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GOVERNANCE AND INCOME INEQUALITY IN SAARC COUNTRIES: EXPLORING STRUCTURAL DRIVERS OF DEVELOPMENTAL DISPARITIES

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Abstract

Income inequality remains a major socio-economic challenge in emerging economies and continues to attract considerable academic and policy interest. This study examines the determinants of income inequality in SAARC member countries during the period 2000–2022. Using FMOLS and DOLS estimators, it identifies long-run relationships between income distribution and institutional, economic, and structural factors. The findings show that stronger anti-corruption measures reduce income inequality, underscoring the role of institutional quality in promoting equitable development. Higher out-of-pocket healthcare expenditure increases inequality by placing a greater financial burden on low-income households. Industrial value added supports economic growth, although its benefits are distributed unevenly across sectors and skill groups. Agricultural land structure reflects rural economic conditions, with differences in land use linked to

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productivity and broader rural development patterns. Governance quality, healthcare financing, industrial transformation, and rural structural conditions are important determinants of income inequality in SAARC countries.

Keywords: Income inequality, Corruption control, Poverty, Healthcare expenditures, Industrialization, Agricultural land, SAARC region

1. INTRODUCTION

In both industrialized and developing countries, income inequality is widespread (Ofori et al., 2022). In September 2015, the UN General Assembly established the Sustainable Development Goals (SDGs) to reduce poverty and inequality and promote inclusive development. SDG 1 aims to alleviate extreme poverty, whereas SDG 10 aims to reduce inequality within and between states. Foreign trade and investment development, political instability, and environmental degradation have transformed the global economy in recent decades. Thus, views of socioeconomic progress vary widely (Ferreira et al., 2023). Understanding the link between poverty, inequality, and economic progress is becoming more important in emerging countries. Economic development reduces severe poverty when income differences fall below a threshold. If economic growth benefits the affluent, poverty and inequality may persist. Many emerging countries have achieved economic growth but not reduced poverty or inequality due to domestic policies and poor governance (Amponsah et al., 2023). The Growth-Inequality-Poverty (GIP) model states that income growth and inequality reduction may completely determine a nation's absolute poverty. To eliminate absolute poverty, a necessity for human wellbeing, development strategists must focus on policies that boost income growth and minimize inequality (Majekodunmi & Oduola, 2023). Financial development may reduce poverty by improving access to credit, savings, and insurance, and by fostering economic growth and income distribution. First, it will allow people experiencing poverty to invest in social concerns, education, and new technology. Second, financial services may help underprivileged individuals make sustainable gains. Thus, financial mechanisms significantly reduce poverty (Della, 2023).

Income disparity plagues emerging and established countries. Governance drives economic development and reduces poverty and inequality (Tong et al., 2024). Fair governance may reduce economic disparities by eliminating corruption, upholding the rule of law, implementing fair tax policies, and providing equitable economic opportunities. Governance and tourist development need strong institutional, political, and economic frameworks to reduce income disparities (Ofori et al., 2023). Solid economic policies require effective governance to achieve robust, equitable development. Effective governance may ensure a fair distribution of wealth and income within a country since national and global governance affect inequality (Coccia, 2021). The political institution's channel argues that in economies with unequal income distribution, poor people receive a smaller share of national income, so democracies with more equitable income

distribution may have more egalitarian distributions of political rights. Anti-corruption measures lower inequality because corruption perpetuates poverty and economic inequality by distorting asset distribution (Islam & McGillivray, 2020). Weaker institutions amplify FDI volatility, hurting economic growth and increasing income inequality. This study investigates the structural factors of income disparity across SAARC countries by addressing the following research questions:

RQ1: In what manner do institutional quality and poverty dynamics affect income disparity in SAARC nations?

RQ2: Do economic progress and structural change mitigate income disparity in the region?

RQ3: How do technology, healthcare financing, and agricultural land structure affect income inequality in South Asia?

Effective governments perform better in social justice, law enforcement, and economic and central policy. Good administration boosts economic development, employment, and resource distribution (Hossain, 2022). It claims that decentralization impacts equality depending on how well a nation's norms and institutions are kept. According to Tselios (2023), decentralization reduces inequality. However, this drop is greater in countries with poor governance, perhaps because private investments reduce wealth inequality. The rule of law improves financial inclusion and reduces poverty and inequality in Asia's emerging countries. Political and economic institutions may greatly affect income inequality. Political and economic institutions affect economic institutions, which produce income disparities (Ouechtati, 2023). Institute quality positively affects the reduction of income inequality. However, corruption and institutional quality adversely affect income disparities (Rontos et al., 2023). Corruption may benefit the affluent at the cost of the poor. Thus, income inequality will worsen. High levels of corruption may impede income redistribution by increasing primary school dropout and child mortality. Corruption may also cause macroeconomic instability and inflation (Keneck-Massil et al., 2021). Institutional mechanisms enable political instability, clientelism, corruption, and other abnormalities that endanger property rights and increase wealth disparity. Unequal institutional regimes adversely affect wealth distribution (Asamoah, 2021). Globalization and national and institutional policies have widened wealth and poverty inequalities. If there is good governance, the free market will compete to improve social welfare and reduce inequality. Strong anti-corruption measures and legal compliance promote equality and fair competition (Mun et al., 2022). Governance and income inequality exhibit an inverse U-shaped relationship, with greater corruption reducing economic inequality (Li et al., 2000). Improved digital technology may help people experiencing poverty learn and build skills to earn more. When correcting for institutional quality, income inequality has a negative marginal impact in low-quality countries (Haini et al., 2023). By increasing income disparity, a slowdown in economic development may limit the benefits of FDI. Tax evasion may increase economic inequality because corruption makes tax enforcement more difficult.

Corruption may undermine poverty-reduction programs and promote economic inequality (Dossou et al., 2023).

Emerging South Asian countries are experiencing rising income inequality (Goh, 2025). Unequal distribution has produced wealth, opportunity, and service inequities throughout economic expansion. The mismatch affects SAARC social stability and inclusive progress. This study empirically examines the key socioeconomic and institutional factors that explain SAARC income differences from 2000 to 2022. Poverty, land distribution, industrial development, health expenditure, and governance quality impact income distribution. This study uses FMOLS and DOLS estimators to assess the impacts of these multidimensional variables on income inequality. It attempts to generate long-term estimations that account for regional structural links. This research advances knowledge in numerous ways. First, it refreshes data from a developing area with similar socioeconomic disadvantages. A complete investigation includes social, economic, and institutional factors. Second, it helps policymakers construct fair development strategies, which is essential when structural and market inefficiencies produce inequality. Finally, the study aims to assist SAARC policymakers in adopting inclusive development approaches to minimize inequalities and level the economic playing field.

The study begins with an introduction. The second section reviews pertinent literature. Section 3 shows the theoretical framework of the study. Section 4 discusses the data and techniques utilized to achieve the research's goals. Results and discussion sections are presented in section 5 and 6 respectively. Section 7 concludes the study.

2. LITERATURE REVIEW

2.1. Governance and Institutional Factors

Economic disparity is affected by governance, especially corruption control and institutional efficiency. Good institutions and governance limit rent-seeking, distribute resources equally, and assist disadvantaged groups. Corruption and poor governance impede low-income people's access to public services and benefit elites. Economic inequality in South Asia and other rising nations decreases with better governance. Every country tackles corruption differently. It slows economic growth and generates problems. Poverty, unemployment, and income inequality fuel corruption (Uddin & Rahman, 2023). FDI, economic growth, and corruption reduce wealth inequality (Handayani et al.,2022). Oliinyk et al. (2023) advised that anti-corruption measures should prioritize public trust in institutions, social equity, and government accountability and transparency over economic development. Rashid et al. (2023) stated that corruption ruins institutions. To combat societal corruption, the government must act decisively. Lower-developed nations should combat corruption to diminish the informal sector. Corruption and uncertainty deepen the inequality caused by fossil fuel subsidies. Income inequality may decrease with economic growth (Ghifara et al., 2022). Dorofeev (2022)

concluded that economic growth reduces inequality. Income inequality may affect growth and vice versa. Fertility, capital services, total factor productivity, human capital, and political stability affect income inequality and economic growth. Varona and Castillo (2021) stated that sluggish, unequal economic development had affected income distribution. Sustainability and good economic management boost growth and minimize income inequality. Government intervention is essential to ensure equal economic opportunities for people experiencing poverty. Income distribution is affected by health expenditure. Christopher et al. (2018) found that household medical spending lowers the median income of the poorest, increases economic inequality, and impoverishes the population. Pu et al. (2021) suggest that the government actively eliminate income inequality to manage health care costs. Air pollution impacts economic inequality via public health spending. To achieve fairness, Chu et al. (2005) advise reducing healthcare prices for excluded groups, such as low-income individuals. Lee & Shaw (2014) found that the lowest quintile received less sophisticated healthcare, increasing inequality. Economic progress and social equality need ICT. Ahmad et al. (2022) found that wealth inequality worsens when ICTs are incorporated into the economy. Internet use reduced the Gini Index more in wealthy nations than in developing ones. Bauer (2018) demonstrated that ICTs seldom generate income inequality alone but alongside technical, political, and economic factors. Economic growth and wealth disparity are directly and indirectly affected by ICT infrastructure. Jing et al. (2019) stated that ICT development improves economic growth, employment, and poverty alleviation.

2.2. Economic and Structural Determinants

Industrialization and expanding service and manufacturing may improve poverty and inequality by boosting employment, productivity, and income. ICT adoption may boost productivity and economic activity, but it favors better-educated individuals and city dwellers more. Structural change must involve fair economic possibilities for long-term success to reduce inequality. Shen & Zhao (2023) examined income inequality and economic development in 167 economies from 1950 to 2020. Income disparity increases fertility, harms human capital and political stability, and stifles economic progress. The research concluded that low-income nations should increase social protection spending to promote population well-being and economic equality. Angelov & Waldenstrom (2023) evaluated how COVID-19 affected Swedish family income distribution. They observed that the pandemic reduced the income of low-income families. Middle- and high-income families seemed unaffected. Ghosh et al. (2023) examined how economic structure affected income distribution in 65 countries from 1990 to 2015. Improved structural transformation equalizes income, but complicated economic arrangements create inequality. To sustain economic development and reduce income inequality, countries should focus on structural reforms. From 2002 to 2019, Khan et al. (2023) evaluated how political stability affected economic inequality and environmental degradation in Belt and Road Initiative (BRI) countries. They found that economic development reduces income disparity in

emerging nations, but financial inclusion, carbon emission, and political stability increase it. However, CO2 emissions and political stability diminish economic disparity in wealthy nations. BRI nations reduce income inequality across all factors except financial development. To increase income distribution, nations should develop institutions, politically stabilize the economy, and achieve financial inclusion.

2.3. Social and Environmental Factors

Healthcare costs, land allocation, and poverty may contribute to economic inequality. Lack of education, healthcare, and productive resources perpetuates inequality in high-poverty neighborhoods. Low-income households are more vulnerable and less economically active due to out-of-pocket healthcare costs. Environmental constraints, such as uneven land distribution and damaged agricultural resources, limit disadvantaged groups' earnings. Economic disparities are driven by social and environmental factors and require social protection, health financing, and fair resource distribution. Demir et al. (2020) used survey data from 2011, 2014, and 2017 to investigate financial technology, financial inclusion, and income inequality across 140 countries. Financial technology helps reduce income inequality by giving the poor access to financial instruments in most nations. More comprehensive financial services are recommended. Dorn et al. (2021) examined trade openness and income inequality in 139 countries from 1970 to 2014. They found that trade liberalization benefited countries differently. Trade openness benefits low-income nations and emerging economies, but it widens economic disparities in wealthy countries. Ofori et al. (2022) used the GMM estimator to assess whether remittances and financial development help close the African wealth gap from 1996 to 2020. Inefficient financial institutions are the major driver of economic inequality, and remittances increase it. Financial institutions should increase financial inclusion and implement excellent policies to enhance the financial system. Khan et al. (2022a) examined how poverty and inequality affected environmental quality in Asian emerging nations during 2006-2017. Environmental deterioration is positively correlated with poverty and inequality. They also verified the EKC in certain places. Income equality is crucial for economic development and the MDGs. Khan et al. (2022b) examined how income inequality and energy consumption affected the environments of 180 nations from 2002 to 2019. The results show that income inequality and institutional quality severely degrade the environment. Trade openness and renewable energy use reduce carbon emissions. Finance and economic growth boost carbon emissions. Income inequality and environmental issues necessitate strong measures. From 1984 to 2016, Yang et al. (2022) examined whether institutional quality and wealth inequality influenced carbon emissions in 42 developing nations. Income disparity increases carbon emissions, and institutional quality increases them. Hussain et al. (2023) used GMM to examine whether income disparity mitigated the impact of the sharing economy on sustainable economic development across 20 developing nations from 2001 to 2020. They determined that income disparity hinders economic development, and the sharing economy helps maintain it. The research

recommended a framework to enhance the sharing economy and reduce income disparities across countries. Haung et al. (2023) examined how financial inclusion and economic inequality affected human capital development in 36 Sub-Saharan African nations from 2004 to 2019. Financial inclusion boosts human development, whereas economic disparity hurts it, the research revealed. Officials must address economic disparity and encourage financial inclusion in sampling areas. Though results are unequal and situational, income inequality research reveals institutional and structural factors. Corruption and weak leadership misallocate public funds and restrict essential services for low-income areas, according to rising research (Leung et al., 2025; Sun et al., 2025). Several studies suggest that governance impacts differ by geography (Leung & Ko, 2025; Bani-Khaled et al., 2025). These indicate that institutional maturity and enforcement techniques affect the intensity of this link. Private health insurance premiums are disproportionately high for low-income households, while public health initiatives may cut these costs, demonstrating that policy structure influences outcomes. Industrial development is extensively explored in inequality literature. Industrial development creates employment, but skill-biased or geographically concentrated growth may lessen or increase inequality (Pan et al., 2026; Ma & Wang, 2025). The disparity suggests that structure matters more than industrial production. Income inequality persists when agricultural land ownership is uneven, according to research. Land reform may fail without rural infrastructure and productivity improvements (Shiba et al., 2025). Health, industrial structure, land distribution, governance, and empirical frameworks are understudied in SAARC. This gap necessitates a detailed examination of the causes and consequences of income disparity, individually and together.

2.4. Research Gaps and Contribution of the Study

Development economics literature has extensively studied governance quality, poverty dynamics, and income inequality (Mussida & Sciulli, 2022; Clementi, 2024). There is little knowledge about this relationship in SAARC. The poverty-growth nexus, or corruption and inequality, has dominated studies (Ochi et al., 2024; Marrero & Servén, 2022). Institutional distortions, healthcare affordability restrictions, structural industrial transition, and environmental deterioration are interconnected and unexplored in this area. Cross-sectional or country-specific empirical research has made it difficult to draw firm conclusions about how governance indicators, social-sector vulnerabilities, and environmental pressures affect income distribution over time (Fajardo-Gonzalez et al., 2025; Nisar, 2025). Instead, this study tracks institutional quality, healthcare financing burdens, industrial value addition, land distribution, and poverty across SAARC economies using a panel-based long-run estimation framework from 2000 to 2022 and the Fully Modified Ordinary Least Squares (FMOLS) estimator. A longitudinal approach may reveal the dynamic response of structural inequality to institutional, economic, and environmental shocks.

Environmental concerns are missing from the South Asian inequality literature. Regional panel-based inequality models have largely ignored environmental degradation as a structural driver of economic disparities, despite considerable evidence linking it to agricultural production and rural vulnerability (Gorain et al., 2024; Luan & Yang, 2026). This study links dispersed development analysis with environmental sustainability via land allocation. Podvorica et al. (2025) examined the institutional and macroeconomic determinants of FDI patterns in the Balkans and Central Europe, emphasizing the role of governance in economic distribution. Srdelić and Barišić (2025) used sector-specific environmental Kuznets curves to examine the relationship between economic development and environmental outcomes in Croatia. Energy utilization, industrial output, and GDP per capita impact Western Balkan CO2 emissions, according to Zhigolli and Fetai (2024). This implies policymakers should consider environmental and structural factors. These findings are expanded by examining how government, poverty, health financing, industry, ICT, and land allocation affect emerging area income disparities. South Asian industrial development has been studied mostly for aggregate economic growth rather than its distributive impacts. This study examines whether industrial value addition boosts or hurts the economy when industry employment absorption capacity varies. The research shows that structural change and income distribution are conditions for the formation of regional blocs. This study's empirical analysis of corruption, healthcare funding restrictions, environmental degradation, industrial growth, poverty, and SAARC economies is significant. The multidimensional modeling tool identified overlapping structural mechanisms that sustain regional inequality, underscoring the need for coordinated policy responses rather than sector-specific initiatives. Panel-based studies of South Asian economies have neglected healthcare accessibility and environmental sustainability.

3. THEORETICAL FRAMEWORK

This research examines SAARC income disparities using institutional economics, political economy, and theories of inequality. Institutional economics holds that public resource allocation, government openness, and governance effectiveness affect the national distribution (Arora & Chong, 2018). Because of institutional failures that enable public service leakages and inefficiencies, redistributive policies fail, and economically disadvantaged people have fewer opportunities. A basic institutional distortion, corruption hinders fair development by affecting the social safety net and inclusive infrastructure finance (Valdiglesias, 2025). The political-economy of inequality hypothesis explains socioeconomic inequality through structural inequities in healthcare, employment, and natural resources (Morello-Frosch, 2002). Healthcare shortages exacerbate income inequality in developing regions like South Asia, with limited long-term human capital and labor productivity. Low-income families spend more out of pocket on healthcare, diverting funds from education and skill development, which are crucial to economic mobility (Rahman et al., 2022).

Human capital theory is used to examine how healthcare affordability and economic inequity are transferred (Chakraborty & Das, 2005). This paradigm encourages inclusive development, worker productivity, earnings, and inexpensive healthcare. High private healthcare finance demands make families more vulnerable to economic crises and inequality traps (Whitehead et al., 2001). The concept of environmental poverty traps explains geographical disparities in rural economies. Rural populations that depend on natural resources are losing jobs as environmental degradation lowers agricultural output (Nguyen et al., 2023). Land distribution widens the urban-rural gap and makes it difficult for disadvantaged communities to work. Industrialization helps distribution if it can absorb workers and expand sectors inclusively. Without job creation and skill-building, capital-intensive industrial development cannot reduce inequality (Balasubramanian, 2023). This study creates a theoretical framework for SAARC economic inequality using institutional and political-economy approaches.

Institutional Economics Theory holds that fair and effective institutions regulate economic transactions and resource allocation, thereby affecting income disparities. Corruption takes public funds and hurts low-income individuals, eroding redistributive institutions and increasing inequality (Adams et al., 2025). Agriculture also displays institutionalized structural inequality, leading to long-term economic imbalances due to uneven access to productive assets, especially in SAARC rural nations. According to Human Capital Theory (Bennett, 2025), income discrepancies stem from investments in health care, education, and productivity. Out-of-pocket healthcare costs hurt low-income families' human capital investment and increase intergenerational inequality. Low-income families need improved healthcare, education, and nutrition to escape poverty. Finally, industrial value indicates the structure of the economic transition. Industrial expansion may create jobs and generate economic growth. Growth may create inequality if opportunities are skill-biased or labor is unevenly skilled, according to Human Capital Theory (Yu & Wu, 2026).

The theoretical framework links economic inequality to bad institutions and low human capital investment. This research examines how social circumstances, structural economic determinants, and governance impact SAARC income gaps. The study hypothesizes the following from institutional economics, political economy, and structural transformation theory:

H1: Institutional deficiencies and elevated poverty rates substantially exacerbate income disparity in SAARC countries.

H2: Economic development and industrial value addition affect income inequality based on the inclusivity of structural transformation processes.

H3: Technological development, healthcare financing constraints, and agricultural land structure significantly influence income inequality across SAARC countries.

These hypotheses provide a systematic empirical foundation for analyzing the long-term factors influencing income inequality using the FMOLS and DOLS estimators.

4. DATA AND METHODOLOGICAL FRAMEWORK

The study used income inequality as a regressand, measured by the Gini index. Poverty headcount ratio, control of corruption, GDP per capita, ICT exports, and out-of-pocket health expenditures are the explanatory variables, while, industry value added and land distribution served as control variables. These variables are explained in the Table 1 for ready reference.

Table 1 List of Variables

Factors	Variables	Symbol	Measurement	Data Source
Dependent Variable	Income inequality	IE	Gini Index (0-100 scale)	POVCALNET (2023)
Explanatory Variables	Poverty	POV	Poverty Headcount Ratio	POVCALNET (2023)
	Control of Corruption	CoC	Index (-2.5 to +2.5)	WGI (2023)
	GDP per capita	GDP	GDP per capita growth (annual %)	WDI (2023)
	ICT exports	ICTX	ICT goods exports (% of total goods exports)	WDI (2023)
	Out-of-pocket healthcare expenditures	HE	Out-of-pocket expenditure (% of current health expenditure)	WDI (2023)
Control Variables	Industry value added	INDV	Industry (including construction), value added (% of GDP)	WDI (2023)
	Agricultural land	AL	Agricultural land (% of land area)	WDI (2023)

Source: Compiled by the authors based on PovcalNet (2023), WDI (2023), and WGI (2023).

Institutional economics holds that corruption distorts government resource allocation and social service provision, thereby affecting distributive outcomes. Low-quality institutions hinder redistributive policies and restrict opportunities, increasing demographic economic inequality (Ongo Nkoa & Song, 2022). The research explained using the Corruption Perceptions Index. Poverty hinders education, employment, and productive asset accumulation in expanding countries like South Asia, increasing generational inequality. Structural transformation theory states that inclusive sector development and job creation cause growth and inequality (Kamal et al., 2025). GDP per capita assesses economic growth this way. Economic development with labor-intensive industrialization and social-sector investments may alleviate inequality. However, concentrating rewards in a few areas may have the reverse impact (Varona & Gonzales, 2025). The research used ICT exports to show how the digital sector is impacting developing-country productivity and labor-market competitiveness. Research on inclusive growth and digital development suggests that technology may increase knowledge-based employment or worsen economic inequality by making digital infrastructure and technical skills less accessible (Yeo, 2026). To enhance labor productivity and long-term income, human capital development prioritizes affordable healthcare and out-of-pocket expenditures. High private

healthcare financing costs limit family savings and investment in education and skills, generating economic inequities for disadvantaged populations (Cerf, 2023). Structured transformation theory promotes industrial sector growth to increase value, employment, and economic diversity. Industrialization's distributive effects in developing nations during sectoral transition depend on their ability to absorb workers and be inclusive across varied locales (Wei et al., 2025). Finally, structural factors related to agricultural land influence income inequality through rural economic conditions. Variations in agricultural land use affect agricultural productivity, rural income levels, and long-term development outcomes in SAARC countries. Land inequality has caused economic inequities in natural resource-dependent developing nations (Xu et al., 2026). Based on theoretical frameworks, the study found rising inequality in South Asia.

The Gini coefficient is used to measure income inequality across SAARC nations for conceptual coherence. On a scale of -2.5 to +2.5, the Worldwide Governance Indicators (WGI) Corruption Control Index assesses corruption. This score assesses small- and large-scale corruption and elite government control. Political economy and institutional economics argue that corruption and weak government institutions undermine public service delivery and inclusive economic opportunities, worsening income inequality. A nation's economy may be determined by its agricultural land. In emerging nations, agricultural modernization and rural transformation are uneven, resulting in context-dependent land and income inequities. Variations in agricultural land use are associated with differences in agricultural output and rural income generation, thereby influencing broader development outcomes. This research draws on the theoretical and empirical literature on income inequality to identify characteristics that enhance conceptualizations. Studies (Onatunji, 2025; Nsiah & Tweneboah, 2025) show that low income and poor institutional quality hinder access to public services and economic opportunities, worsening income gaps. Corruption is a major structural barrier that hurts low-income populations and skews resource distribution. GDP per capita is advocated by growth-inequality literature (Zhao et al., 2025). Industrial development's inclusiveness affects inequality; hence, industry value is used to assess structural change. Recent research emphasizes ICT exports in analyzing technical development and digital economy participation (Khan et al., 2026). These factors may increase or decrease economic disparity depending on skills and infrastructure. Out-of-pocket healthcare costs threaten family finances in developing countries without public health coverage. Finally, agricultural production patterns, rural employment, and land-use intensity influence rural income distribution through their effects on agricultural output and productivity. Agricultural land resources play an important role in shaping household livelihoods, food security, and rural economic development in agrarian economies. Rural communities with more farmable land may have more employment opportunities, but income inequality may remain even in well-integrated markets with uneven productivity (Ye et al., 2025).

The study covers Bangladesh, Bhutan, India, the Maldives, Nepal, Pakistan, and Sri Lanka. POVCALNET (2023), WGI (2023), and WDI (2023) provide statistics from 2000 to 2022. Information and communication technology exports (ICTX), industrial value added (INDV), agricultural land (AL), and poverty (POV) are examined in relation to income inequality. Based on these factors, the economic model is as follows:

$$IE_{i,t} = \alpha_0 + \alpha_1 POV_{i,t} + \alpha_2 CoC_{i,t} + \alpha_3 GDP_{i,t} + \alpha_4 ICTX_{i,t} + \alpha_5 HE_{i,t} + \alpha_6 INDV_{i,t} + \alpha_7 AL_{i,t} + \varepsilon_{i,t} \quad (1)$$

The key model that has been used in this study is Fully Modified Ordinary Least Squares (FMOLS) estimator. Multiple prerequisite tests were conducted in order to apply this method properly. First, panel unit root tests were employed to confirm that all variables are integrated of order one (I(1)). After establishing stationarity at first difference and confirming the existence of panel cointegration among the variables, the FMOLS and DOLS techniques were applied to estimate the long-run relationships. When residual-based cointegration between the variables was found, the Kao panel cointegration test was used to investigate this correlation. Using an analysis of the regression model's residuals, this test looks for a long-term steadiness connection. Reliability between the variables over time, even in the face of short-term fluctuations, is suggested by cointegration, which is shown by stationary residuals. In conclusion, the FMOLS estimator was utilized to examine the extended correlation between several factors and the disparity in income.

When doing an econometric study, one of the most important statistical tools for assessing the stationarity characteristics of panel data which are time series data recorded across several cross-sections, such as nations is the panel unit root test. Panel unit root tests use the cross-sections to boost the potency and dependability of the stationarity tests, in contrast to conventional unit root tests that are applied to individual time series. The study assessed the stationarity of the variables using the Levin-Lin-Chu (LLC) panel unit root test. The LLC test is more powerful under homogeneity, since it assumes that cross-sections exhibit a unit root process. The series must be integrated of order one (I(1)) prior to doing panel cointegration analysis, and this test ascertains if this condition is met. Panel unit root tests are crucial for establishing the stationarity features because they guarantee the validity of long-run equilibrium connections and guard against spurious regression results in panel data. The common unit root in the panel is checked in this study using the Im, Pesaran, and Shin (IPS) Test. Individual unit root processes (different for each cross-section) are allowed by this test. While some panels may be stationary, the alternative hypothesis permits all panels to have a unit root. It comprises the following equations, i.e.,

$$\Delta IE_{it} = \propto_i + \rho_i IE_{it-1} + \sum_{j=1}^{p} \beta_{ij} \Delta IE_{it-j} + \epsilon_{it} \quad (2)$$

$$\Delta CoC_{it} = \propto_i + \rho_i CoC_{it-1} + \sum_{j=1}^{p} \beta_{ij} \Delta CoC_{it-j} + \epsilon_{it} \quad (3)$$

$$\Delta GDP_{it} = \propto_i + \rho_i GDP_{it-1} + \sum_{j=1}^{p} \beta_{ij} \Delta GDP_{it-j} + \epsilon_{it} \quad (4)$$

$$\Delta HE_{it} = \propto_i + \rho_i HE_{it-1} + \sum_{j=1}^{p} \beta_{ij} \Delta HE_{it-j} + \epsilon_{it} \quad (5)$$

$$\Delta ICTX_{it} = \propto_i + \rho_i ICT + \sum_{j=1}^{p} \beta_{ij} \Delta ICTX_{it-j} + \epsilon_{it} \quad (6)$$

$$\Delta POV_{it} = \propto_i + \rho_i POV_{it-1} + \sum_{j=1}^{p} \beta_{ij} \Delta POV_{it-j} + \epsilon_{it} \quad (7)$$

$$\Delta AL_{it} = \propto_i + \rho_i AL_{it-1} + \sum_{j=1}^{p} \beta_{ij} \Delta AL_{it-j} + \epsilon_{it} \quad (8)$$

Where

y_{it} is the series value at time *t* for cross-section *i*.

Δy_{it} is first difference of y_{it}

$\propto_i$ showing the individual specific effect

ρ_i parameter of individual cross section

β_{ij} is the coefficient of lagged differential series

ϵ_{it} is error term

Once it has been verified that every variable is integrated in the same sequence. The cointegration test is the next stage. When two or more non-stationary time series variables move together over the long run and preserve a stable equilibrium despite brief perturbations, this is referred to as cointegration (Hendry & Pretis, 2016). The literature has a variety of panel cointegration tests that are based on various requirements. First group: residual-based tests, like the panel cointegration tests by Pedroni (1999) and Kao (1999); second group: maximum likelihood-based tests, like the test by Larsson et al. (2001); third group: error correction-based panel cointegration tests, like the tests by Westerlund (2007). Even with a small sample size, these two tests perform better and have a larger explanatory power.

The Kao test determines whether there is a relationship of long-term equilibrium between the model's variables. It accomplishes this by examining the residuals from a regression model, which are the variations between the observed and anticipated values (Meyghani *et al*.,2023). The variables may be cointegrated, which means that despite short-term volatility, they move together over the long run, if the residuals show stationary values. The Kao residual cointegration (1999) test is used in this study to determine whether residual-based cointegration exists for all variables, with the null hypothesis being that there was no cointegration in the cross section. The long-term equilibrium connection is represented by the stationary linear combination, which is based on the equation (9), i.e.,

$$Y_{it} = \alpha_i + \beta_i X_{it} + V_{it} \quad (9)$$

Where $i = 1, \dots, N \ \ and \ t = i, \dots, T$. V_{it} is stationary distribution, α_i is intercept and β_i is slope. Y_{it} and X_{it} are integrated process of same order, assuming I(1). From the above equation dickey fuller and augmented dickey fuller equations are shown in equations (10) and (11), respectively, i.e.,

$$V_{it} = \delta V_{i,t-1} + \omega_{it} \quad (10)$$

$$V_{it} = \delta V_{i,t-1} + \sum_{j=1}^{p} \theta_j \Delta V_{i,t-1} + \omega_{it} \quad (11)$$

The null hypothesis is $\delta = 0$ and the alternative is $\delta < 0$.

One common method for estimating a linear regression model's parameter is Ordinary Least Squares (Gorriz *et al*., 2024). However, because of endogeneity and serial correlation in the regressors, OLS estimators can be biased and inefficient when working with non-stationary time series data, particularly when cointegration is involved (Bakry et al., 2023). By adjusting the data using non-parametric methods before to estimating the parameters, FMOLS estimator adapts the OLS strategy to account for these problems. In order to provide asymptotically unbiased and effective estimators, this entails concurrently correcting for serial correlation and endogeneity (Hdom, &Fuinhas, 2020).

The study employed panel unit root tests, such as the Levin-Lin-Chu (LLC) test, to assess variable stationarity before determining the long-run link. The analysis found that the variables were non-stationary at the level but became stationary after initial differencing, confirming that the series are largely integrated of order one (I(1). Since there were I(1) variables, panel cointegration analysis confirmed the variable's stable long-run equilibrium connection. Cointegration shows that SAARC countries have a long-term association with income imbalance and its causes. The research selected the Fully Modified Ordinary Least Squares (FMOLS) estimator based on these findings. For cointegrated panel data with predominantly I(1) variables, the FMOLS estimator is suitable since it resolves long-run endogeneity and serial correlation biases. The DOLS estimator was used to assess the robustness of the empirical data. The selected econometric framework is methodologically acceptable, as the variables satisfy the long-run panel-data integration and cointegration restrictions.

FMOLS estimator is desirable in a number of ways such as for large samples, the estimators exhibit unbiased (Kirikkaleli & Kalmaz, 2020). By achieving the Cramer-Rao lower bound, they are the most variance-compliant unbiased estimators, indicating their efficiency. The error terms exhibit robustness against the challenges posed by serial correlation and endogeneity. In these situations, it yields more accurate estimates than ordinary OLS because it makes non-parametric corrections for correlation and endogeneity (Young, 2022). For econometric analyses including long-run relationships among the variables having unit root, this makes FMOLS is a preferable estimator (Yahyaoui & Bouchoucha, 2021). Equation (2) shows the FMOLS estimator, i.e.,

$$IE_{i,t} = \alpha i + \lambda_t + \alpha_1 POV_{i,t} + \alpha_2 CoC_{i,t} + \alpha_3 GDP_{i,t} + \alpha_4 ICTX_{i,t} + \alpha_5 HE_{i,t} + \alpha_6 INDV_{i,t} + \alpha_7 AL_{i,t} + \varepsilon_{i,t} \quad (2)$$

Where:

- $IE_{i,t}$ shows the income inequality of country 'i' in year 't'.
- $POV_{i,t}$, $CoC_{i,t}$, $GDP_{i,t}$, $ICTX_{i,t}$, $HE_{i,t}$, $INDV_{i,t}$, and $AL_{i,t}$, shows the poverty incidence, control of corruption, economic growth, ICT exports, health expenditures, industry value added, and agricultural land of country 'i' in year 't'.
- α_i shows country-specific effects

- λ_t shows time-specific effects,
- ε_{it} is the iid error term.

In this study by utilizing fully modified ordinary least squares (FMOLS) estimator developed by Phillips and Hansen (1990), new techniques for predicting cointegrating coefficients are estimated. The Fully Modified estimator was developed to estimate cointegrating associations by integrating corrections for cross-sectional heterogeneity, endogeneity, and serial correlation into the standard OLS model. The equation (12) shows its illustration, i.e.,

$$V_{FM} = N^{-1} \sum_{i=1}^{N} [\sum_{t=1}^{T} (Y_{it} - Y'_i)^2]^{-1} [\sum_{t=1}^{T} (Y_{it} - Y'_i) X'_{it} - Tr'_i] \quad (12)$$

Where $V_{FM} = N^{-1} \sum_{i=1}^{N} V_{FMi}. V_{FMi}$ is the Fully Modified Least Square (FMOLS) estimator for individual variable.

5. RESULTS

Descriptive Statistics are shown in Table 2. The average Gini coefficient was 36.17 on the 0–100 scale, indicating moderate income inequality across SAARC countries during the study period. The average value of the corruption index is -0.396, with a standard deviation of 0.685, indicating a very low level of accountability. Its minimum value is -1.496, and its maximum is 1.648. On average, GDP per capita grows at the rate of 3.354%. In the selected period, it reached 23.075% and peaked at 5.150 units of standard deviation. The out-of-pocket health expenditure mean value is 50.724% of current expenditure. Information and communication technology exports account for 1.758% of total exports. Its maximum value reaches 15.874% with a standard deviation of 4.178. The mean value of Industrial value added is 23.98% of GDP. Agricultural land accounts for 41.649% of total land, with a standard deviation of 18.521%. The headcount ratio measures poverty, showing that, on average, 16.461% of people fall in the poverty bracket. At maximum, poverty reaches 49.900%; at a lower level, it is 10.012%.

Table 2 Descriptive Statistics

Methods	IE	CoC	GDP	HE	ICTX	INDV	POV	AL
Mean	36.168	-0.396	3.354	50.724	1.758	23.98	16.461	41.649
Median	35.710	-0.526	3.886	55.720	0.231	24.661	14.990	41.580
Maximum	43.770	1.648	23.075	78.015	15.874	45.099	49.900	72.236
Minimum	29.800	-1.496	-34.679	7.934	7.07E-05	8.058	10.012	13.316
Std. Dev.	3.9596	0.685	5.150	19.161	4.178	9.485	14.556	18.521
Skewness	0.3153	1.346	-2.953	-0.7801	2.951	0.309	0.8969	0.135

Note: IE shows income inequality, CoC shows control of corruption, GDP shows economic growth, HE shows health expenditures, ICTX shows ICT exports, INDV shows industry value added, POV shows poverty incidence, and AL shows agricultural land.

Source: Author's estimate.

Before anticipating long-term study variable linkages, panel unit root tests are applied to confirm the stationarity of variables (see Table 3). Every variable was tested using the Levin, Lin & Chu (LLC) intercept and trend test. The Akaike Information Criterion was used to determine lag lengths. The results support the FMOLS estimator assumption one, since all variables are integrated of order one, i.e., I(1) series.

Table 3 LLC Unit Root Test Results

Variables	Level	1st Difference	Remark
IE	2.758 (0.997)	-9.089***(0.000)	I(1)
CoC	3.868 (0.999)	-1.950**(0.025)	I(1)
POV	-1.293 (0.091)	-2.107***(0.017)	I(1)
GDP	3.654 (0.999)	-12.470*** (0.000)	I(1)
ICTX	21.610 (1.000)	-11.544***(0.001)	I(1)
HE	3.413 (0.999)	-8.750***(0.000)	I(1)
INDV	3.446 (0.999)	-9.272***(0.000)	I(1)
AL	19.550(1.000)	-8.196 ***(0.000)	I(1)

Note: * significant at 10%: ** significant at 5%: *** significant at 1% (P-value). IE shows income inequality, CoC shows control of corruption, GDP shows economic growth, HE shows health expenditures, ICTX shows ICT exports, INDV shows industry value added, POV shows poverty incidence, and AL shows agricultural land.

Source: Author's estimate.

Testing for cointegration of the variable following unit root analysis indicated a robust long-run relationship. The Kao (1999) residual-based cointegration test assumed no cointegration. The test's large t-statistic proved the variables' long-run equilibrium relationship and rejected the hypothesis (see Table 4). These findings support the FMOLS estimator's ability to estimate long-run coefficients in cointegrated panel datasets independent of endogeneity or serial correlation.

Table 4 Kao Residual Cointegration Test

Method	t-Statistic	Prob.
ADF	-2.961	0.001
Residual variance	2.354	
HAC variance	1.587	

Source: Author's estimate.

The cross-sectional dependence (CD) test proposed by Pesaran (2004) was applied to all variables in the dataset (see Table 5). The CD test statistic of 1.12 with a p-value of 0.264 indicates that cross-sectional dependence is not statistically significant at conventional levels. This suggests that there is no strong statistical evidence of cross-sectional dependence among SAARC countries over

the study period. Accordingly, the null hypothesis of cross-sectional independence cannot be rejected based on the applied test. The estimation results therefore proceed under the assumption that cross-sectional dependence is not statistically detected in the residuals within the limitations of the test employed. Further, the study tested for slope heterogeneity using the Pesaran-Yamagata (2008) test. With a delta statistic of 2.03 and a p-value of 0.121, the slope homogeneity hypothesis is not rejected. The consistent relationships between explanatory variables and income disparity across SAARC countries support the use of pooled long-run estimators. Due to insignificant cross-sectional dependence and slope variability, the Fully Modified Ordinary Least Squares (FMOLS) estimator is optimal for estimating long-run associations. FMOLS estimator gives unbiased estimates even in panel cointegration models with endogeneity or serial correlation. Diagnostic results corroborate the accuracy of this study's FMOLS estimates.

Table 5 Cross-Sectional Dependence and Slope Heterogeneity Test Estimates

Test	Statistic	p-value	Interpretation
Pesaran CD	1.120	0.264	No significant cross-sectional dependence
Pesaran–Yamagata Delta (Slope Heterogeneity)	2.030	0.121	Slopes are homogeneous across countries

Source: Authors' estimates.

Table 6 presents the outcomes of the panel's FMOLS and DOLS calculations. The findings indicate an inverse relationship between corruption and income inequality. This result indicates that reduced income inequality across SAARC states correlates with improved corruption control (De & Saha, 2025). This finding supports the idea that superior institutions help mitigate economic disparity. Martin-Mayoral and Plúa (2026) assert that a reduction in corruption and enhancement of governance institutions would lead to more effective distribution of public monies, benefiting a broader demographic, particularly those with lower incomes. A greater number of individuals will have access to public services, fewer affluent individuals will retain state resources for personal benefit, and economic opportunities will be more equitably allocated. Institutional economic theory (Tanjung & Shimada, 2025) posits that enhanced governance mitigates resource allocation distortions and strengthens inclusive development processes; this outcome aligns entirely with the theory. In rising nations, combating corruption enhances transparency in fiscal and developmental activities, thereby contributing to the reduction of economic inequality.

Out-of-pocket health expenditures have a significant and positive relationship with income inequality. These expenditures can significantly burden the financial resources and reduce the discretionary income for poor households, making them poorer. Christopher et al. (2018) explored that health expenditures increase burden and raise income inequality. Liu et al. (2020) also found that poor households are more burdened to bear the medical treatments. As a result, income disparity rises. Industrial Value added has a positive and significant impact on

income inequality. Industrial growth often leads to wage disparities and job displacement for low-skilled laborers. Moreover, the benefits of industrial growth may be concentrated in a few hands, expanding income disparities. Urban regions are where industrialization is primarily concentrated. This leads to a division between urban and rural inhabitants, with urban populations benefiting more from industrial growth. In contrast, rural areas have fewer economic prospects, and the gap between their incomes is widening regionally. These results are supported by Chen and Ma (2022), who found that industrial upgradation and industrial sector imbalances increase the inequalities in rural and urban China. Cheong and Wu (2014) also supported the findings by stating that major industries contribute to inequalities.

Poverty is another significant variable that impacts income inequality. Due to its limitations on access to economic and educational possibilities, poverty exacerbates income disparity by sustaining a cycle of low earning potential. The unequal distribution of resources further widens the income gap, which perpetuates inequities. Poverty can affect the dependent variable by limited income mobility (Allanson et al., 2017), unequal access to education and health (Munir & Kanwal, 2020), and unemployment and underemployment (Zandi et al, 2022). These results are supported by Naufal & Fikriah (2023) as they found the unidirectional causality between income inequality and poverty. Agricultural land is associated with income distribution outcomes through its role in shaping rural economic structure and agricultural productivity. Variations in agricultural land use can influence agricultural output and rural income levels, with potential implications for smallholder livelihoods in agrarian economies (Feng et al., 2025). The economic downturn intensifies income inequality by hindering access to resources and opportunities for already disadvantaged populations. Research by Muhammad et al. (2023) indicates that the use of non-renewable energy sources correlates with increasing income disparities. Ching et al. (2023) examined the relationship between economic inequality and environmental degradation.

Table 6 Panel FMOLS and DOLS Estimator Results

Variable	FMOLS Coefficient	Std. Error	t-Statistic	Prob.	Panel DOLS Coefficient	Std. Error	t-Statistic	Prob.
CoC	-1.249	0.494	-2.528	0.013	-1.211	0.501	-2.417	0.016
GDP	-0.010	0.024	-0.439	0.661	-0.012	0.026	-0.462	0.645
HE	0.059	0.013	4.555	0.000	0.061	0.014	4.357	0.000
ICTX	-0.036	0.033	-1.120	0.265	-0.034	0.031	-1.097	0.274
INDV	0.118	0.041	2.879	0.005	0.116	0.040	2.900	0.004
POV	0.186	0.009	19.698	0.000	0.183	0.009	20.333	0.000
AL	0.117	0.044	2.647	0.009	0.115	0.043	2.674	0.008
Statistical Tests								
R^2	0.733	Adjusted R^2	0.706		R^2	0.731	Adjusted R^2	0.704
S.E of Regression	2.155	Long-run Variance	0.817		S.E of Regression	2.160		

Note: IE shows income inequality, CoC shows control of corruption, GDP shows economic growth, HE shows health expenditures, ICTX shows ICT exports, INDV shows industry value added, POV shows poverty incidence, and AL shows agricultural land.

Source: Author's estimates.

Panel Dynamic Ordinary Least Squares (DOLS) estimations were utilized with baseline FMOLS results to test for endogeneity and reverse causation between income inequality and significant explanatory variables, including corruption, poverty, and healthcare burden. Panel DOLS uses first-differenced regressors' leads and lags to obtain consistent long-run coefficient estimates. This mitigates feedback and simultaneity-induced endogeneity. Table 6 presents the panel DOLS results, which indicate that a one-unit increase in the control of corruption reduces income inequality by -1.211 Gini points. A one-percentage-point increase in the poverty rate corresponds to a 0.183-point increase in the Gini coefficient (POV = 0.183), illustrating poverty's significant impact on inequality. The coefficient for out-of-pocket healthcare costs (HE = 0.061) indicates that a 1% increase in the private healthcare burden raises the Gini index by 0.061 points. Industrial value added (INDV) is 0.116, and agricultural land (AL) is 0.115. Corruption, poverty, health care costs, and structural economic factors significantly affect income inequality in South Asia. These findings confirm that FMOLS results are credible and that endogeneity and reverse causation do not substantially bias projected long-run linkages. The findings from both FMOLS and DOLS are consistent, reinforcing the robustness of this correlation and demonstrating that reducing income inequality in the SAARC region may be achieved through institutional reforms aimed at curbing corruption.

The FMOLS and DOLS estimates indicate that GDP per capita and ICT exports are not statistically significant in the empirical data. The uneven distribution of economic development benefits across sectors, regions, and income levels in the SAARC region renders it unlikely that growth alone will effectuate changes in income distribution. The characteristics of the study's representative variable may further elucidate the insignificance of information and communication technology exports. Exports of information and communication technologies more accurately reflect the success of technology-related items in international trade than the general availability, acceptance, or use of these technologies in daily life. Benefits derived from information and communication technology (ICT) are often unique to certain sectors and cities in developing nations, hence reducing their overall impact on income disparity. A robust statistical association between these factors and the wealth gap may be absent, since SAARC states possess varying economic systems and technological capabilities. Therefore, it would be erroneous to presume that the findings lack technical or economic importance; instead, they indicate several structural and contextual forces at work in the region.

The empirical evidence indicates that several factors, particularly those related to human capital, interact in complex ways to influence income inequality in the SAARC region. Corruption and poverty have extensive consequences, which, as per Institutional Economics Theory, demonstrate that inefficient governmental policies distort resource allocation and intensify existing disparities in access to public services. This outcome aligns with the extensive research suggesting that lower-income groups are perpetually disadvantaged by institutional

inefficiencies that impede their economic mobility (Cottineau-Mugadza, 2025). Institutional resilience and policy implementation alleviate the correlation between corruption and inequality; yet, the degree to which corruption exacerbates inequality varies throughout countries. Highlighting the variability in institutional effectiveness across emerging regional blocs, such as SAARC, contributes to the existing body of knowledge. The distinct effects of industrial value added on the economic structure highlight the deficiencies of growth-centric development theories. The findings indicate that economic progress alone does not reduce inequality unless it is inclusive and accompanied by equitable labor-market participation, aligning with discussions of structural transformation (Challoumis, 2025). This raises skepticism about the favorable perceptions of trickle-down economic effects while also providing some support for previous empirical studies. Human Capital Theory posits that economic disparities are intensified by unequal access to healthcare and technology, shown by the significant role of out-of-pocket healthcare expenditures and ICT exports (Mamun & Alam, 2025). Disparities in access to opportunities in information and communication technology (ICT) create a digital divide, favoring urban and skilled demographics over others. At the same time, substantial healthcare costs limit family investment in human capital development. These findings underscore the need to integrate the traditional (health) and modern (digital) dimensions of human capital into inequality research, thereby contributing to the existing academic discourse on the subject.

6. DISCUSSION

The empirical findings illuminate institutional quality, technological transformation, healthcare funding challenges, sectoral growth patterns, mechanisms of asset distribution, and structural income disparities across SAARC countries. These actions occur and, over time, affect inequality in the region via a web of transmission routes. Poverty and income inequality are positively correlated, supporting the political-economy-of-inequality theory. This theory holds that prolonged impoverishment reinforces intergenerational inequality traps by limiting healthcare, education, and productive occupations (Agnolin et al., 2024). Regional studies have demonstrated that poverty in developing nations reproduces income differences over time (Frick & Rodríguez-Pose, 2023; Cui et al., 2023). The results support the view that corruption is a key cause of SAARC's widening economic imbalance. Institutional economics says that weak governance makes redistributive fiscal policies less effective and public service access more difficult for everyone (Miranda-Lescano et al., 2024). According to Castillo et al. (2024), corruption disproportionately harms lower-income households by hindering inclusive growth and social-sector spending. According to structural transformation theory, economic progress must be paired with industrialization that generates employment and improves social services to alleviate inequality (Makhlouf & Lalley, 2023). The findings imply that SAARC growth without inclusive development measures may not necessarily lead to more evenly distributed income.

Ray et al. (2023) argued that expanding technology sectors may enhance productivity and generate knowledge-based employment. However, wealth disparities in access to computers and other technological resources may make it difficult for some individuals to benefit from technological advances. This result highlights the need to strengthen digital inclusion programs to ensure that technology-driven growth reduces inequality. Out-of-pocket healthcare expenditures affect family budgets and human capital, influencing inequality. High healthcare funding costs limit lower-income families' educational and skill development, thereby limiting their social mobility (Zhang et al., 2025). The results support human capital theory on the distributive impacts of low public healthcare coverage in emerging countries (Degu & Singh, 2025). South Asian structural transformation processes are conditional, since industrial value addition and income disparities are linked. Regional inclusiveness and labour absorption capabilities strongly influence the distributive effects of industrial sector growth on employment and productivity (Wu et al., 2025). Industrial advancement and the reduction of inequality require policies that promote balanced regional development and create employment for all (Davidescu et al., 2024). Agricultural land reflects the structure of land use within agrarian economies such as those in SAARC countries. Variations in agricultural land utilization may influence agricultural productivity and rural income generation, thereby contributing to persistent rural–urban development gaps (Li et al., 2024). This is consistent with the asset-based development literature, which emphasizes the role of resource endowments in shaping income distribution in emerging economies (Adkins et al., 2022).

The results offer robust empirical support for H1, indicating that income inequality is significantly exacerbated in SAARC countries owing to elevated poverty levels. This supports the theoretical framework's assertions that poverty intensifies existing disparities in access to resources and opportunity. The influence of industrial value addition on income disparity is intricate and contingent upon the inclusivity of the structural transformation. Specifically, H2 is substantiated by the idea that industrial progress typically fosters economic growth; yet, the benefits of this expansion are inequitably distributed throughout sectors and skill groups. Income disparity across SAARC countries is significantly influenced by out-of-pocket healthcare expenditures and agricultural land, as per H3. These findings suggest that income inequality is influenced by healthcare expenditures and structural disparities in resource access, particularly when such resources are unevenly distributed across population groups.

7. CONCLUSIONS AND POLICY RECOMMENDATIONS

This study examined income disparity and institutional quality, healthcare financing, industrial structure, and agricultural land dynamics in SAARC member states from 2000 to 2022. FMOLS and DOLS estimators demonstrate long-term relationships between income disparities and socio-economic and structural factors. The empirical findings suggest that stronger governance is essential for fair

development and reducing economic gaps. However, rising out-of-pocket healthcare expenditures hurt low-income households most, worsening inequality. Even as industrial value added boosts economic growth, its unequal distribution across industries and skill levels prevents it from being equalized. Agricultural land patterns reflect structural rural–urban disparities by shaping differences in productivity, employment opportunities, and access to economic resources. The study found that institutional deficiencies, sectoral imbalances, and structural rural constraints contribute to SAARC's growing income disparity. To reduce inequality, governance, inclusive industrial development, equitable healthcare spending, and rural production must be addressed.

Policymakers must prioritize institutional governance by implementing robust anti-corruption measures, promoting accountability at all levels of government, and ensuring transparency in public fund distribution. Setting up autonomous anti-corruption institutions and tracking public spending with digital technology can reduce governance inefficiencies. Income equity can be achieved by addressing systemic corruption and strengthening institutional trust. The study shows that poverty and income disparity are positively correlated, which highlights the need for targeted poverty reduction initiatives. Government-run social welfare programs should prioritize the most vulnerable. Healthcare, vocational training, and conditional cash transfers can reduce poverty and economic inequality. Furthermore, SAARC-based regional cooperation can help pool resources for massive anti-poverty efforts. The study shows that industrialization and agricultural land structure are associated with income distribution outcomes. Policymakers should promote sustainable industrial development through strengthened environmental regulations, adoption of clean technologies, and investment in renewable energy. An industrial policy incorporating sustainability will prevent economic growth from benefiting some groups. Environmental issues, economic inequalities, and job development can be addressed simultaneously through public-private partnerships in eco-friendly projects.

Despite its limitations, this study makes a contribution. First, data constraints limit it to a subset of sociopolitical characteristics, such as education quality, job-market institutions, and social safety programs. The analysis's use of national aggregate data may hide country differences. Third, FMOLS and DOLS are effective at detecting long-term linkages, but they could miss structural changes. Future research may use household- or micro-level data to understand country-level inequality better. Future studies may examine how digital transition, climate vulnerability, and decentralized governance affect inequality. Panel structural break models or quantile regression may help us understand the various consequences across countries and time.

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Upravljanje i nejednakost dohotka u zemljama SAARC-a: Istraživanje strukturnih pokretača razvojnih nejednakosti

Sažetak

Nejednakost dohotka jedan je od ključnih socioekonomskih izazova u gospodarstvima u razvoju te privlači pozornost istraživača i kreatora javnih politika. Ovo istraživanje analizira odrednice nejednakosti dohotka u zemljama članicama SAARC-a u razdoblju od 2000. do 2022. godine. Primjenom procjenitelja FMOLS i DOLS utvrđeni su dugoročni odnosi između raspodjele dohotka te institucionalnih, ekonomskih i strukturnih čimbenika. Rezultati pokazuju da učinkovitije suzbijanje korupcije smanjuje nejednakost dohotka, dok veći izdaci kućanstava za zdravstvenu zaštitu iz vlastitog džepa pridonose njezinu povećanju. Dodana vrijednost industrije povezana je s rastom nejednakosti zbog neravnomjerne raspodjele koristi među sektorima i skupinama radne snage. Razlike u korištenju poljoprivrednog zemljišta odražavaju neujednačen razvoj ruralnih područja i razlike u produktivnosti. Kvaliteta upravljanja, financiranje zdravstvene zaštite, industrijska transformacija i obilježja ruralnog gospodarstva ključne su odrednice nejednakosti dohotka u zemljama SAARC-a.

Ključne riječi: nejednakost dohotka, kontrola korupcije, siromaštvo, izdaci za zdravstvenu zaštitu, industrijalizacija, poljoprivredno zemljište, regija SAARC.

JEL klasifikacija: D31, D73, I14, O15, O53.