting manifested in even larger problem of food insecurity in future. However, strong positive relationship between agricultural income and perception indicates that improving farm profitability can substantially alter attitudes. Climate-resilient practices, irrigation and market- government support may restore positive agricultural attitude. Therefore, policies aimed at strengthening farm incomes, promoting agricultural entrepreneurship, expanding climate-resilient farming practices, and improving market accessibility are essential for encouraging greater youth participation in agriculture. Mechanisation, digital agriculture, encouraging high value crops like mushroom etc, value addition, agri-startups (Chowdhury *et al.*, 2023), farmer producer organisations, and skill development programmes can play an important role in revitalising youth engagement. The time period-based recommendations have been shown in figure 4.

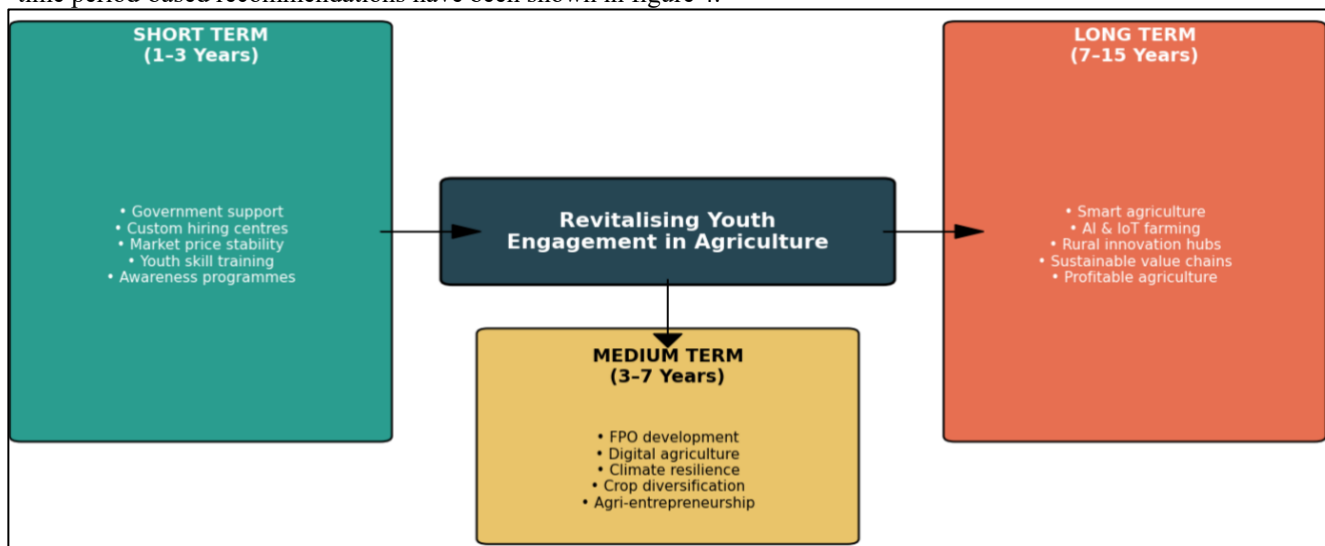


Fig. 4: Recommendations Chart (by author using python)

Conclusion

This study demonstrates that perception of agriculture among youth in Odisha, especially the case study area Kotasahi is undergoing significant transformation and its' findings reveal a noticeable decline in the attractiveness of agriculture as a

preferred livelihood option among rural youth. However, rural youth have not completely abandoned agriculture, rather seek a modernised, technologically advanced, and economically rewarding agricultural sector. The future depends not only on retaining youth, but also on transforming agriculture into an occupation that aligns with their aspirations, capabilities and expectations. Therefore, policies aimed at strengthening farm incomes, promoting agricultural entrepreneurship, expanding climate-resilient farming practices, and improving market accessibility are essential for encouraging greater youth participation in agriculture. It bridges the gap in current research in research by putting a case study view of the problem. Ensuring economically rewarding farming is crucial for sustaining agricultural development and rural livelihoods. Government and non- governmental organisations must come forward to ensure planning in this direction in order to achieve SDG 1 and 2 and long-term sustainability.

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Competing Interest: No

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