

Exploring Pro-Poor Growth Pathways for Poverty Reduction in SAARC Countries: An Empirical Analysis of Inclusive Development for Achieving SDG 1

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Timeline

Received: Feb 02, 2025

Revised: Feb18, 2025

Accepted: Feb18, 2025

Published: Jun 17, 2025

DOI

<https://doi.org/10.55603/jes.v4i1.a5>



Abstract

Effective growth strategies that benefit people experiencing poverty are vital for inclusive development. This study examines SAARC countries' economic progress, income redistribution, and poverty reduction using the pro-poor growth index (PPGI) and poverty equivalent growth rate (PEGR) methodologies. The analysis includes institutional, financial, technological, and environmental factors to make index formulations using elasticity measurements on panel data from 2000 to 2022, unlike previous studies that focused on specific factors. According to the findings, the SAARC nations' pro-poor development strategies differ from one another. Unlike the Maldives, Bangladesh switched from anti-poor to pro-poor development between 2010 and 2016. India's agricultural sector reduced poverty more than its industrial and service sectors. Pakistan fluctuated between pro- and anti-poor developments, unlike Sri Lanka. These differences show how sector-specific policies and structural changes affect inclusive economic results. Policy implications show that SAARC states must strengthen social services, financial inclusion, and institutional quality to continue pro-poor growth. Pakistan's stability-driven banking reforms and India's targeted agricultural investments are needed for inclusive development. The studies analyze pro-poor development processes to help developing countries create poverty-reduction programs.

Keywords: Poverty Incidence, Pro-Poor Growth, Poverty Equivalent Growth Rate, Pro-Poor Growth Index, Inclusive Growth, SAARC Region

JEL Classification: I32, O15, F63

1. Introduction

The enormous income discrepancies following SAARC countries' economic progress have kept poverty alive. The region's poorest have not always benefited from its numerous nations' impressive GDP growth (Khan, 2024). This gap highlights the necessity for pro-poor development, which relates economic growth to poverty reduction. By prioritizing inclusive growth, legislators may create equitable development policies. This study empirically examines how institutional, financial, technological, and environmental factors affect pro-poor development. These factors affect inclusive economic performance in SAARC states via specific methods. "Pro-poor growth" is the economic strategy that ensures that everyone, especially people experiencing poverty, benefits from economic development (Ulua & Gertrude, 2021). Increased access to healthcare and education, equal opportunities, and legislative support for small businesses and disadvantaged areas may create a more inclusive economy (Muqtada & Khatun, 2020). Pro-poor growth promotes social mobility and reduces economic inequality, producing a more stable and cohesive society (Siwar et al., 2021). Kakwani and Pernia (2000) claimed that "pro-poor growth" discriminates against people with low incomes. Thus, growth should benefit the poor over the middle class and affluent. Kakwani and Siddiqui (2023) say pro-poor growth redistributes cash to low-income people. Similarly, growth that benefits people with low incomes is known as pro-poor growth. Pro-poor growth can raise the proportion of people experiencing poverty from growth above the global average. According to Cerra et al. (2021), pro-poor growth is defined as growth that can, in absolute terms, lower poverty and, in relative terms, as growth that can disproportionately raise the income of

people experiencing poverty, hence reducing inequality. Pro-poor growth is described by international organizations like the United Nations and the OECD as growth that helps people experiencing poverty and gives them chances to improve their financial circumstances.

Pro-poor growth is an economic expansion that helps the underprivileged and gives them better financial circumstances (Fatima et al., 2024a). Reducing poverty has always been an attention-seeker issue, but this goal has received more focus since adopting the Millennium Development Goals (MDGs). Two factors determine the poverty level, i.e., income and income disparity. Two processes account for variations in poverty levels, i.e., growth in mean income changes and inequality resulting from shifts in equality levels (Cheema & Sial, 2012). Rather than focusing solely on economic factors, economic growth needs to prioritize enhancing the welfare of every segment of society. When economic growth is coupled with increasing inequality, poverty reduction becomes more challenging because the benefits are concentrated in the hands of a small percentage of the population (Smythe et al., 2024). Ensuring the poorest people benefit at least fairly from economic progress is the aim of proper growth, which blends efficiency and equality. When it favours a limited elite, economic growth that helps people experiencing poverty is a must (Asiamah, 2021).

SAARC countries were chosen as study subjects due to their economic challenges and urgent need for inclusive development strategies. Despite strong economic growth, poverty, economic inequality, and inefficient processes persist in the region. Poor social infrastructure, budgetary constraints, and high population density have widened economic inequalities (Bandara, 2024). While some SAARC nations, like Bangladesh and India, have grown gradually, Afghanistan and Nepal are still fragile and reliant on foreign sources. Given these inequities, pro-poor development is essential for economic aid for people experiencing poverty. Growth should help the poor to reduce SAARC poverty and inequality (Channaveer et al., 2020). To help the poor better their lives and boost the economy, Kakwani and Siddiqui (2023) recommend pro-poor growth strategies. These programmes use personalized policies, including healthcare, education, and social safety nets, to boost agricultural productivity and rural development (McGuire et al., 2022). Agriculture is vital to pro-poor development in SAARC since it employs a big section of the population (Munir & Abbas, 2021). Infrastructure, financing, and technology may boost agricultural output, helping rural farmers earn more. Offering non-farming jobs in rural communities diversifies income and lessens economic shocks. Abisuga et al. (2020) suggest inclusive policies favouring small and medium-sized enterprises if governments wish to create jobs and fight poverty. SAARC nations can boost economic activity for the disadvantaged by encouraging innovation and entrepreneurship.

A complete understanding of pro-poor growth requires analyzing its efficiency factors. Breaking down the growth index may help policymakers separate income redistribution's influence on poverty reduction from economic prosperity. This split helps determine whether equitable benefits need specialized measures or whether development alone is sufficient. Many institutional, financial, technological, social, and environmental factors affect pro-poor development trajectories. Institutional strength improves policymaking and governance, financial inclusion makes investments and loans easier, technology advances boost productivity and create new jobs, social factors like healthcare and education increase human capital, and environmental sustainability ensures long-term economic stability (Ababio et al., 2024). This study provides a detailed examination of SAARC countries' pro-poor development characteristics to help develop more effective poverty-reduction strategies. Financial growth reduces poverty. Financial institutions in SAARC struggle to transmit money to impoverished sectors. Trade liberalization must eliminate poverty through transparency and large institutional reforms (Ghazanfar et al., 2021). To achieve pro-poor growth in the SAARC area, fortifying governance and institutional frameworks (Shah, 2025). Decreasing corruption, providing public services to those in need, and allocating resources fairly and efficiently are all made possible by effective government. By facilitating initiatives and policies that support the impoverished and guaranteeing that the advantages of growth are

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widely distributed, transparent and accountable institutions can improve equality (Badiru, 2024). By boosting trade, investment, and information exchange between participating nations, regional cooperation within SAARC can also dramatically contribute to pro-poor growth (Khan, 2024).

The objective of the study is to examine pro-poor growth within the agricultural, industrial, and service sectors via two channels. First, the research disaggregates the growth index about institutional, financial, technical, social, and environmental elements. Second, the study decomposed the inequality index concerning gender parity in education, health, and labour market involvement. Ultimately, the pro-poor growth index has been developed to evaluate federal policies for low-income groups within a country. Over the last 2 decades, SAARC members have made economic development, but poverty persists, and not everyone has benefitted from it. Traditional economic solutions cannot ensure income equality, leaving disadvantaged populations vulnerable. Due to a lack of understanding of pro-poor development factors, an empirical study is needed. To address this information gap, this study explores environmental, economic, technological, and institutional aspects affecting pro-poor growth in SAARC states. This research uses PPGI and PEGR to evaluate economic policies for inclusive growth and poverty reduction. The findings inform targeted measures to achieve equitable growth and long-term poverty reduction.

The literature on pro-poor growth is rich, but most studies have disregarded institutional, financial, technological, and environmental aspects of eliminating poverty for economic growth (Ochi et al., 2024a; Timbi & Abdala, 2024). Numerous studies have overlooked industry-specific pro-poor growth variations in favor of national characteristics (Bárcen-Martin et al., 2024; Illien & Bieri, 2024). This study fills these gaps using a multi-dimensional approach to analyze inclusive growth in SAARC countries, including socio-economic and environmental aspects. This research improves previous findings using the PPGI and PEGR approach to provide policy recommendations and insights for each country's economic structure. The study's usefulness lies in its targeted poverty reduction strategies and empirical examination of sector-specific pro-poor development factors.

2. Literature Review

The economic literature has discussed the connection between poverty and economic growth. If pro-poor growth can be accomplished, it will benefit ending poverty. The factors influencing pro-poor growth and how it affects Ethiopia's income share were examined by Fufa (2021). The analysis demonstrated that while employment and agricultural growth benefit the poorest individuals, human capital, industrial, and service sector growth had the opposite effect on them. Growth in human capital, industrial and service sectors, and employment in agriculture have negative effects on the wealthiest income group. Ochi et al.'s (2024b) study examined 82 low- and middle-income developing nations' poverty, inclusive development, institutional quality, and income inequality from 1996 to 2022. Based on empirical findings, inclusive growth significantly influences poverty, but institutional quality and inequality have a favorable but negligible effect. All the while, inclusive growth is heavily influenced by institutional quality and wealth disparity. By employing a probit analysis and Bhutan Living Standard Surveys to determine the factors contributing to poverty, Akita and Letho (2024) examine whether the country's rural economic growth from 2007 to 2017 was pro-poor. In addition to highlighting the significance of small-scale, agriculture-based sectors in conjunction with hydropower and tourism, it underscores the need for growth to alleviate poverty. Building basic transportation, industrial, and societal infrastructure is imperative to boost rural economic growth. Pham et al. (2024) examined the impact of natural resource rents and financial development regarding equitable growth in the top 10 GDP-producing Asian countries. The findings demonstrate that while population growth and inflation hurt inclusive growth, financial development industrialization, inflation, and natural resource rents favorably affect it. The results offer policymakers useful information for allocating resources and creating inclusive growth via efficient financial frameworks. Rambe et al. (2024) evaluate the effectiveness of pro-poor growth spending by Indonesian local governments and investigate contributing

aspects. According to the data, Banten, Bali, and Jakarta regularly have the highest efficiency scores—0.96% on average. The Indonesian government may need to change its policies because intergovernmental transfers, GRDP per capita, and regional expansion negatively impact efficiency, while taxes have a positive one.

Pro-poor growth allows the poorest to benefit from economic growth. This approach is crucial to alleviating poverty, particularly in undeveloped places where inequality highlights economic expansion's consequences. Most growth-poverty studies have employed income-based indicators and overlooked systemic socioeconomic factors (Durongkaveroj, 2024; Afonso & Blanco-Arana, 2024). Pro-poor growth involves more than simply raising incomes; it must ensure everyone benefits from prosperity. To reduce poverty, a comprehensive pro-poor development plan must include sector interactions, institution quality, and financial access. Previous studies on poor-benefitting growth generally investigated sectoral dynamics separately (Saguin, 2018; Pouw & Bender, 2022). Agriculture has long been a key to reducing poverty in Bangladesh and India, where the population depends on it. However, developing service and industrial industries in Sri Lanka and the Maldives may assist in alleviating poverty. This research addresses that requirement by examining how these sectors interact within the broader institutional and environmental framework to support development for SAARC's underprivileged. Pro-poor growth research focuses on SAARC countries due to their distinct socioeconomic, political, and environmental concerns. Political instability, unequal financial and institutional progress, and environmental shocks are SAARC-specific challenges (Prabhakar, 2024). Governance and infrastructure constraints in Pakistan and Afghanistan make pro-poor development measures less effective (Safi, 2024). Economic inequality persists in Bangladesh and India despite social programs and agricultural attempts to decrease poverty (Mishra & Bera, 2024). Due to its uniqueness, SAARC must be addressed in the context of poor-benefit development. This study addresses that gap by identifying the factors affecting pro-poor development in this location and giving focused solutions. Due to econometric methodologies, the few earlier studies sometimes overlook context-specific aspects, i.e., Grigoryan et al., (2024), and Jadhav & Mukherjee (2024) use income-based poverty indices, which omit social services, healthcare, and education. The current study uses a multidimensional approach that includes health, education, and social services to understand poverty and its alleviation better. The Multidimensional Poverty Index (MPI) assesses poverty more comprehensively by including living circumstances, education, and health (Cheng et al., 2024). This comprehensive work is essential for understanding poverty in countries with high-income inequality and widespread non-financial deprivations like poor healthcare and education. This research emphasizes the need for multidimensional indicators to understand SAARC poverty better.

Despite many studies on the connection between poverty and economic growth, several gaps must be filled to comprehend pro-poor growth, especially when considering developing nations like Pakistan and the larger SAARC area. Previous research has examined several factors that impact pro-poor growth, such as employment, expansion in agriculture, and caliber of institutions (Ochi et al., 2024b). However, these studies frequently overlook the complex interactions among various sectors and the particular processes via which the expansion of these sectors affects the reduction of poverty. Further research is necessary to determine how sectoral growth in services, industry, and agriculture can be integrated to guarantee inclusive growth that helps the most impoverished parts of the

Furthermore, although research like that by Akita & Letho (2024) and Pham et al. (2024) has emphasized the significance of financial development and rural economic growth in lowering poverty, these studies often generalize the results without taking into account the distinct socio-economic and institutional contexts of various regions. This neglect may result in recommendations for policies that, although helpful in tackling the causes of poverty in many contexts, fall short in other respects. Research also shows that pro-poor development works (Both & Uppal, 2022; Rambe et al., 2024). These studies often overlook the need for flexible policy responses to shocks, economic changes, and poverty's ever-changing nature. Understanding how to strengthen the resilience and adaptability of economic growth

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techniques to guarantee long-term gains for the impoverished is critically lacking, especially in light of global issues like climate change and unstable economies (Fatima et al., 2024b).

Furthermore, the review of the literature on economic growth in Pakistan and SAARC countries by Cheema & Sial (2012), Zaman et al. (2012), and Fatima et al. (2024a) offers important insights into the growth's pro-poor characteristics over a range of periods. However, a thorough analysis incorporating various aspects of poverty and inequality is lacking. Most research on poverty focuses on measurements based on money, frequently ignoring other important factors, including social services, health care, and educational opportunities. A more comprehensive approach is required to recognize the multifaceted character of poverty and create policies that address all of these aspects at once.

3. Methodology and Model

The study calculates the growth elasticity of poverty based on institutional quality, financial factors, technology, Social expenditures, agriculture, Climate adaptation, and GDP per capita. Inequality elasticity of poverty based on Gender parity in education expenditures, Gender parity in health expenditures, Gender parity in labor markets, and Gini coefficient. Table 1 shows the list of studied variables for ready reference.

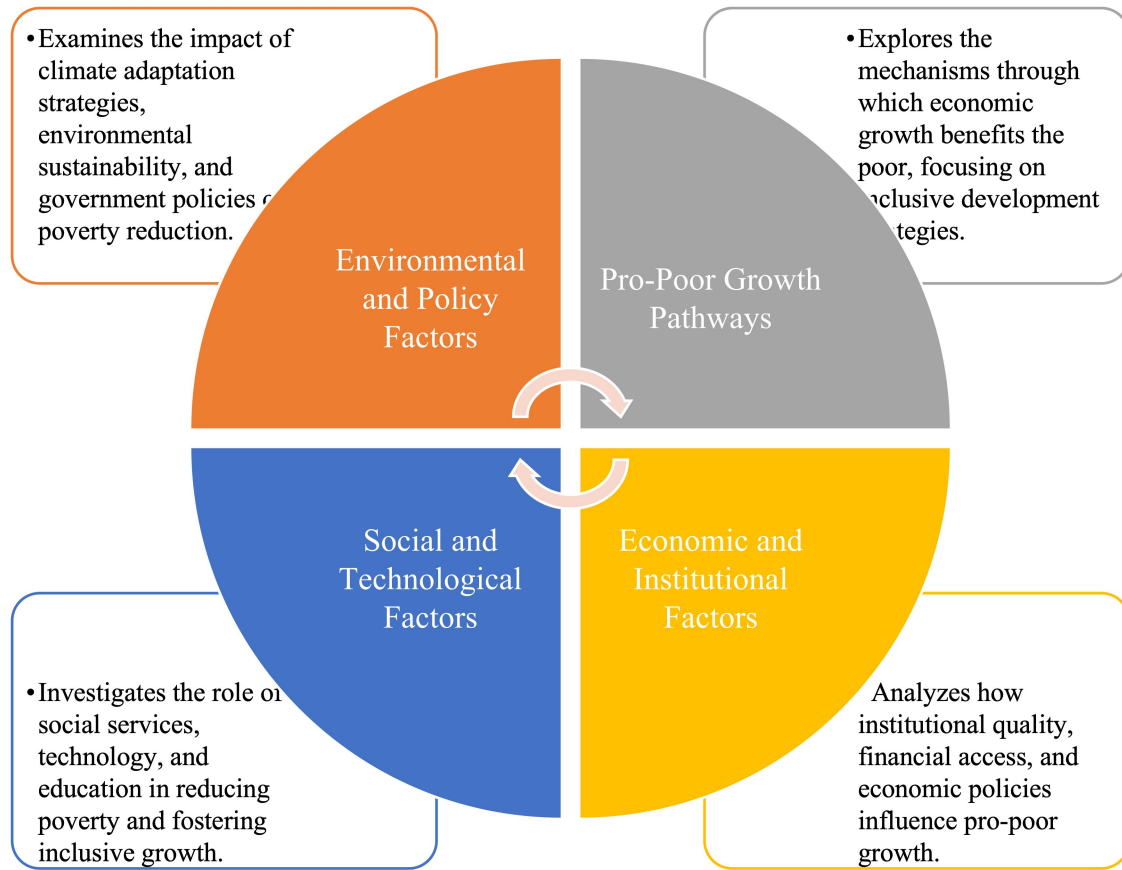
Table 1: List of Variables

Variables	Symbol	Measurement	Data Source
Poverty	POV	Poverty Headcount Ratio	POVCAL NET (2022)
Income Inequality	IE	Gini Index	POVCAL NET (2022)
Institutional Quality	INS	Control of Corruption: Estimate	WGI (2022)
Financial Factor	FE	Domestic credit to private sector (% of GDP)	WDI (2022)
Technology	TEC	ICT goods exports (% of total goods exports)	WDI (2022)
Social expenditures	SE	Out-of-pocket expenditure (% of current health expenditure)	WDI (2022)
Agriculture value added	AGR	Agriculture, forestry, and fishing, value added (% of GDP)	WDI (2022)
Climate adaptation	CAP	CO2 emissions (metric tons per capita)	WDI (2022)
GDP per capita	GDPPC	GDP per capita growth (annual %)	WDI (2022)
Gender parity in education expenditures	GPE	School enrollment, primary and secondary, gender parity index	WDI (2022)
Gender parity in health expenditures	GPH	Ratio of Mortality rate, infant, female to male (per 1,000 live births)	WDI (2022)
Gender parity in labor markets	GPLM	Ratio of female to male labor force participation rate (%)	WDI (2022)

This analysis builds on Kakwani and Pernia (2000) and Son & Kakwani (2004) by deconstructing poverty elasticity into growth and inequality. Broadening the analytical framework to incorporate institutional, financial, technical, and climate adaptation flexibility helps capture the many

drivers of pro-poor growth. Institutions' adaptability determines whether they promote fair economic growth. Strong institutions improve policy stability, reduce corruption, and ensure equitable resource allocation, making them excellent for tackling poverty (Ritahi & Echaoui, 2024). Financial elasticity emphasizes making financial services accessible and inclusive to empower low-income people (Verma & Giri, 2024). Technical innovation and diffusion may affect poverty alleviation and economic growth. Productivity gains assist low-income populations in industry and agriculture (Ullah et al., 2024). Last, climate adaptation elasticity addresses how nations respond to climate change, which disproportionately affects low-income regions, notably South Asian countries. These factors widen the reasons for poverty alleviation, improving analysis. Figure 1 shows the theoretical framework of the study.

Figure 1: Theoretical Framework



Source: Author's work

This study examines the seven SAARC nations: Bangladesh, Nepal, Pakistan, India, Bhutan, Maldives, and Sri Lanka. Data from 2000 to 2020 was collected from several sources, such as the World Governance Indicators (WGI, 2022), the World Development Indicators (WDI, 2022), and POVCAL Net (2022). The goal of this extensive data set is to offer a detailed examination of these countries over two decades.

3.1. Theoretical Framework

Pro-poor growth is the process that facilitates people with low incomes to participate and actively benefit from economic activity. It requires institutional policies and strategies that favor low-income people to benefit proportionally more than the non-poor. According to Kakwani and Pernia (2000), to understand the impact of economic growth on Poverty, it is required to decompose the total Poverty into (i) the impact of economic growth on Poverty when there is no change in the distribution of

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income and (ii) the effect of income redistribution when total income does not change. So, change in Poverty may be decomposed into pure growth effect and inequality effect.

Total poverty = Growth elasticity of Poverty + Inequality elasticity of Poverty

$$\delta = \eta + \zeta \quad (1)$$

Where,

$$\text{Total Poverty} = \frac{d(\text{POV})}{d(\text{GE})} + \frac{d(\text{POV})}{d(\text{GINI})}$$

The growth elasticity of poverty will mostly be negative, as increased economic growth reduces poverty. Meanwhile, inequality elasticity may be positive or negative based on whether growth improves inequality or not. The Pro-Poor Growth Index (PPGI) is the ratio of poverty elasticities.

$$\varphi = \frac{\delta}{\eta} \quad (2)$$

They further classify the ranges of this index and the degree of pro-poorness. As, if $\varphi < 0$, growth is antipoor. If $0 < \varphi \leq 0.33$, growth is weakly pro-poor. Growth is moderately pro-poor if it is between $0.33 < \varphi \leq 0.66$. If ranges between $0.66 < \varphi < 1.0$, growth is pro-poor; if $\varphi \geq 1.0$, growth is highly pro-poor.

The Poverty Equivalent Growth Rate (PEGR) proposed by Son and Kakwani (2004) index measures the magnitude of growth and the benefits to people experiencing poverty, which has also been observed. According to the Poverty Equivalent Growth Rate (PEGR), with the growth process, if there is no change in inequality, then the rate of poverty reduction is the same as the growth rate.

Poverty Equivalent Growth rate (PEGR)= PPGI*Actual growth rate

$$\gamma^* = \left(\frac{\delta}{\eta}\right) \gamma = \varphi \gamma \quad (3)$$

This implies that growth is pro-poor if γ^* is greater than γ . If γ^* is between 0 and γ , it shows that growth increases the inequality but poverty declines.

In extending the model presented in Kakwani and Pernia (2000) and Son and Kakwani (2004), this study contribution is to decompose the growth elasticity and inequality elasticity into various factors and analyze the impact of each factor individually. Growth factors decomposed into the following factors regarding poverty (POV). Institutional elasticity of poverty ($\partial\text{POV}/\partial\text{INS}$), Financial elasticity of poverty ($\partial\text{POV}/\partial\text{FE}$), Technology elasticity of poverty ($\partial\text{POV}/\partial\text{TEC}$), Social expenditures elasticity of poverty ($\partial\text{POV}/\partial\text{SE}$), Agriculture elasticity of poverty ($\partial\text{POV}/\partial\text{AGR}$) Climate adaptation elasticity of poverty ($\partial\text{POV}/\partial\text{CAP}$), and GDP per capita elasticity of poverty ($\partial\text{POV}/\partial\text{GDPPC}$).

Inequality factors decomposed into the following factors with respect to poverty (POV). Gender parity in education expenditures ($\partial\text{POV}/\partial\text{GPE}$), Gender parity in health expenditures ($\partial\text{POV}/\partial\text{GPH}$), Gender parity in labor markets ($\partial\text{POV}/\partial\text{GPLM}$), and Gini coefficient ($\partial\text{POV}/\partial\text{GINI}$).

According to this study growth elasticity is decomposed into following factors:

$$\text{GE} = \frac{d(\text{POV})}{d(\text{INS})} + \frac{d(\text{POV})}{d(\text{FE})} + \frac{d(\text{POV})}{d(\text{TEC})} + \frac{d(\text{POV})}{d(\text{SE})} + \frac{d(\text{POV})}{d(\text{AGR})} + \frac{d(\text{POV})}{d(\text{CAP})} + \frac{d(\text{POV})}{d(\text{GDPPC})} \quad (4)$$

Inequality Elasticity will be:

$$\text{IE} = \frac{d(\text{POV})}{d(\text{GPE})} + \frac{d(\text{POV})}{d(\text{GPH})} + \frac{d(\text{POV})}{d(\text{GPL})} + \frac{d(\text{POV})}{d(\text{GINI})} \quad (5)$$

Now,

$$TPE = \frac{d(POV)}{d(INS)} + \frac{d(POV)}{d(FE)} + \frac{d(POV)}{d(TEC)} + \frac{d(POV)}{d(SE)} + \frac{d(POV)}{d(AGR)} + \frac{d(POV)}{d(CAP)} + \frac{d(POV)}{d(GDPPC)} + \frac{d(POV)}{d(GPE)} + \frac{d(POV)}{d(GPH)} + \frac{d(POV)}{d(GPLM)} + \frac{d(POV)}{d(GINI)} \quad (6)$$

4. Results and Discussions

Table 2 shows that the institutional quality (INS) mean value is -0.53 with a standard deviation of 0.61. The average financial factor remains at 31.99, with a minimum value of 13.37 and a maximum of 54.58. The technological mean value is 1.58, which varies by 3.95 units of standard deviation. The mean value of social expenditures remains at 54.07, with a minimum of 14.33, while the maximum is 73.15. On average, the agricultural value added remains 18.07 percent of the gross domestic product. The average carbon emission is 0.90 metric tons per capita. Gross domestic product grows with an average rate of 3.83, having a standard deviation of 4.11. Gender parity in education’s minimum value is 0.68 and maximum of 1.05. The average gender parity in health was 0.86, and the gender parity in the labor market average is 45.73 with a standard deviation of 22.88.

Table 2: Descriptive Statistics

Statistic	INS	FE	TEC	SE	AGR	CAP	GDPPC	GPE	GPH	GPLM
Mean	-0.53	31.997	1.5814	54.077	18.071	0.901	3.837	0.938	0.862	45.733
Median	-0.66	29.343	0.2412	60.114	17.814	0.763	3.894	0.982	0.846	38.579
Max	1.090	54.59	15.874	73.153	35.105	3.701	17.031	1.059	1.033	96.283
Min	-1.38	13.370	0.0001	14.336	5.4195	0.120	-9.839	0.680	0.802	19.589
St.Dev	0.612	12.733	3.9578	17.655	7.6659	0.754	4.114	0.100	0.061	22.888
Skew	1.359	0.411	3.2112	-1.038	0.0768	2.237	-0.113	-0.94	2.009	1.080
Kurt	4.401	1.988	11.715	2.926	2.6743	8.303	8.624	3.007	6.075	2.965

Source: Author’s work

4.1. Bhutan’s Economic Growth and Pro-poor Growth Analysis

The PPGI provides an understanding of whether economic expansion is benefiting the poor, and the PEGR provides a full assessment of the impact of growth on poverty alleviation, modifying the growth rate to reflect its efficacy in declining poverty. Table 3 shows the calculation of PPGI and PEGR for two spells, ranging from 2003 to 2007 and 2007 to 2012. In both spells, results declare that the pro-poor growth index (PPGI) is less than zero, showing that economic expansion is strongly antipoor, meaning that as the economy expands, people with low incomes are disproportionately worse off than the non-poor. This negative number indicates that low-income people are not benefiting from growth, which may worsen their situation. The poverty equivalent rate is calculated for the agriculture, industrial, and service sectors. According to results for agriculture, industrial, and service sectors, growth was antipoor as the effective growth rate is greater than the actual growth rate. Due to several interrelated circumstances, Bhutan witnessed an increase in antipoor. Despite the agricultural expansion, smallholder farmers faced obstacles like restricted market access, poor infrastructure, and reliance on conventional farming practices, making it difficult to take advantage of business prospects. Even while the industrial sector was growing, it mostly benefited larger businesses, which resulted in unequal wealth distribution and little employment creation for the impoverished in rural areas (Dorji, 2024). Similar trends were seen

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in the service sector, as expansion tended to concentrate in cities, limiting the availability of rural inhabitants to better services and job opportunities (Kamei et al., 2021).

Bhutan's economic policies throughout these times prioritized Gross National Happiness (GNH) over strictly economic indicators, which may have taken funds away from programs aimed at reducing poverty and promoting economic progress (Thinley, 2016). Furthermore, the creation of jobs and revenue for the general public was hampered by the absence of diverse economic activity outside hydropower and tourism (Alaref et al., 2024). These elements worked together to create an antipoor growth form in which Bhutanese society's most vulnerable and marginalized groups did not get enough of the country's economic gains.

Table 3: PPGI and PEGR Estimates for Bhutan's Economy

Spell	Growth Elasticity of Poverty	Inequality Elasticity of Poverty	Total Poverty Elasticity	Pro-Poor Growth Index	Sector	Actual Growth Rate	Effective Growth Rate	Gain (+)/Loss (-) of Growth Rates	Pro-Poor/Anti-Poor
2003-2007	-95.753	434.037	338.284	-3.532	Agriculture	0.712	-2.5185	-3.23	Anti-poor
					Industry	40.728	-143.89	-184.6	Anti-poor
					Services	6.064	-21.426	-27.49	Anti-poor
2007-2012	-126.48	246.793	120.303	-0.951	Agriculture	2.237	-2.1283	-4.366	Anti-poor
					Industry	6.767	-6.4369	-13.20	Anti-poor
					Services	0.666	-0.6336	-1.299	Anti-poor

Source: Author's estimation

4.2. Bangladesh's Economic Growth and Pro-poor Growth Analysis

For Bangladesh, the study computed the PPGI and PEGR for three periods. Table 4 shows that from 2000 to 2005 and 2005 to 2010, PPGI values in both spells were less than zero, indicating an antipoor bias in economic expansion. While for 2010-2016, growth was pro-poor, as shown by the PPGI index, which is greater than 1 ($4.0451 > 1$). Similar results are shown by the PEGR from 2000 to 2005, and from 2005 to 2010, growth was antipoor for all the sectors of the economy, including agriculture, industry, and service sectors. Bangladesh witnessed antipoor growth in the industrial, service, and agricultural sectors between 2000 and 2010 for several important reasons. Smallholder farmers in the agricultural sector encountered obstacles such as limited infrastructure, loan availability, and contemporary technology, which constrained their output and income growth. Furthermore, rural inhabitants' poverty was worsened by land fragmentation and their susceptibility to natural calamities. The export-oriented textile and apparel industries, which used low-wage labor without appreciably raising salaries or working conditions, were the main drivers of the industrial sector's expansion, failing to assist the most vulnerable sections of society (DiMenna, 2022). The concentration of expansion in the service sector in urban regions has resulted in a growing income disparity between rural and urban areas and little spillover impacts on the less fortunate rural (Mahmud et al., 2024).

Bangladesh witnessed pro-poor growth in the industrial, service, and agricultural sectors between 2010 and 2016. Small farmers benefited greatly from the adoption of better farming practices, expanded finance availability, and government subsidies for seeds and fertilizers, which greatly increased agricultural productivity (Islam, 2020). Labor-intensive businesses, especially the ready-made clothing industry, expanded in the industrial sector, leading to many low-skilled jobs and decreased poverty.

Furthermore, the development of the service sector, fueled by the emergence of mobile banking and microfinance institutions, improved financial inclusion and gave the underprivileged greater options for employment (Zuha, 2023).

Table 4: PPGI and PEGR Estimates for Bangladesh's Economy

Spell	Growth elasticity of poverty	Inequality elasticity of poverty	Total poverty elasticity	Pro-Poor Growth Index	Sector	Actual growth rate	Effective growth rate	Gain (+)/Loss (-) of growth rates	Pro-poor/Anti-poor
2000-2005	835.66	-8404.76	-7569.1	-9.057	Agriculture	4.382	-39.69	-44.07	Anti-poor
					Industry	7.932	-71.85	-79.78	Anti-poor
					Services	6.195	-56.11	-62.31	Anti-poor
2005-2010	332.66	-1201.01	-868.36	-2.610	Agriculture	6.151	-16.05	-22.21	Anti-poor
					Industry	7.032	-18.36	-25.39	Anti-poor
					Services	5.528	-14.43	-19.96	Anti-poor
2010-2016	-2128	-6480.31	-8608.3	4.045	Agriculture	2.786	11.27	8.48	Pro Poor
					Industry	11.093	44.88	33.78	Pro Poor
					Services	6.246	25.26	19.02	Pro Poor

Source: Author's estimation.

4.3. Indian Economic Growth and Pro-poor Growth Analysis

Table 5 shows that India's agriculture industry witnessed pro-poor growth between 2004 and 2009 due to different programs and legislative efforts that directly assisted marginal and small-scale farmers. The National Food Security Mission (NFSM) was one such project initiated in 2007. Its objective was to enhance the yield of rice, wheat, and legumes by providing financial aid for superior seeds, fertilizers, and enhanced irrigation techniques. This initiative was designed to improve the production and income levels of farmers who were particularly deficient in resources (Barde et al., 2022). Moreover, states received significant financial support for the comprehensive development of agriculture under the 2007-launched, which aimed to increase farmer income through better agronomic practices and the development of infrastructure (Vijayan et al., 2022). Small farmers could invest more in technology and productive assets because of the 2008 agricultural debt waiver and relief initiative, significantly reducing their financial burden. Together, these initiatives helped the agricultural sector grow more inclusively and improved the financial standing of the impoverished in rural areas.

India's industrial and service sectors growth was antipoor between 2004 and 2009. At the same time, it was antipoor in three sectors from 2009 to 2011. Significant poverty reduction or equal income distribution was not achieved due to these sectors' rapid expansion. Rain-fed areas and small farmers were left behind as agricultural progress was centered in places with superior irrigation and high-value crops (Veeresh, 2021). Industrial progress required much capital, resulting in less employment than the labor force could require. Despite its expansion, there was a gap between urban and rural communities since the service sector mostly benefited the educated class in metropolitan areas (Shaban et al., 2020).

Table 5: PPGI and PEGR Estimates for Indian Economy

Spell	Growth elasticity of	Inequality elasticity of poverty	Total poverty elasticity	Pro-Poor Growth	Sector	Actual growth rate	Effective growth rate	Gain (+)/Losses (-) of growth	Pro-poor/Anti-poor
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	poverty			Index	rates				
2004-2009	-678.66	-789.3548	-678.663	-6.1311	Agriculture	-0.88023	5.396827	6.277059	Pro-poor
					Industry	8.844575	-54.2272	-63.07185	Anti-poor
					Services	8.67647	-53.1966	-61.87307	Anti-poor
2009-2011	-38065.5	-38090.24	-38065.5	-1541.8	Agriculture	6.397806	-9864.69	-9871.090	Anti-poor
					Industry	3.62645	-5591.57	-5595.202	Anti-poor
					Services	5.864008	-9041.64	-9047.500	Anti-poor

Source: Author's estimation

4.4. Maldives Economic Growth and Pro-poor Growth Analysis

Due to a combination of specific government policies and international support aiming at poverty alleviation, the Maldives' growth in the sectors of the economy, including industrial, services, and agricultural, was noticeably pro-poor from 2002-2009 and 2009-2016 (see Table 6). The Maldivian government carried out several programs to aid small-scale farmers during this time, including offering subsidies and facilitating access to technologies and inputs for agriculture, which raised rural residents' incomes and productivity (Mohamed, 2018). Low-income groups have many job prospects due to the growth of the travel and tourism sector, which is a large portion of the service sector. Vocational training programs have also made skill development easier for them (Di-Biase & Maniku, 2021). The introduction of microfinance programs and entrepreneurship training targeted at empowering entrepreneurs and small company owners also aided in the growth of the industrial sector and created a more inclusive economic climate. Together, these diverse initiatives helped lower poverty rates and guarantee that the economy's expansion was dispersed more fairly among various industries and populations.

Table 6: PPGI and PEGR Estimates for Maldives Economy

Spell	Growth elasticity of poverty	Inequality elasticity of poverty	Total poverty elasticity	Pro-Poor Growth Index	Sector	Actual growth rate	Effective growth rate	Gain (+)/Losses (-) of growth rates	Pro-poor/Anti-poor
2002-2009	-2.7E+14	1528.99	-2.7E+14	1.000	Agriculture	-2.342	-2.3423	1.288E-11	Pro-poor
					Industry	-26.72	-26.7280	1.470E-10	Pro-poor
					Services	-3.879	-3.87977	2.134E-11	Pro-poor
2009-2016	-3749.54	1847.063	-5596.6	1.492	Agriculture	1.501	2.241	0.7396	Pro-poor
					Industry	9.523	14.214	4.6912	Pro-poor
					Services	7.211	10.764	3.5526	Pro-poor

Source: Author's estimation

4.5. Nepal's Economic Growth and Pro-poor Growth Analysis

Table 7 shows that the pro-poor growth rate is less than zero, depicting that growth is anti-poor in Nepal from 2003 to 2010. PEGR also confirms the results for all sectors of the economy. In the agricultural sector, small-scale farmers encountered obstacles like restricted availability of contemporary farming equipment and insufficient irrigation systems, impeding their output and perpetuating their poverty (Bhandari, 2024). Rural communities were further marginalized during this time due to the disruption of agricultural activity and market access caused by the civil conflict. Despite its rise, the industrial sector did not provide enough jobs for people experiencing poverty since it was centered on capital-intensive

rather than labor-intensive industries (Timilsina et al., 2024). Additionally, the growth of the service sector was mostly fueled by urban developments, meaning that the poor and rural areas benefited less from this expansion. During this time, several variables combined to cause a rise in income disparity and a dearth of inclusive growth.

Table 7: PPGI and PEGR Estimates for Nepal’s Economy

Spell	Growth elasticity of poverty	Inequality elasticity of poverty	Total poverty elasticity	Pro-Poor Growth Index	Sector	Actual growth rate	Effective growth rate	Gain (+)/Losses (-) of growth rates	Pro-poor/Anti-poor
2003-2010	-642.11	2067.593	1425.47	-2.219	Agriculture	2.011	-4.466	-6.4778	Anti-poor
					Industry	3.999	-8.878	-12.878	Anti-poor
					Services	5.8258	-12.93	-18.758	Anti-poor

Source: Author’s estimation

4.6. Pakistan’s Economic Growth and Pro-poor Growth Analysis

Table 8 shows that 2001–2004 PPGI was negative, showing antipoor growth. The agricultural, industrial, and service sectors have PEGR estimates, but the effective growth rate is lower than the actual growth rate, making growth antipoor. Pakistan's antipoor development between 2001 and 2004 may have been caused by political instability, poor economic leadership, and natural calamities. Leadership problems after the 1999 military coup caused political unrest (Akram, 2023). These problems strike the poor most, resulting in unstable economic policies and weak development plans. Since agriculture provides livable earnings for most rural residents, 2001 and 2002 droughts struck it severely. Droughts lowered livestock and food production, worsening rural poverty. Small farmers also struggled with revenue generation and productivity owing to limited agricultural inputs and rural infrastructure. Energy shortages and financial availability slowed industrial expansion. These constraints prevented many small and medium-sized firms, which employ many urban poor, from operating (Asghar et al., 2023). Smaller enterprises and their workers were also dangerous since industrial standards favoured bigger companies (Shafi et al., 2020). Slow economic growth and inadequate government service delivery hindered pro-poor service sector development. Health and education are essential to human capital development, but they are underfunded and poorly managed, impeding low-income people's socioeconomic advancement. According to Salman et al. (2023), public sector reforms were delayed and failed to help people experiencing poverty.

Between 2004 and 2005, Pakistan developed agriculture, industry, and poor-benefitting services. New policies and initiatives to support low-income Americans were the main cause. Fertiliser, seed subsidies, and the Program for Agricultural Credit Guarantee helped Pakistani small farmers increase production (Chaiya et al., 2023). The government supported pro-poor industrial growth through the growth Program for SMEs with financial and technical assistance (Safdar et al., 2024). This project assisted low-income communities in finding jobs and economic opportunities. Government investments in infrastructure, healthcare, education, and other important services benefited the industry. These investments improved human capital to promote more equitable economic growth, especially in poorer nations (Kanval et al., 2024). From 2005 to 2007, many interconnected causes drove Pakistan's antipoor development. In October 2005, a devastating earthquake hit northern Pakistan, halting economic growth. Communities impacted severely by the earthquake had their issues compounded by infrastructure damage and the diversion of resources from poverty-reduction and economic-growth projects (Nizamani, 2020). Political instability and governance concerns made pro-poor development harder at the time. Political uncertainty, including multiple government transitions and continued enmity between different political groups, slowed economic growth and policy consistency (Hassan & Zeb, 2021). An uneven poverty-reduction economic policy caused this volatility. Due to economic mismanagement, inflation

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rose, and poverty initiatives failed. Higher inflation, food, and energy prices reduced lower-income people's purchasing power and worsened their financial situations (Shahid, 2023). Insufficient investment in agriculture and industries has exacerbated antipoor growth. A lack of agricultural development, infrastructure, and support for small farmers hindered equitable progress in other sectors and increased economic inequities (Baqir, 2023).

Several specific policies and initiatives to reduce poverty and enhance the lives of the poor helped Pakistan's pro-poor development between 2007 and 2013. These efforts included the 2008 Benazir Income Support Programme. This programme provided cash transfers to low-income families to reduce poverty and access key services (Qayyum & Nigar, 2023). The Pakistani government created BISP and other initiatives to assist low-income people benefit from economic growth. Microfinance and community-based initiatives developed the Rural Support Programmes Network (RSPN), reducing rural poverty and promoting development. Kamran and Omran (2023) said these initiatives improved agricultural productivity, funding, and rural infrastructure. The government implemented agricultural reforms, including fertilizer and seed subsidies, to enhance production and help smallholder farmers. These programs protected the rural poor and increased agricultural productivity. Increased infrastructure and telecommunications spending helped the service sector flourish, boosting access for people experiencing poverty. Health and education initiatives supported inclusive growth, particularly in low-income communities (Khalid & Tadesse, 2024).

Pakistan's antipoor situation rose from 2013 to 2018. Political unrest and uneven policy implementation worsened economic volatility. Political instability and government changes hampered financial adjustments and investments in key industries from 2013 to 2018 (Ayaz et al., 2024). Natural disasters can hurt Pakistan's economy. Ahmad et al. (2023) state that the 2014 and 2015 floods devastated rural lives, infrastructure, and agricultural areas, worsening poverty. Inefficient tax collection, a lack of human capital investment, and other structural difficulties prevented low-income people from benefiting from economic progress (Saeed & Qammer, 2023). This period witnessed antipoor growth due to weak social safety nets and limited support for small farmers and companies (Farooq & Nayab, 2023).

Table 8: PPGI and PEGR Estimates for Pakistan's Economy

Spell	Growth elasticity of poverty	Inequality elasticity of poverty	Total poverty elasticity	Pro-Poor Growth Index	Sector	Actual growth rate	Effective growth rate	Gain (+)/Losses (-) of growth rates	Pro-poor/Anti-poor
2001-2004	-595.85	730.222	134.3657	-0.2255	Agriculture	3.0927	-0.6974	-3.79018	Anti-poor
					Industry	17.188	-3.8759	-21.0639	Anti-poor
					Services	7.1701	-1.6168	-8.78697	Anti-poor
2004-2005	1743.71	39.975	1783.686	1.0229	Agriculture	6.7945	6.9504	0.155770	Pro Poor
					Industry	9.0223	9.2292	0.206841	Pro Poor
					Services	8.2811	8.4709	0.189848	Pro Poor
2005-2007	-299.36	725.632	426.2677	-1.4239	Agriculture	3.4835	-4.9602	-8.44379	Anti-poor
					Industry	7.2663	-10.346	-17.6128	Anti-poor
					Services	5.1866	-7.3852	-12.5719	Anti-poor
2007-2010	82.67	797.579	880.2528	10.6473	Agriculture	0.3126	3.3292	3.01657	Pro Poor
					Industry	3.9523	42.082	38.1296	Pro Poor

Spell	Growth elasticity of poverty	Inequality elasticity of poverty	Total poverty elasticity	Pro-Poor Growth Index	Sector	Actual growth rate	Effective growth rate	Gain (+)/Losses (-) of growth rates	Pro-poor/Anti-poor
					Services	2.6274	27.9749	25.3475	Pro Poor
2010-2011	-4.533	-360.95	-365.492	80.6282	Agriculture	2.7125	218.706	215.994	Pro Poor
					Industry	4.87481	393.048	388.1732	Pro Poor
					Services	2.85828	230.458	227.600	Pro Poor
2011-2013	571.97	300.518	872.4888	1.52541	Agriculture	3.141953	4.7927	1.6508	Pro Poor
					Industry	1.155335	1.7623	0.6070	Pro Poor
					Services	5.132336	7.8289	2.6965	Pro Poor
2013-2015	-161.59	904.142	742.5447	-4.5950	Agriculture	1.782061	-8.188	-9.970	Anti-poor
					Industry	5.39624	-24.79	-30.192	Anti-poor
					Services	4.19753	-19.28	-23.485	Anti-poor
2015-2018	-9.038	69.914	60.87597	-6.735	Agriculture	3.87650	-26.10	-29.984	Anti-poor
					Industry	9.18303	-61.847	-71.030	Anti-poor
					Services	5.95278	-40.092	-46.0447	Anti-poor

Source: Author's estimation

4.7. Sri Lanka's Economic Growth and Pro-poor Growth Analysis

Table 9 shows that between 2002 and 2006, Sri Lanka's agriculture, industrial, and service sectors witnessed anti-poor growth due to major setbacks, notably the devastating effects of the December 2004 Indian Ocean tsunami. The tsunami badly damaged coastal areas, making it difficult for many impoverished people who depended on small-scale industry, agriculture, and fishing to make ends meet (Lund & Azmi, 2022). Bridges, roads, and irrigation networks were among the vital infrastructures destroyed by the tsunami, which hindered agricultural operations and decreased output. The loss of many small-scale farmers and fishermen's means of subsistence exacerbated poverty and other economic hardships in the impacted areas. The most vulnerable groups were excluded from the economic benefits due to the absence of efficient societal safety nets and focused assistance programs for the impoverished (Padmakanthi, 2023).

Development in Sri Lanka helped people experiencing poverty from 2006 to 2009. Dambugolla (2020) mentions the "Village Upliftment" or "Gama Neguma" initiative, which aims to improve rural living, markets, and infrastructure. This initiative will build and maintain rural roads, schools, hospitals, and other infrastructure, helping low-income people engage in the economy. Ending the civil conflict in 2009 also helped the economy thrive and stabilize. Services, manufacturing, and agriculture increased economic activity when hostilities ended since battle-damaged areas could be repaired (Seelanatha, 2021). The government's various measures to relocate displaced individuals and rehabilitate livelihoods reduced poverty.

Sri Lanka's growth between 2009 and 2016 was perceived as anti-poor due to various factors, including natural disasters and fiscal measures that affected the country's poorer segments of the population. The country faces serious problems, such as the devastating floods that devastated rural communities and agriculture in 2011 and 2014. These floods destroyed cattle, crops, and infrastructure, plunging many rural residents and small farmers into even deeper poverty (Elapata & De Silva, 2021).

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Rather, they frequently caused numerous communities to be uprooted and lose their subsistence. During this time, anti-poor growth was also facilitated by post-war economic policies. Furthermore, the government's emphasis on major infrastructure projects like building ports, airports, and highways often did not directly help the underprivileged. Even though these initiatives generally increased economic growth, they did not provide low-income people with enough job possibilities (Pillai, 2023).

Table 9: PPGI and PEGR Estimates for Sri Lanka's Economy

Spell	Growth elasticity of poverty	Inequality elasticity of poverty	Total poverty elasticity	Pro-Poor Growth Index	Sector	Actual growth rate	Effective growth rate	Gain (+)/Losses (-) of growth rates	Pro-poor/Anti-poor
2002-2006	126.352	-2459.04	-2332.	-18.461	Agriculture	6.324	-142.85	-149.17	Anti-poor
					Industry	8.116	-149.852	-157.96	Anti-poor
					Services	7.737	-142.85	-150.58	Anti-poor
2006-2009	96.265	144.325	240.59	2.4992	Agriculture	3.217	8.203	4.985	Pro Poor
					Industry	4.212	10.526	6.3148	Pro Poor
					Services	3.282	8.203	4.9208	Pro Poor
2009-2012	-14.790	180.801	166.01	-11.223	Agriculture	5.368	-122.07	-127.44	Anti-poor
					Industry	7.902	-88.69	-96.596	Anti-poor
					Services	10.876	-122.07	-132.948	Anti-poor
2012-2016	63.307	-373.821	-310.51	-4.904	Agriculture	-4.666	-23.25	-18.593	Anti-poor
					Industry	7.427	-36.43	-43.858	Anti-poor
					Services	4.742	-23.25	-28.001	Anti-poor

Source: Author's estimation

5. Conclusion and Policy Implications

The study examines how growth and inequality affect poverty by calculating the PPGI and PEGR. The paradigm explains pro-poor growth in SAARC by breaking down growth and inequality elasticities into institutional excellence, economic development, technological advances, social expenditures, and gender parity. From 2003 to 2007, Bhutan's economic progress caused disproportionate suffering for people with low incomes, according to the PPGI. Low-income people faced pushback from agricultural, industrial, and service expansion from 2007 to 2012. Bangladesh's performance has changed over time. Between 2000 and 2005 and 2005 and 2010, the PPGI values were negative, demonstrating a bias against people with low incomes due to economic improvement. From 2010 to 2016, economic growth was pro-poor; people experiencing poverty benefited greatly. From 2004 to 2009, India's agriculture sector benefitted low-income people while its service and industrial sectors disadvantaged them. From 2009 to 2011, the three categories experienced negative growth for low-income people, demonstrating the difficulty of inclusive development throughout the economy. Pro-poor development characterized the Maldives from 2002 to 2016. The significant improvement in impoverished lives affected all sectors of the economy.

Negative PPGI data shows Nepal's anti-poor development from 2003 to 2010. Thus, the economic boom did not sufficiently assist people experiencing poverty. Poor Pakistanis suffered from agricultural, industrial, and service sector growth from 2001 to 2004. In 2004 and 2005, focused policies and activities helped these communities grow, reducing poverty. From 2007 to 2013, poverty-reduction policies boosted growth for low-income people. However, from 2013 to 2018, economic development reverted against low-

income people. Sri Lanka's agriculture, manufacturing, and service sectors expanded anti-poorly between 2002 and 2006. Nevertheless, the country's economic policies were more inclusive between 2006 and 2009, when it achieved growth that helped people experiencing poverty.

SAARC nations must promote inclusive development plans that strengthen social services, financial access, institutional frameworks, and climate change resilience to reduce poverty over time. Governments should prioritize gender parity in education, health, and the workforce to reduce poverty. Focused agricultural, technology, and financial inclusion programs may boost pro-poor growth for disadvantaged people. The study's decomposition technique helps policymakers promote long-term inclusive development in SAARC by providing a complete understanding of the various elements' contributions to poverty reduction. The SAARC region needs a comprehensive strategy that puts pro-poor growth first in order to address poverty and inequality. This entails putting laws that promote economic expansion into practice and guarantee that its advantages are shared fairly, especially with the most disadvantaged members of society. Enhancing governance and the quality of institutions must be the priority. Strong institutions are necessary to establish a stable atmosphere that promotes investment and low-income economic activity. To foster confidence and guarantee the effective use of resources, anti-corruption initiatives, accountability, and transparency in how the government does its business should be given top priority.

Although this study illustrates pro-poor growth in SAARC states, the study has some limitations. Gender parity indicators do not improve inequality breakdown since their relationship to income inequality is imprecise. Employment data, wage rates, public sector expenditures, and cost-of-living indicators are missing from the study to understand pro-poor development altogether. The analysis does not account for structural shocks like the COVID-19 pandemic and the 2008 global financial crisis, which might have changed economic outcomes and poverty patterns. Unexpected shocks can skew research results, especially for 2000–2022 patterns. When these gaps are rectified, the study may show pro-poor development more accurately and thoroughly.

Acknowledgement:

The author acknowledges the useful comments from the Editor and anonymous reviewers. Moreover, all remaining errors are our own.

Data Availability Statement:

Data is self-collected from published (secondary sources) and self-regressed and will be provided on demand.

Funding if any:

This research has received no external funding.

Conflict of Interest Disclosure statement:

There is no conflict of interest among the authors of the study.

Ethical Approval:

Ethical approval has been taken from the relevant forum if necessary.

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