

What are the Prospects of Achieving SDGs in Bangladesh?

Exploring a Select Set of Indicators under Business as Usual Scenario

*Presented at
Research-Policy Meeting on
Interpreting SDGs for South Asia: In Search of a Regional Framework*

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1. Introduction

1.1 Context

- **Bangladesh is one of the 47 countries that has presented its Voluntary National Review (VNR) on SDGs to the High Level Political Forum (HLPF).**
- **Such reviews, however, do not contain any future projections of SDG implementation in the country.**
- **This research aims to fill in this knowledge gap by tracking the past performance and forecasting the future potential of SDG implementation in the context of Bangladesh.**

1.2 Use of Forecasting Exercise

- **Forecasting and planning go hand-in-hand in the effective and efficient attainment of goals.**
- **By predicting the trajectory of selected indicators, we can better understand the actions required to attain the SDGs and plan accordingly.**
- **The results of this study will guide policy-making so that SDGs that are currently off-track may be identified and subsequently steered in the right direction.**

1.3 Choice of Indicators

- **The basis of choosing the indicators in this study are as follows:**
 - (i) they were easily expressed in numbers;**
 - (ii) they conveyed the essence of the goal which they represented; and**
 - (iii) data were readily available for those indicators.**
- **Based on these three criteria, one indicator was chosen to reflect the status of each SDG.**

1.4 Limitations of the Study

- **Forecast is only valid for the indicator concerned and does not represent the state of other targets in the particular SDG**
- **It is assumed that past trends will continue in the future**
- **Unforeseen events are not accounted for**

"Prediction is very difficult, especially if it's about the future."

- Niels Bohr, Nobel laureate in Physics

2. Past Progress of SDG related indicators in Bangladesh

SDG 1: End Poverty

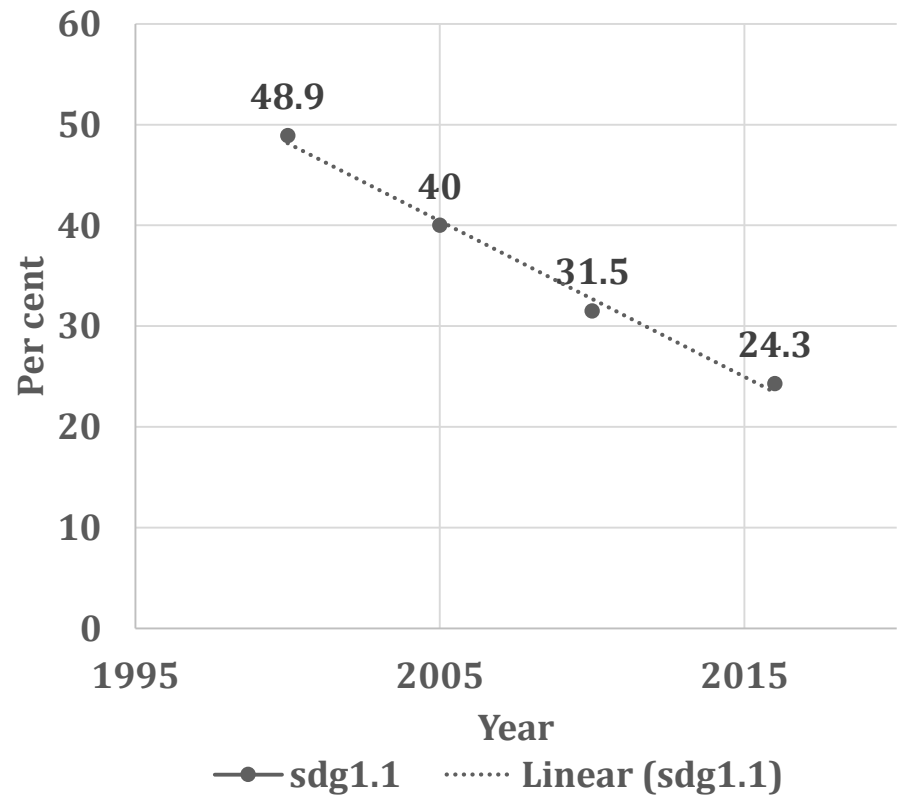


Target & indicator chosen:

SDG 1.1: Poverty headcount ratio at national poverty line

- In 2000, almost half of the population (48.9%) were below the national poverty line
- In 2015, the share of population below the national poverty line fell to 24.3%
- However, national trends fail to account for regional differences

Figure: SDG 1.1 Poverty Headcount Ratio at National Poverty Line (% of population living below national poverty line)



Source: World Bank, Global Poverty Working Group.

SDG 2: End Hunger

TARGET 2.1



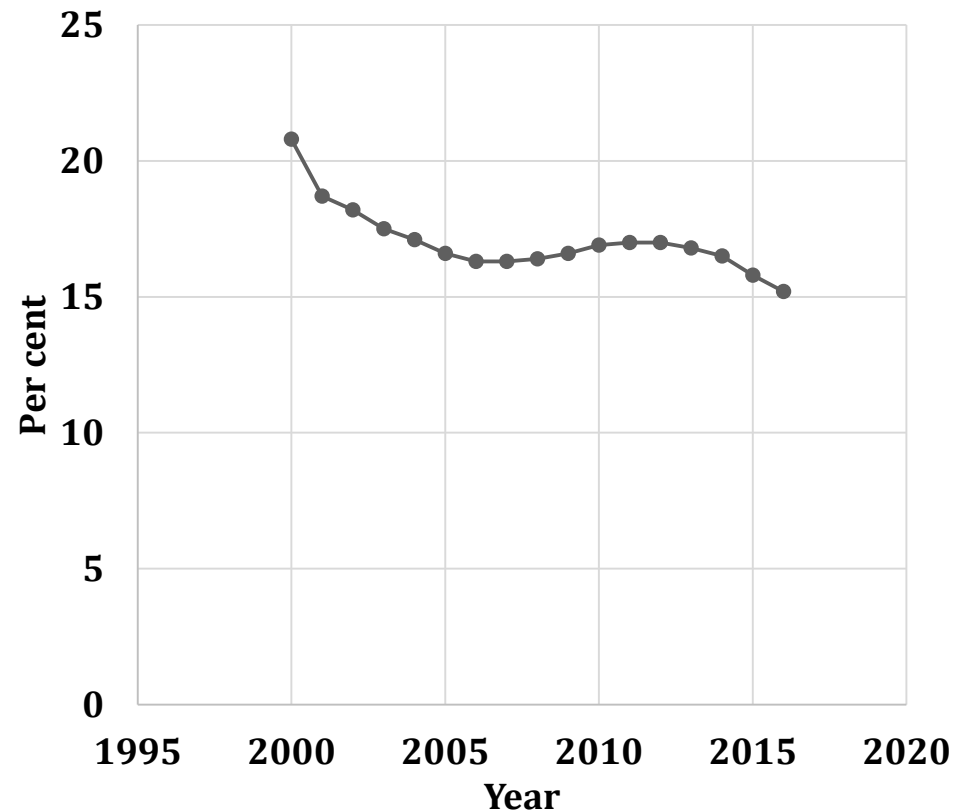
UNIVERSAL ACCESS TO SAFE AND NUTRITIOUS FOOD

Target & indicator chosen:

SDG 2.1: Prevalence of undernourishment

- Incidence of hunger fell from 20.8% in 2000 to 16.3% in 2006
- Between 2007 and 2012, incidence of hunger increased
- 15.2% of the population were undernourished in 2016

Figure: SDG 2.1 Prevalence of Undernourishment (3-Year Average) (% of Population)



Source: FAO estimate

SDG 3: Ensure Healthy Lives

TARGET 3.1



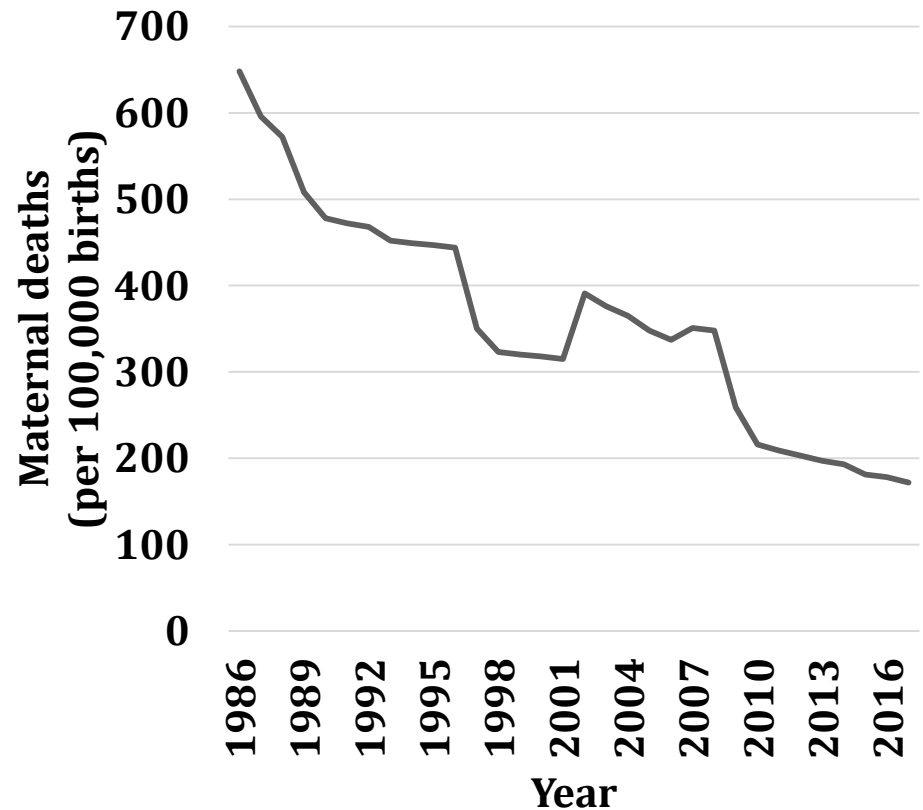
REDUCE MATERNAL MORTALITY

Target & indicator chosen:

SDG 3.1: Maternal deaths

- Maternal deaths have been falling continuously since 1986
- Only 2001 and 2006 are exceptional years when maternal deaths rose
- Rate of decline has been more gradual in recent years

Figure: SDG 3.1 Maternal Deaths (Per 100,000 Births)



Source: Bangladesh Sample Vital Statistics, BBS

SDG 4: Ensure Quality Education

TARGET 4.1



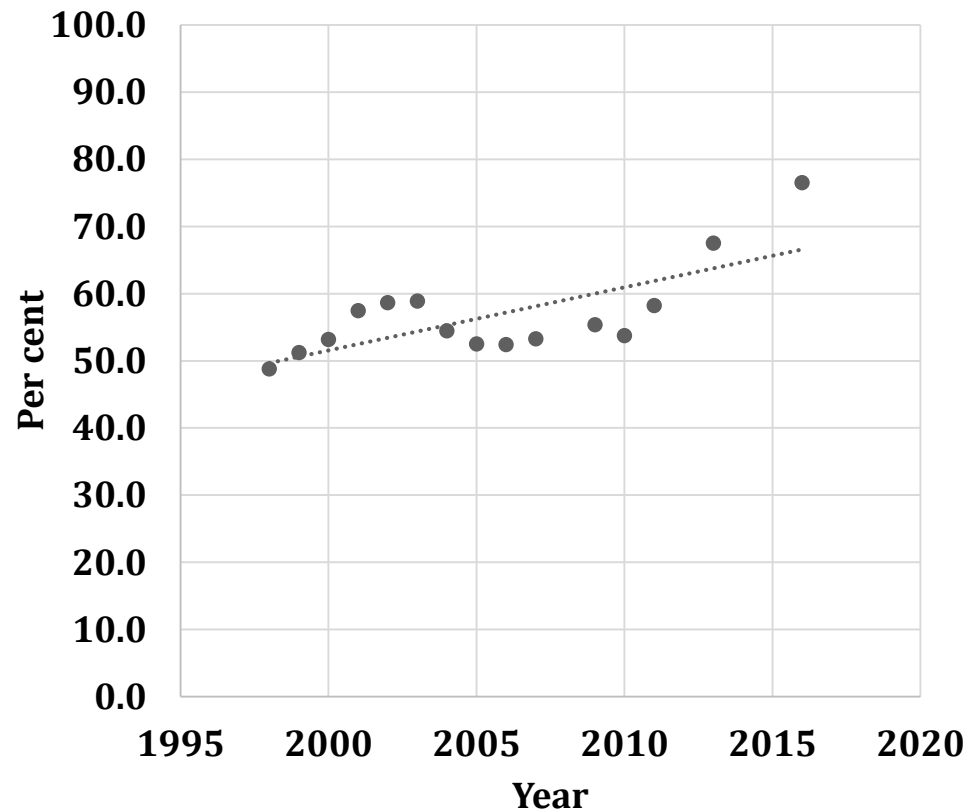
FREE PRIMARY AND SECONDARY EDUCATION

Target & indicator chosen:

SDG 4.1: Lower secondary completion rate

- Lower secondary completion rates rose from 48.8% in 1998 to 58.9% in 2003
- 76.5% of the target population had completed lower secondary education in 2016
- However, completion rates do not account for the quality of education

Figure: SDG 4.1 Lower Secondary Completion Rate, Both Sexes (%)



Source: UNESCO Institute for Statistics

SDG 5: Achieve Gender Equality

TARGET 5-3



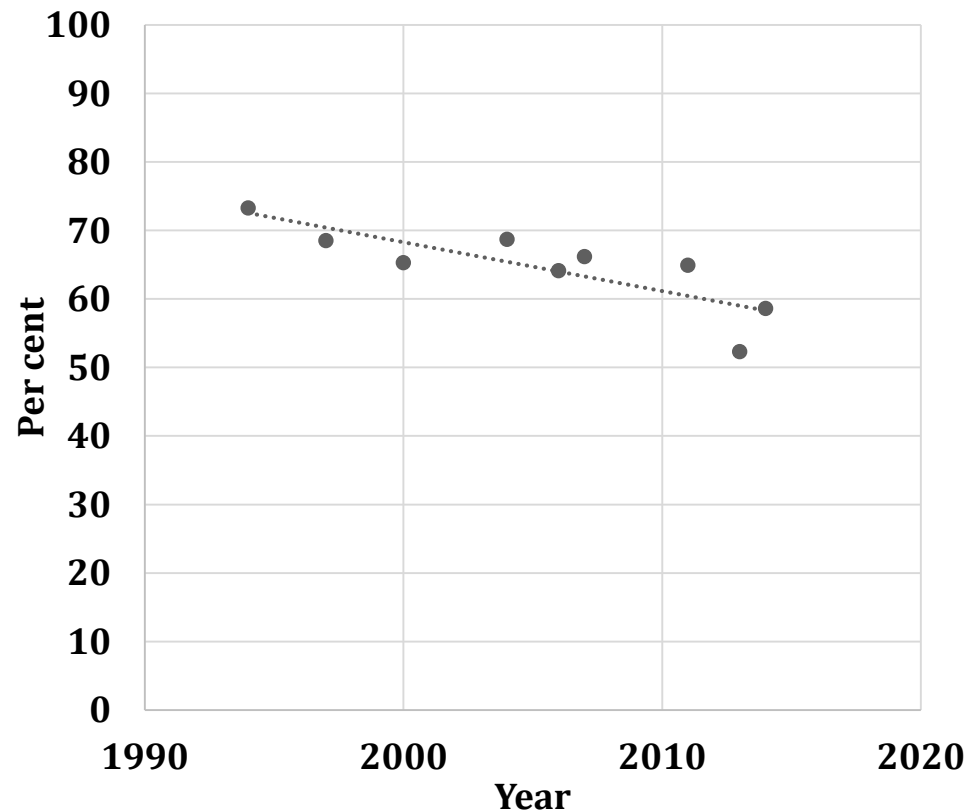
ELIMINATE FORCED MARRIAGES AND GENITAL MUTILATION

Target & indicator chosen:

SDG 5.3 Women Who Were First Married By Age 18

- **73.3% of women aged 20-24 were married by age 18 in 1994**
- **Overall, early marriage shows declining trend but the incidence is still alarmingly high**
- **58.6% of women aged 20-24 were married by age 18 in 2014**

Figure: SDG 5.3 Women Who Were First Married By Age 18 (% of Women Ages 20-24)



Source: World Development Indicators, World Bank

SDG 6: Ensure Sanitation for All

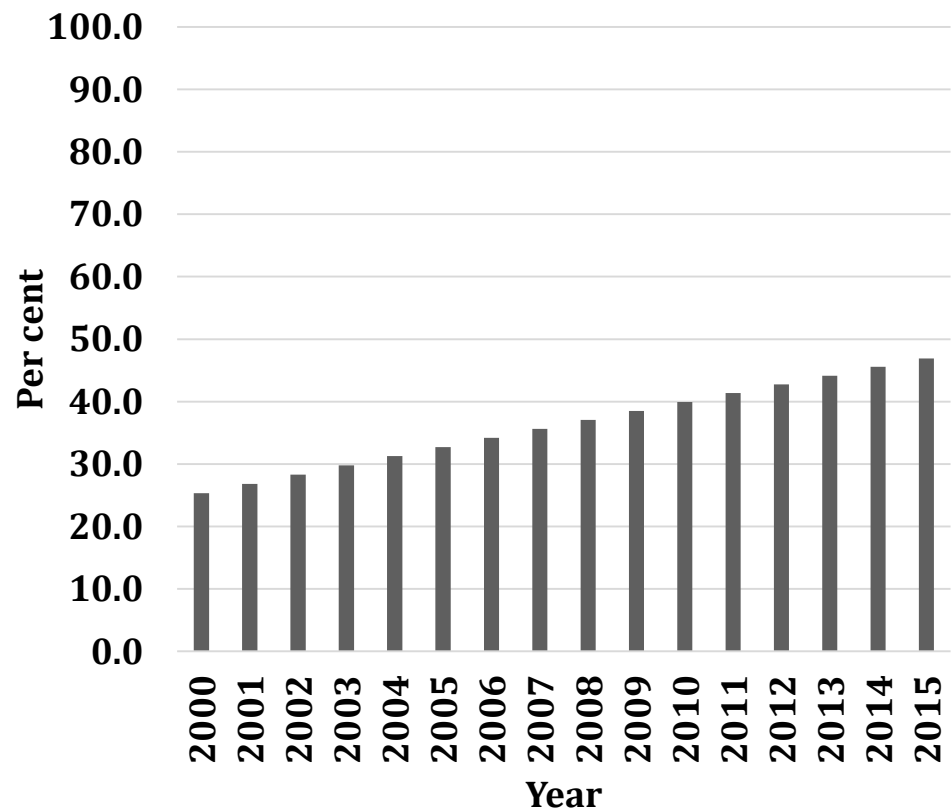


Target & indicator chosen:

SDG 6.2 People Using At Least Basic Sanitation Services

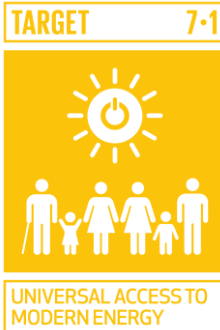
- Access to basic sanitation has nearly doubled in the last 15 years
- 46.9% of the population had access to basic sanitation in 2015, compared to 25.3% in 2000
- However, more than half of the population still do not have access to basic sanitation

Figure: SDG 6.2 People Using At Least Basic Sanitation Services (% of Population)



Source: WHO/UNICEF Joint Monitoring Programme (JMP) for Water Supply, Sanitation and Hygiene

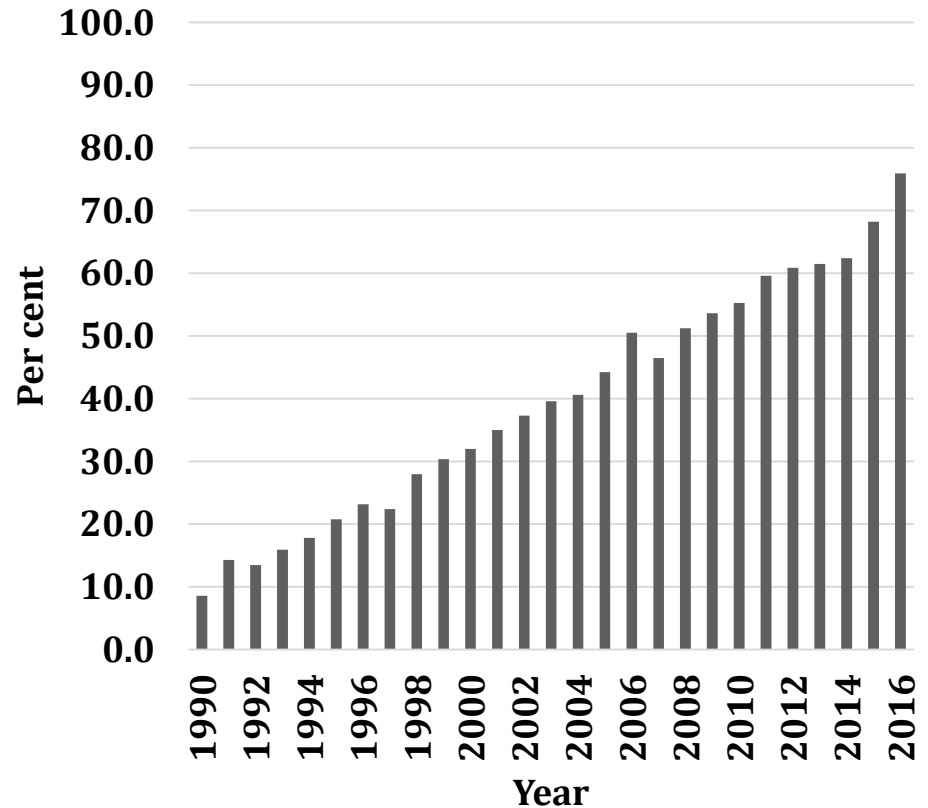
SDG 7: Ensure Access to Energy



Target & indicator chosen: *SDG 7.1 Access To Electricity*

- Access to electricity has been increasing almost every year since 1990
- More than average increases were observed in 2006 and 2015
- However, affordability of electricity has been compromised with higher tariffs

Figure: SDG 7.1 Access To Electricity (% of Population)



Source: World Bank, Sustainable Energy for All (SE4ALL) database

SDG 8: Promote Economic Growth

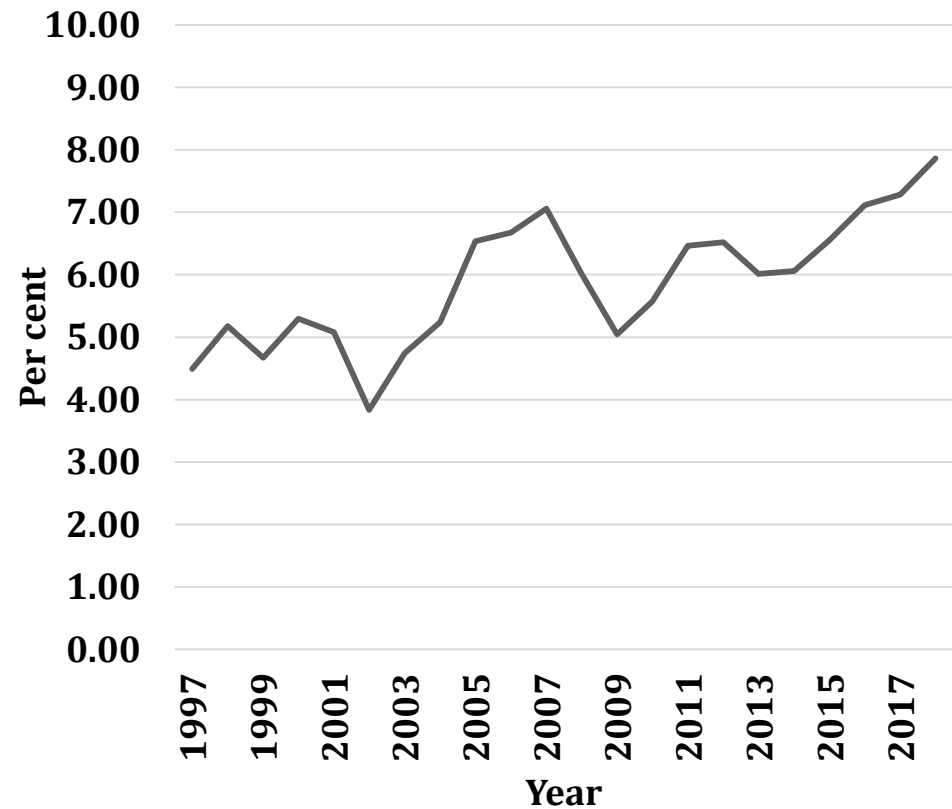


Target & indicator chosen:

SDG 8.1 GDP Growth Rate

- Economic growth in Bangladesh has been rapid and resilient
- GDP has been growing at more than 6% since 2011
- However, economic growth has failed to create decent jobs - especially for the large population of youth

Figure: SDG 8.1 GDP Growth Rate (in %) At Constant Prices (Base Year 2005-06)



Source: GDP of Bangladesh, BBS

SDG 9: Promote Industrialisation

TARGET 9-2



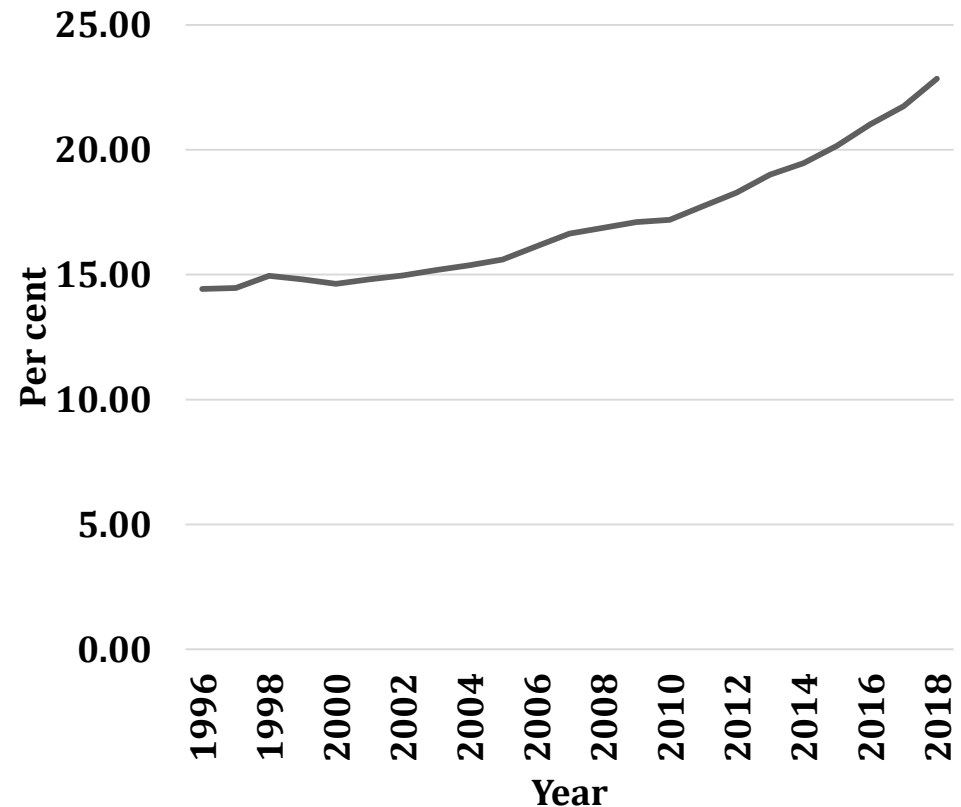
PROMOTE INCLUSIVE AND SUSTAINABLE INDUSTRIALIZATION

Target & indicator chosen:

SDG 9.2 Share Of Manufacturing in GDP

- Rate of industrialisation picked up pace from 2005 onwards
- Share of manufacturing in GDP increased from 14.4% in 1996 to 21% in 2016
- Such structural change of the economy presents a challenge for the labour market

Figure: SDG 9.2 Share Of Manufacturing in GDP (%)
At Constant Prices (Base Year 2005-06)



Source: GDP of Bangladesh, BBS

SDG 10: Reduce Inequality

TARGET 10·1



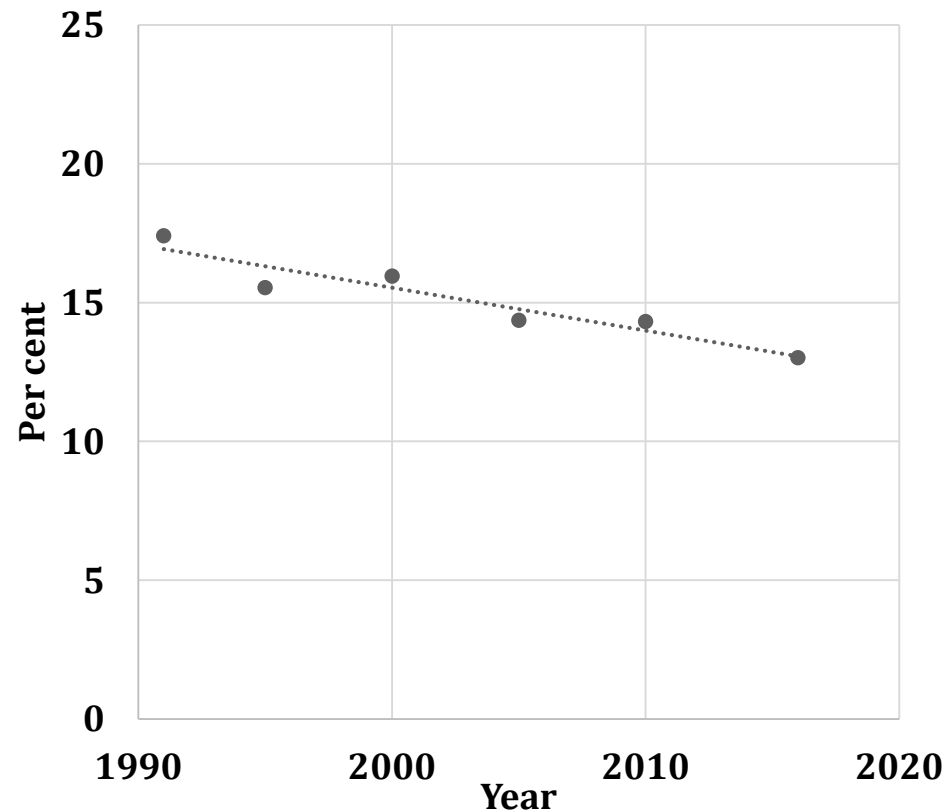
REDUCE INCOME INEQUALITIES

Target & indicator chosen:

SDG 10.1 Income Share of Bottom 40 Per Cent

- Income share of the poorest 40% of the population has been declining
- Declining income shares for the poor imply rising income shares for the rich
- If poor get poorer, then overall inequality increases

Figure: SDG 10.1 Income Share of Bottom 40 Per Cent (% of National Income)



Source: Household Income and Expenditure Surveys, BBS

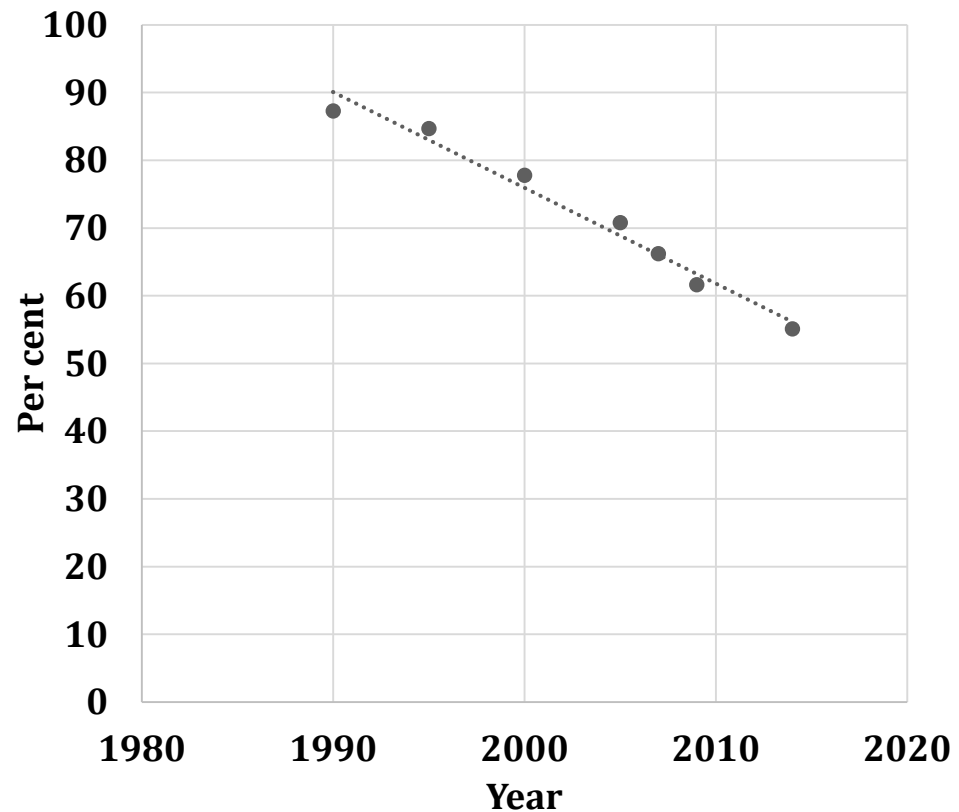
SDG 11: Make Cities Sustainable



Target & indicator chosen: *SDG 11.1 Population Living In Slums*

- Urban slum population has declined significantly
- 55.1% of the urban population lived in slums in 2014, compared to 87.3% in 1990
- Share of urban population living in slums is still unacceptably high

Figure: SDG 11.1 Population Living In Slums
(% of Urban Population)



Source: UN HABITAT

SDG 12: Sustainable Consumption & Production

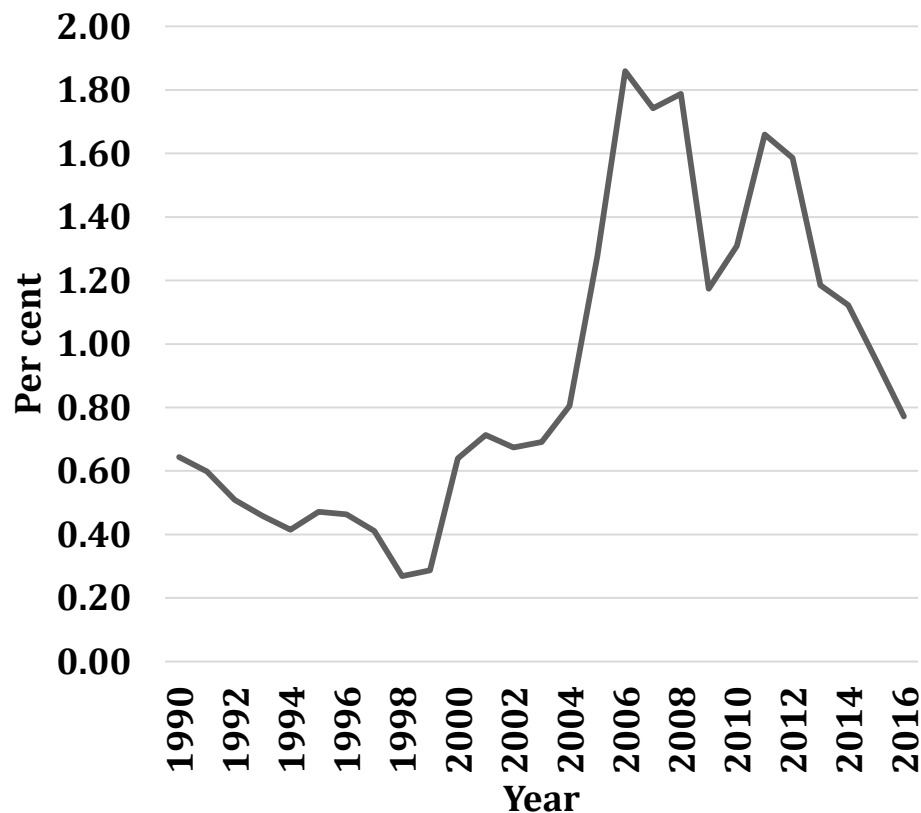


Target & indicator chosen:

SDG 12.2 Total Natural Resources Rents

- **Economic rents from natural resource extraction soared between 2003 and 2006**
- **However, there has been a sharp decline from 2011 onwards**
- **As natural resources become more scarce, extraction costs increase since the low-hanging fruits have already been depleted**

Figure: SDG 12.2 Total Natural Resources Rents (% of GDP)



Source: World Bank estimate

SDG 13: Combat Climate Change



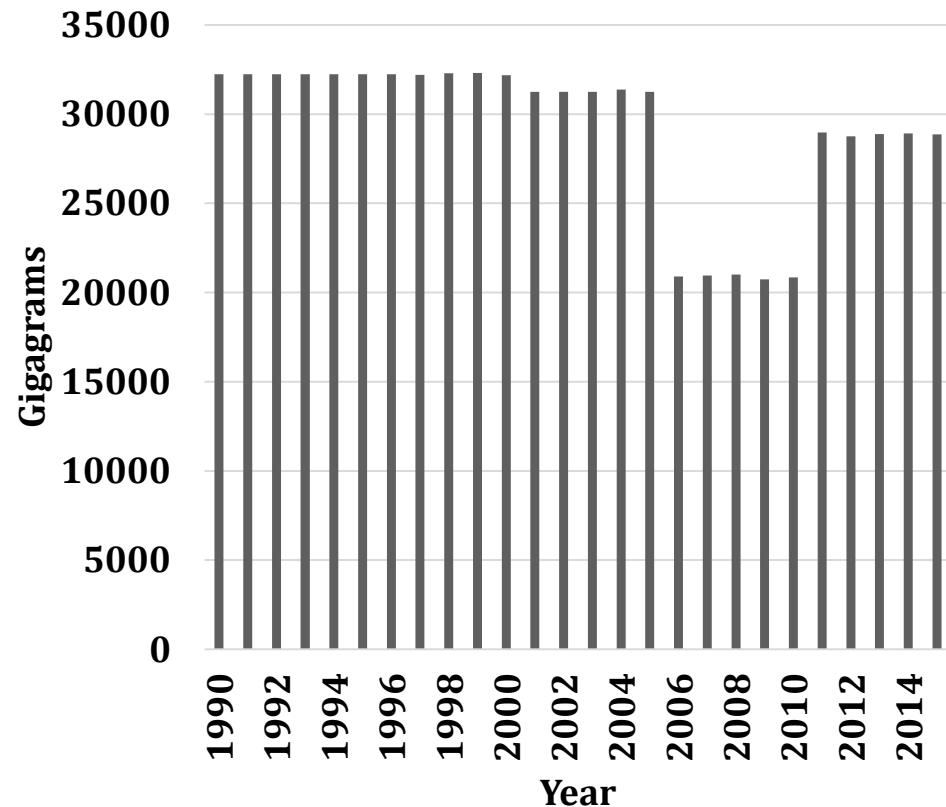
INTEGRATE CLIMATE CHANGE MEASURES INTO POLICIES AND PLANNING

Target & indicator chosen:

SDG 13.2 Net Carbon Emissions/Removals

- Net carbon emissions/removals were largely stable from 1990 to 2005
- However, there was a big drop in 2006 followed by a jump in 2011
- Bangladesh is one of the least carbon emitting yet most climate vulnerable countries in the world

Figure: SDG 13.2 Net Emissions/Removals (CO₂)
(In Gigagrams)



Source: FAO estimate



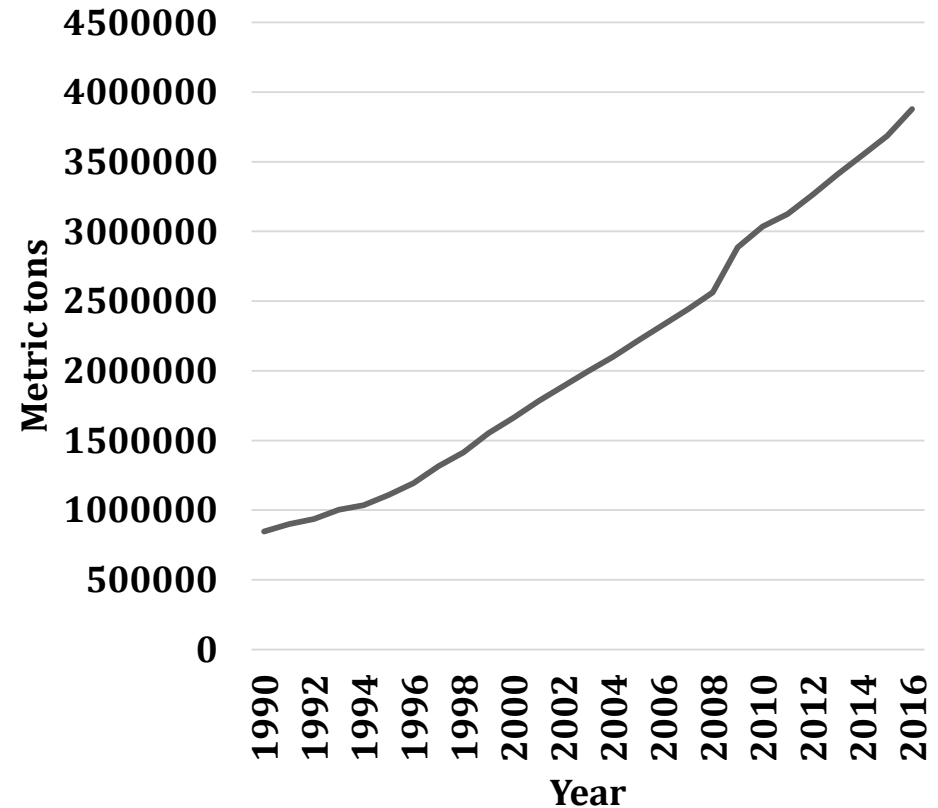
SDG 14: Conserve the Oceans

Target & indicator chosen:

SDG 14.4 Total Fisheries Production

- Fisheries production shows increasing trend
- Between 1990 and 2016, fisheries production has increased by a factor of 4
- Trends indicate increasing tendency of overfishing which threatens fish stocks

Figure: SDG 14.4 Total Fisheries Production (Metric Tons)



Source: FAO

SDG 15: Protect Forests

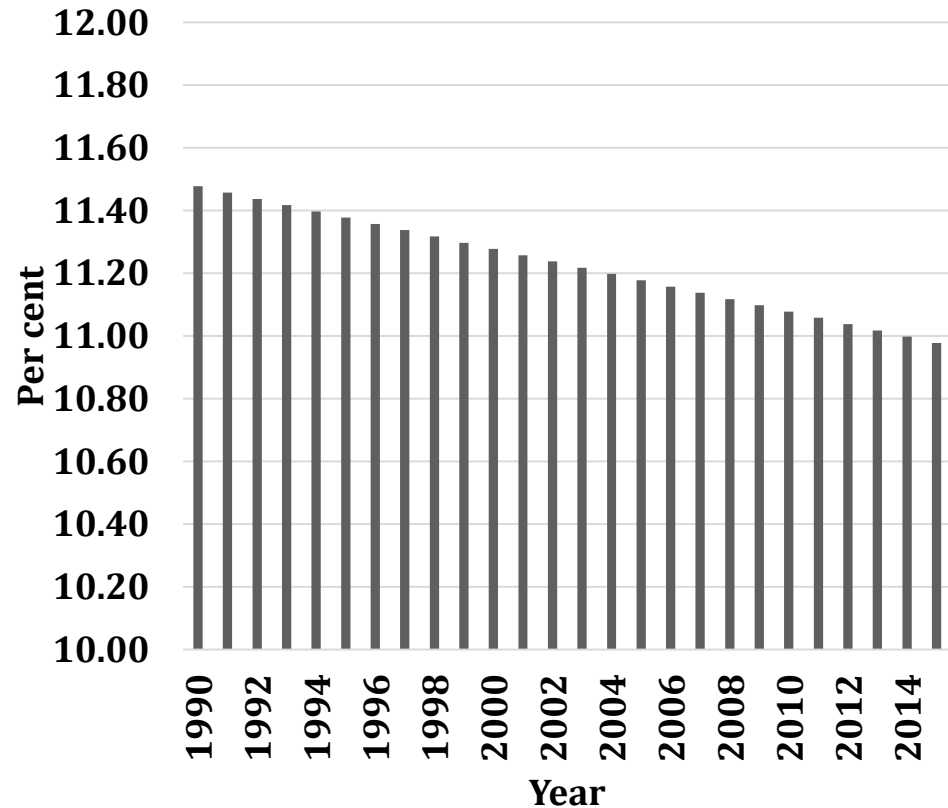


Target & indicator chosen:

SDG 15.2 Forest Area

- Forest's share of land area has been declining
- In 1990, forests covered only 11.4% of land – which was already quite low
- Destruction of primary forests can cause irreversible damage to biodiversity

Figure: SDG 15.2 Forest Area (% of Land Area)



Source: FAO

SDG 16: Promote Peaceful Societies

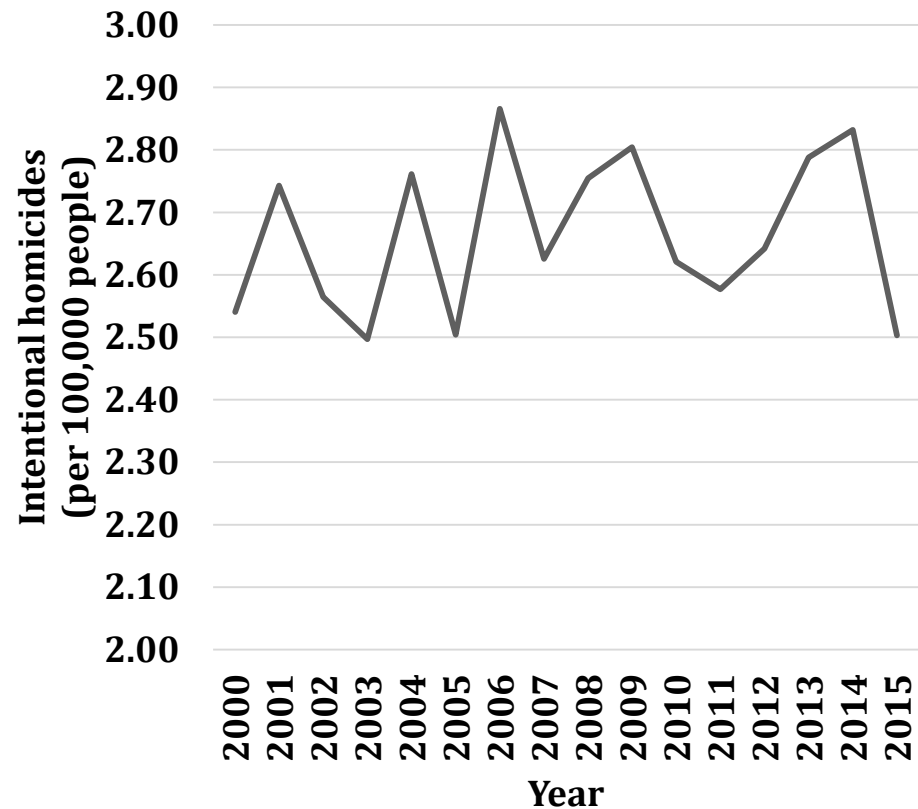


Target & indicator chosen:

SDG 16.1 Intentional Homicides

- **Murder rates have been around 2.5 to 2.8 per 100,000 people during the period 2000 and 2015**
- **Rates are low compared to more unstable or violent countries**
- **Data are estimates, since crime is generally under-reported**

Figure: SDG 16.1 Intentional Homicides
(Per 100,000 People)



Source: UN Office on Drugs and Crime

SDG 17: Strengthen Means of Implementation

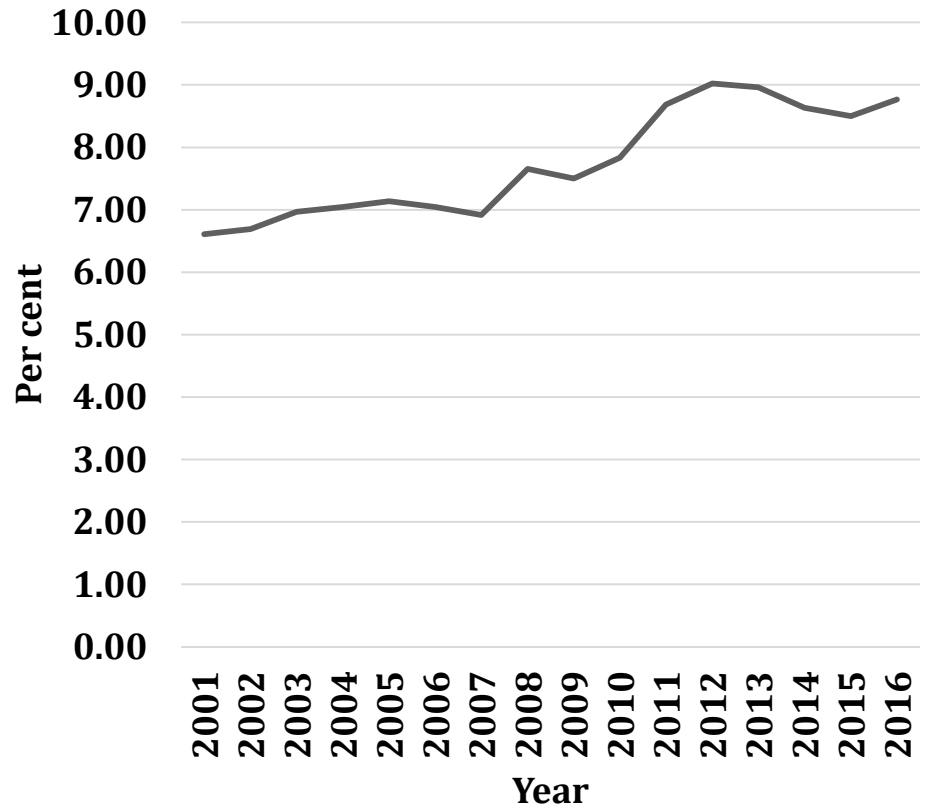


Target & indicator chosen:

SDG 17.1 Tax Revenue

- Tax revenue as a share of GDP was stagnant at around 7% between 2001 and 2007
- In 2016, tax revenue as a share of GDP could not reach even 9%
- Domestic revenue mobilisation in Bangladesh is poor compared to regional standards

Figure: SDG 17.1 Tax Revenue (% of GDP)



Source: International Monetary Fund, Government Finance Statistics

3. Methodology for Forecasting

Methodology

- **Missing values in the data were imputed with maximum likelihood estimates**
- **Forecasts were based on autoregressive integrated moving average (ARIMA) models**
 - **Box-Jenkins approach was followed to set up benchmark ARIMA models**
 - **To improve robustness, the benchmark models were used to specify 100 different ARIMA models which were averaged to obtain the final forecasts**
 - **Seasonality was addressed when required**

4. Future Prospects of SDG Implementation in Bangladesh

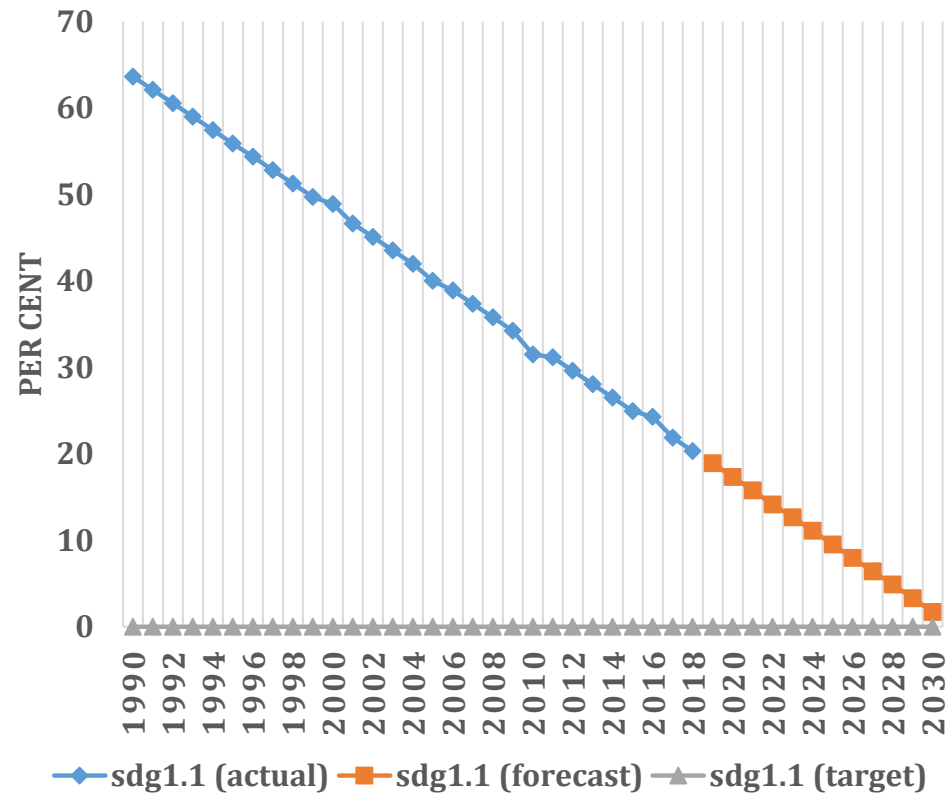
SDG 1: End Poverty



Target & indicator chosen: *SDG 1.1: Poverty headcount ratio at national poverty line*

- The target for 2030 is to have zero per cent of the population living below the national poverty line
- If current trends continue, then 1.7% of the population will be below the national poverty line in 2030

Figure: SDG 1.1 Poverty Headcount Ratio at National Poverty Line (% of population living below national poverty line)



Source: Authors' calculations

SDG 2: End Hunger

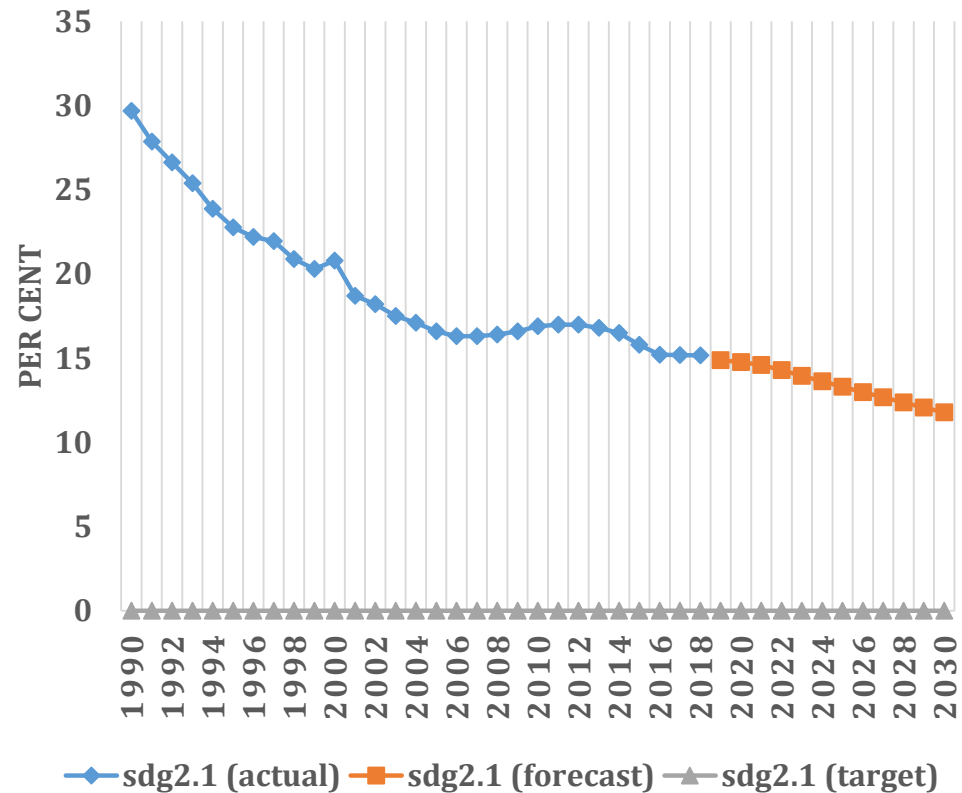


Target & indicator chosen:

SDG 2.1: Prevalence of undernourishment

- The target for 2030 is to have zero per cent prevalence of undernourishment
- The forecast shows that 11.7% of the population will still remain undernourished in 2030, if current trends continue

Figure: SDG 2.1 Prevalence of Undernourishment (3-Year Average) (% of Population)



Source: Authors' calculations

SDG 3: Ensure Healthy Lives

TARGET 3.1



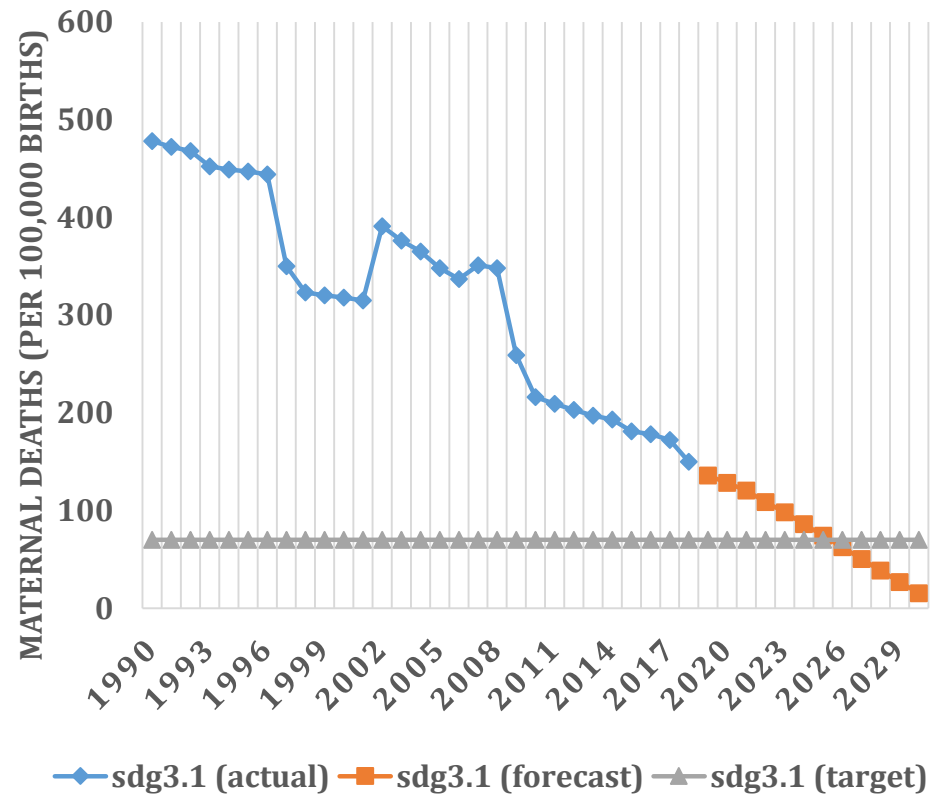
REDUCE MATERNAL MORTALITY

Target & indicator chosen:

SDG 3.1: Maternal deaths

- The target for 2030 is to have less than 70 maternal deaths per 100,000 births
- At the current rate of progress, the target will be achieved within 2026

Figure: SDG 3.1 Maternal Deaths (Per 100,000 Births)



Source: Authors' calculations

SDG 4: Ensure Quality Education

TARGET 4.1



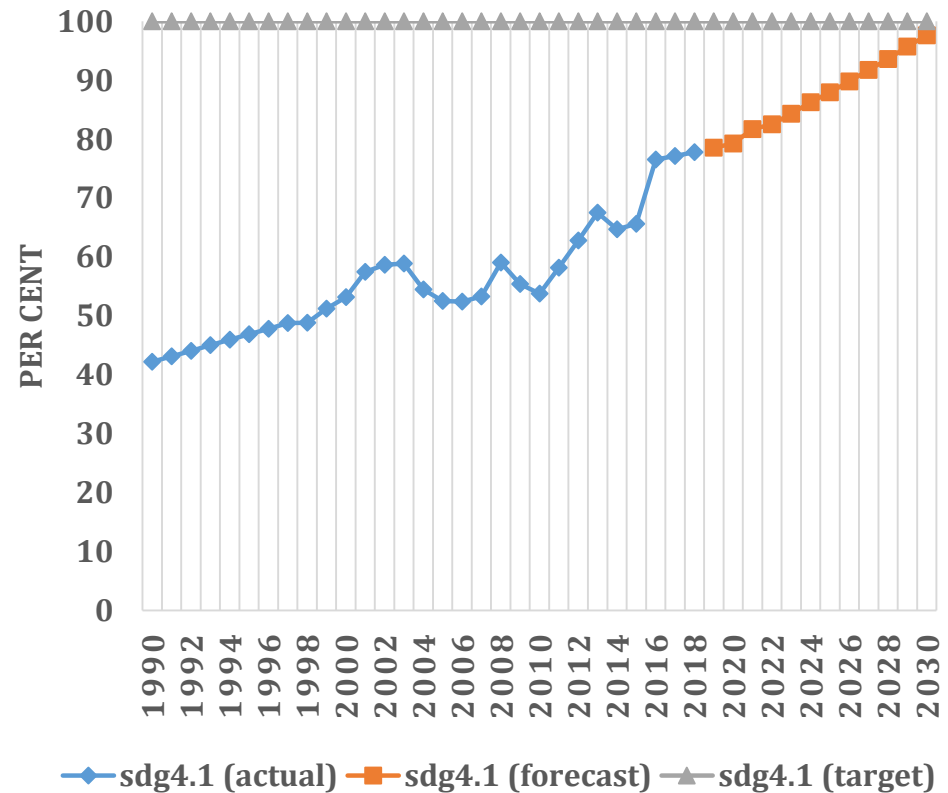
FREE PRIMARY AND SECONDARY EDUCATION

Target & indicator chosen:

SDG 4.1: Lower secondary completion rate

- The target for 2030 is to have 100% lower secondary completion rate
- The forecast shows that lower secondary completion rate will be 97.6% in 2030, if current trends continue

Figure: SDG 4.1 Lower Secondary Completion Rate, Both Sexes (%)



Source: Authors' calculations

SDG 5: Achieve Gender Equality

TARGET 5-3



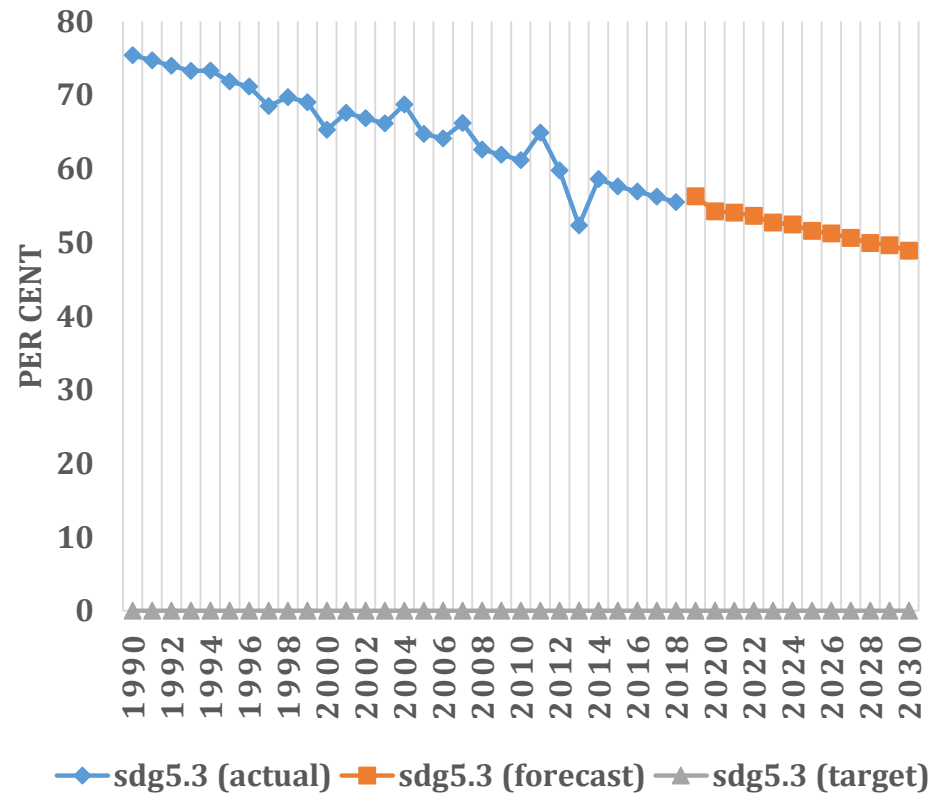
ELIMINATE FORCED MARRIAGES AND GENITAL MUTILATION

Target & indicator chosen:

SDG 5.3 Women Who Were First Married By Age 18

- The target for 2030 is to have zero per cent of women between the ages of 20-24 getting married by age 18
- 48.9% women aged between 20-24 will get married by age 18 in 2030, if current trends continue

Figure: SDG 5.3 Women Who Were First Married By Age 18 (% of Women Ages 20-24)



Source: Authors' calculations

SDG 6: Ensure Sanitation for All

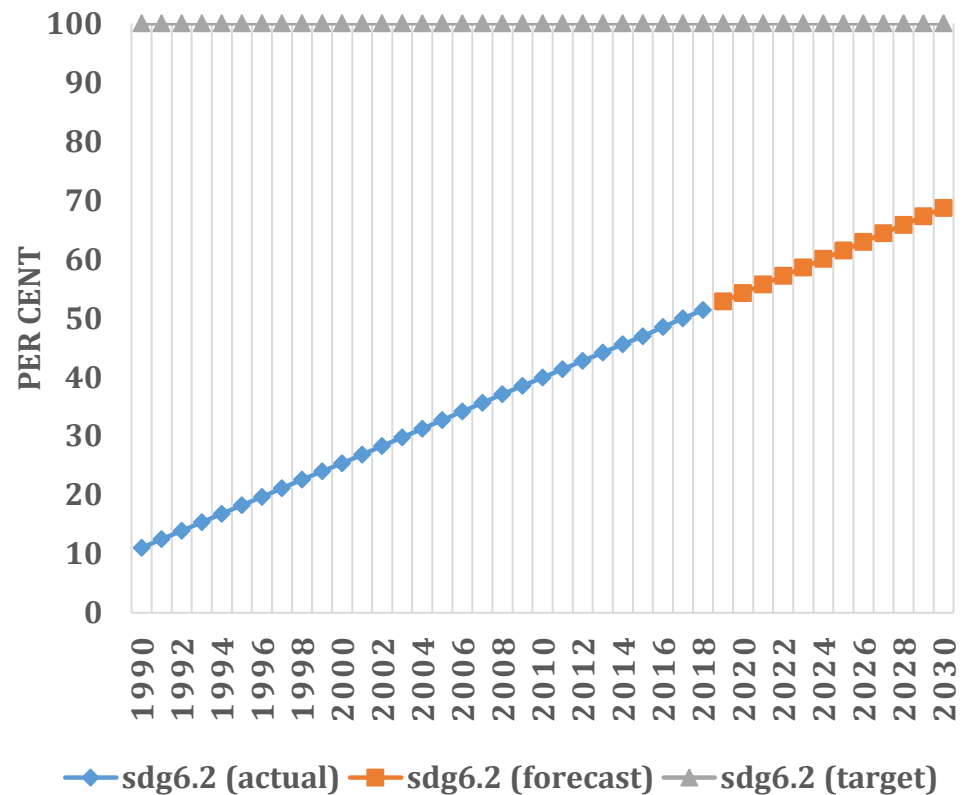


Target & indicator chosen:

SDG 6.2 People Using At Least Basic Sanitation Services

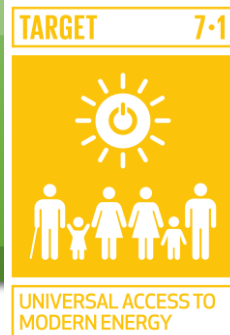
- The target for 2030 is ensure that 100% of the population have access to basic sanitation services
- 68.7% of the population will have access to basic sanitation services in 2030, if current trends continue

Figure: SDG 6.2 People Using At Least Basic Sanitation Services (% of Population)



Source: Authors' calculations

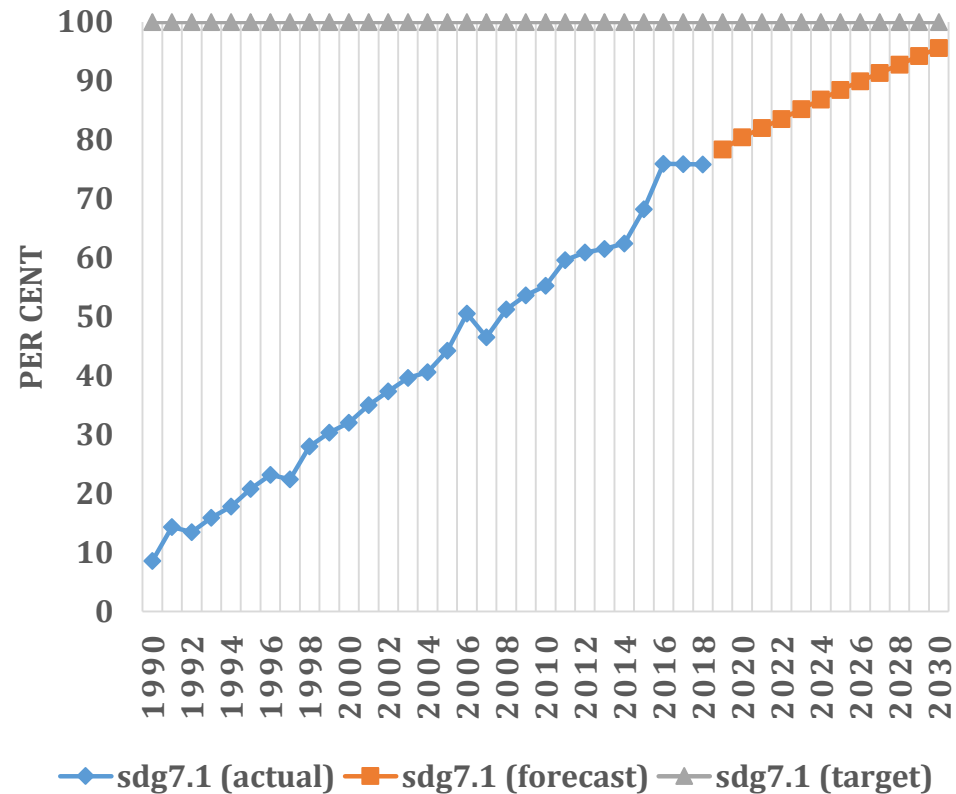
SDG 7: Ensure Access to Energy



Target & indicator chosen: *SDG 7.1 Access To Electricity*

- The target for 2030 is to provide electricity access to 100% of the population
- If current trends continue, 95.6% of the population will have access to electricity in 2030

Figure: SDG 7.1 Access To Electricity (% of Population)



Source: Authors' calculations

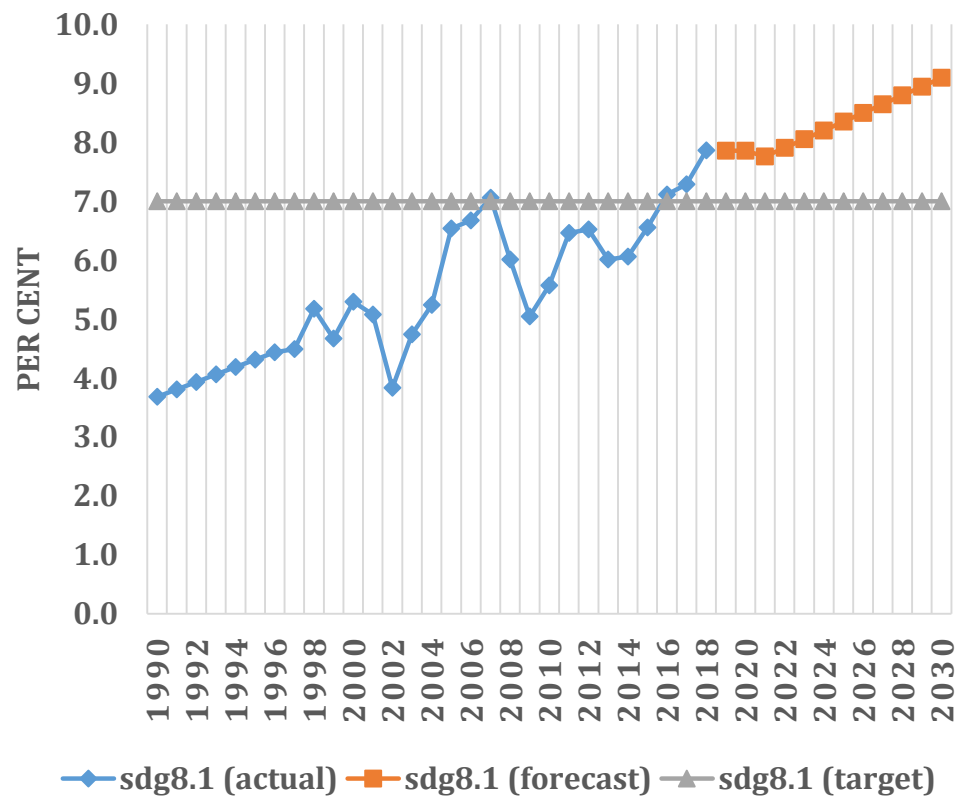
SDG 8: Promote Economic Growth

Target & indicator chosen:

SDG 8.1 GDP Growth Rate

- The target for 2030 is to achieve and sustain 7% annual GDP growth
- Annual GDP growth has been over 7% since 2016 and is projected to reach 9.1% in 2030
- Similar forecasts were obtained by the General Economics Division (GED)

Figure: SDG 8.1 GDP Growth Rate (in %) At Constant Prices (Base Year 2005-06)



Source: Authors' calculations

SDG 9: Promote Industrialisation

TARGET 9-2



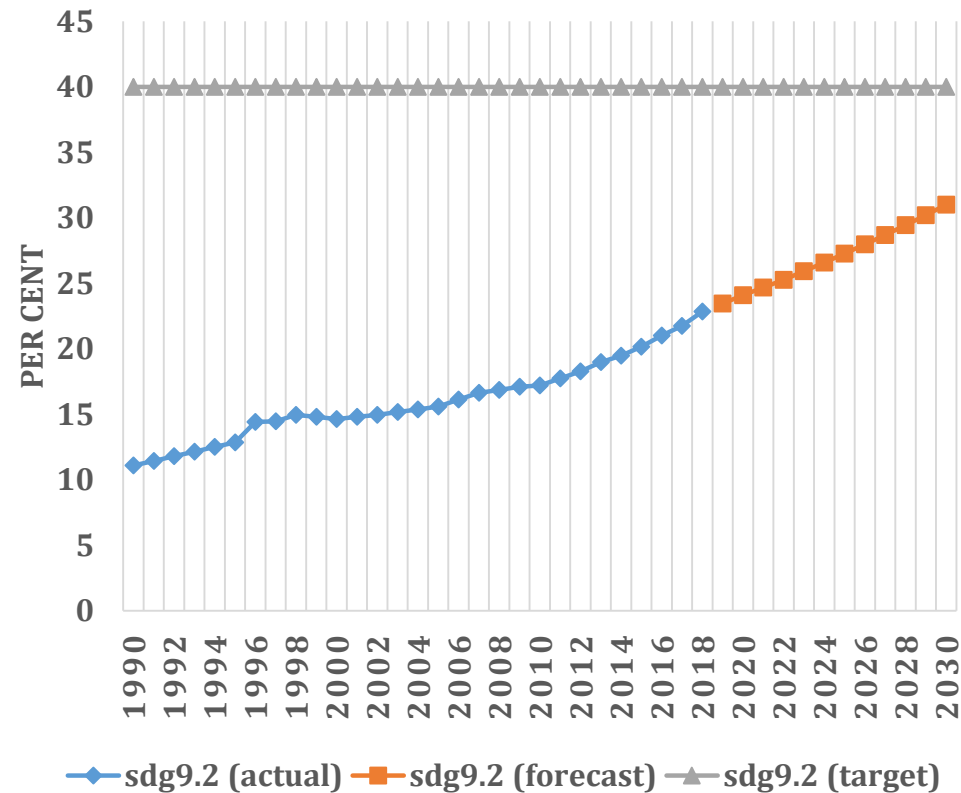
PROMOTE INCLUSIVE AND SUSTAINABLE INDUSTRIALIZATION

Target & indicator chosen:

SDG 9.2 Share Of Manufacturing in GDP

- The target for 2030 is to have a share of manufacturing in GDP which is double that of the levels in 2015
- For Bangladesh, this would mean a manufacturing share of GDP of 40%
- By 2030, manufacturing will be 31% of GDP, if current trends continue

Figure: SDG 9.2 Share Of Manufacturing in GDP (%)
At Constant Prices (Base Year 2005-06)



Source: Authors' calculations

SDG 10: Reduce Inequality

TARGET 10·1



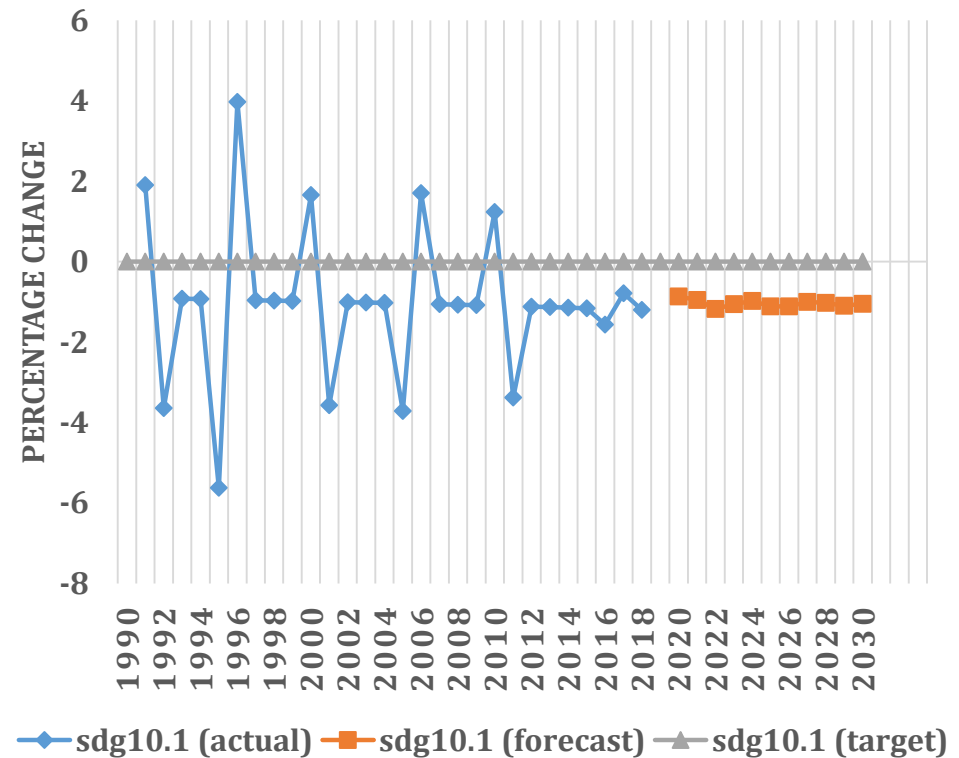
REDUCE INCOME INEQUALITIES

Target & indicator chosen:

SDG 10.1 Income Share of Bottom 40 Per Cent

- The target for 2030 is to increase the share of income held by the poorest 40% of the population
- This means that the growth in the share of income held by the poorest 40% of the population should be greater than zero
- If current trends continue, income share of the poorest 40% will decrease by 1% annually in 2030

Figure: SDG 10.1 Income Share of Bottom 40 Per Cent (% of National Income)



Source: Authors' calculations

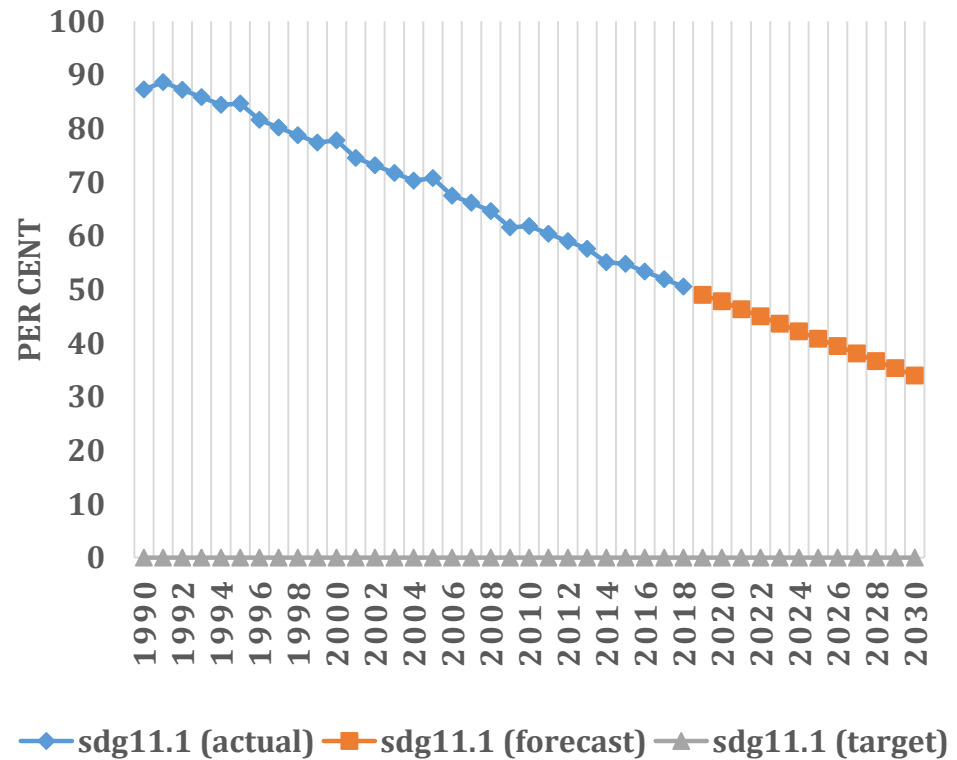
SDG 11: Make Cities Sustainable



Target & indicator chosen: *SDG 11.1 Population Living In Slums*

- The target for 2030 is to ensure that zero per cent of the urban population are living in slums
- 34% of the urban population will be living in slums in 2030, if current trends continue

Figure: SDG 11.1 Population Living In Slums
(% of Urban Population)



Source: Authors' calculations

SDG 12: Sustainable Consumption & Production

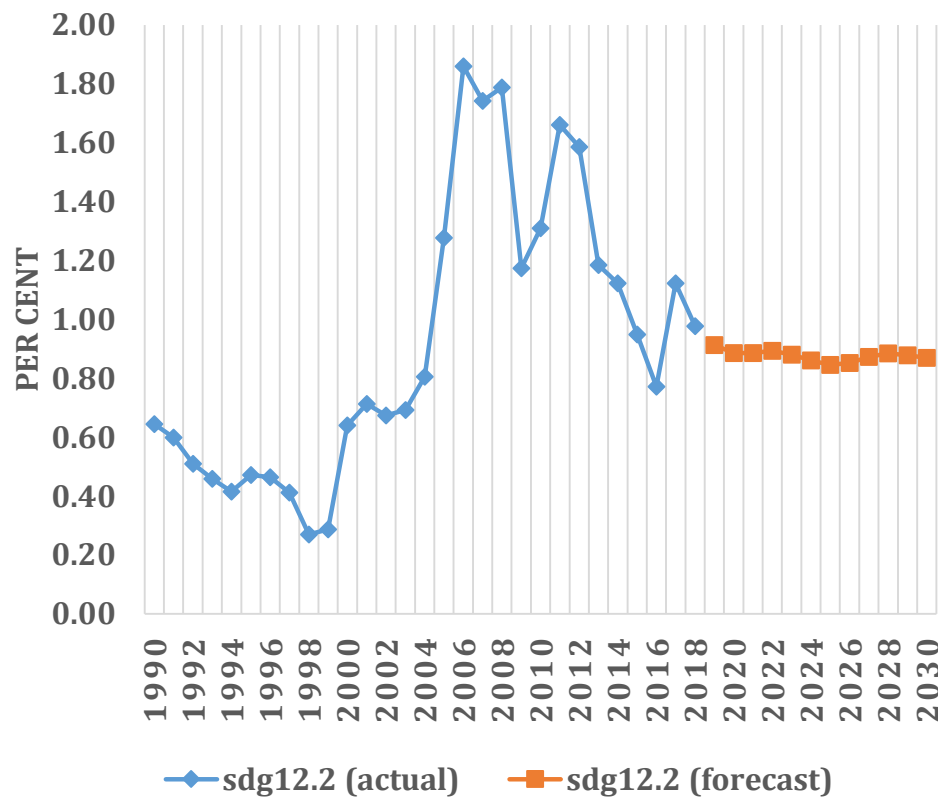


Target & indicator chosen:

SDG 12.2 Total Natural Resources Rents

- Natural resource rents as a percentage of GDP will fall to 0.9% in 2030, if current trends continue
- Extraction of natural resources is forecasted to be less profitable in 2030 compared to 2015

Figure: SDG 12.2 Total Natural Resources Rents (% of GDP)



Source: Authors' calculations

SDG 13: Combat Climate Change

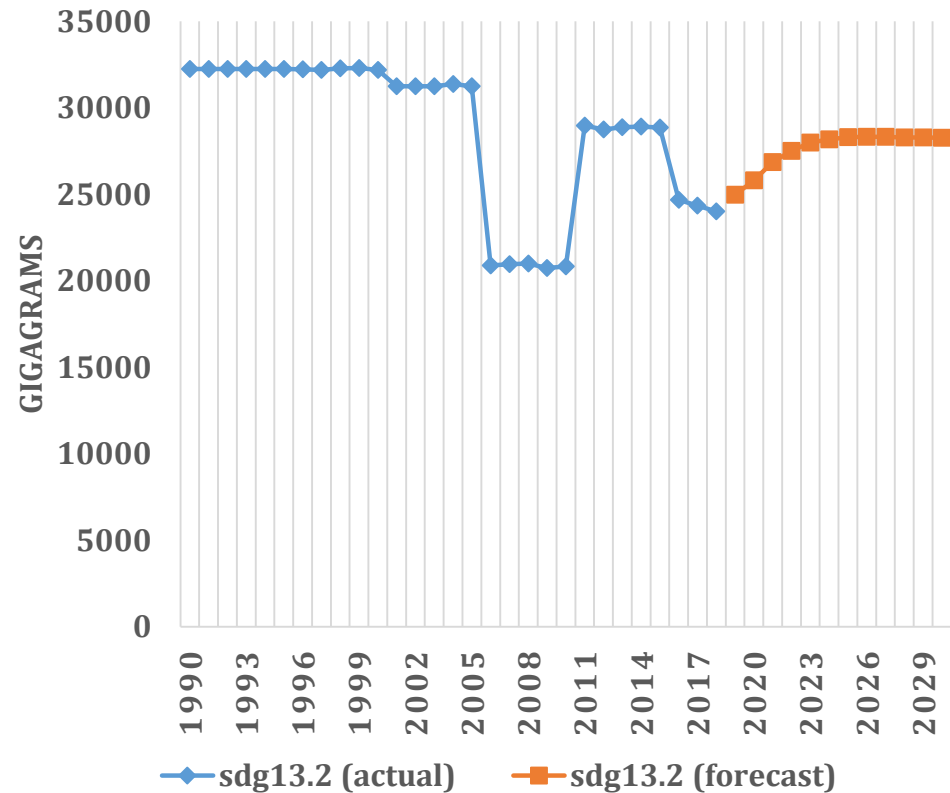


Target & indicator chosen:

SDG 13.2 Net Carbon Emissions/Removals

- The target for 2030 is to reduce carbon emissions
- By 2030, net carbon emissions/removals will rise back to levels similar to 2015

Figure: SDG 13.2 Net Emissions/Removals (CO₂)
(In Gigagrams)



Source: Authors' calculations



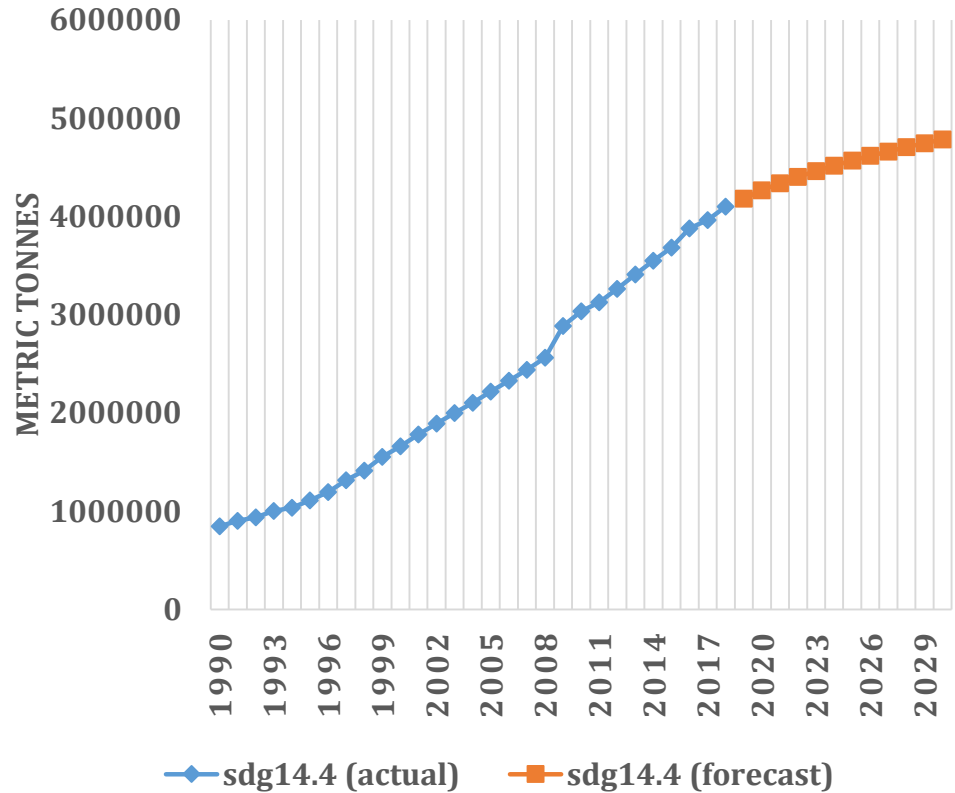
SDG 14: Conserve the Oceans

Target & indicator chosen:

SDG 14.4 Total Fisheries Production

- The target for 2030 is to pursue fishing in a sustainable way
- Total fisheries production is forecasted to keep rising till 2030, although the rate of increase will slow down gradually

Figure: SDG 14.4 Total Fisheries Production (Metric Tons)



Source: Authors' calculations

SDG 15: Protect Forests

TARGET 15-2



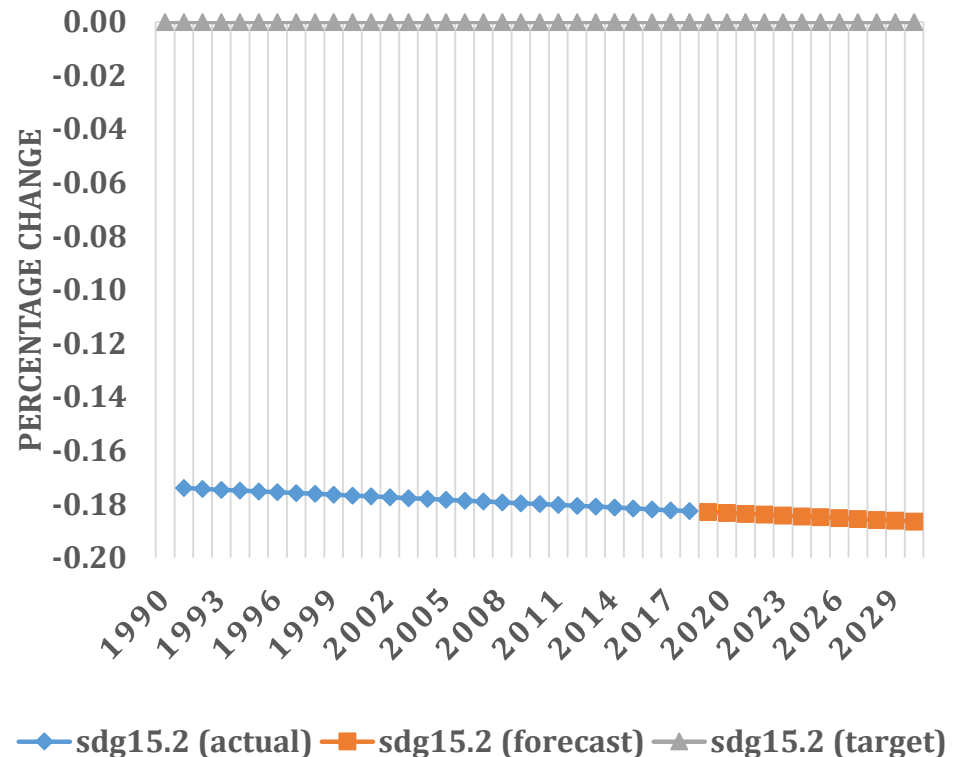
END DEFORESTATION
AND RESTORE
DEGRADED FORESTS

Target & indicator chosen:

SDG 15.2 Forest Area

- The target for 2030 is to stop deforestation
- This means that percentage change in forest area as a share of total land area should be greater than or equal to zero
- However, if current trends continue, forest area is forecasted to decline continuously up to 2030

Figure: SDG 15.2 Forest Area (% of Land Area)



Source: Authors' calculations

SDG 16: Promote Peaceful Societies

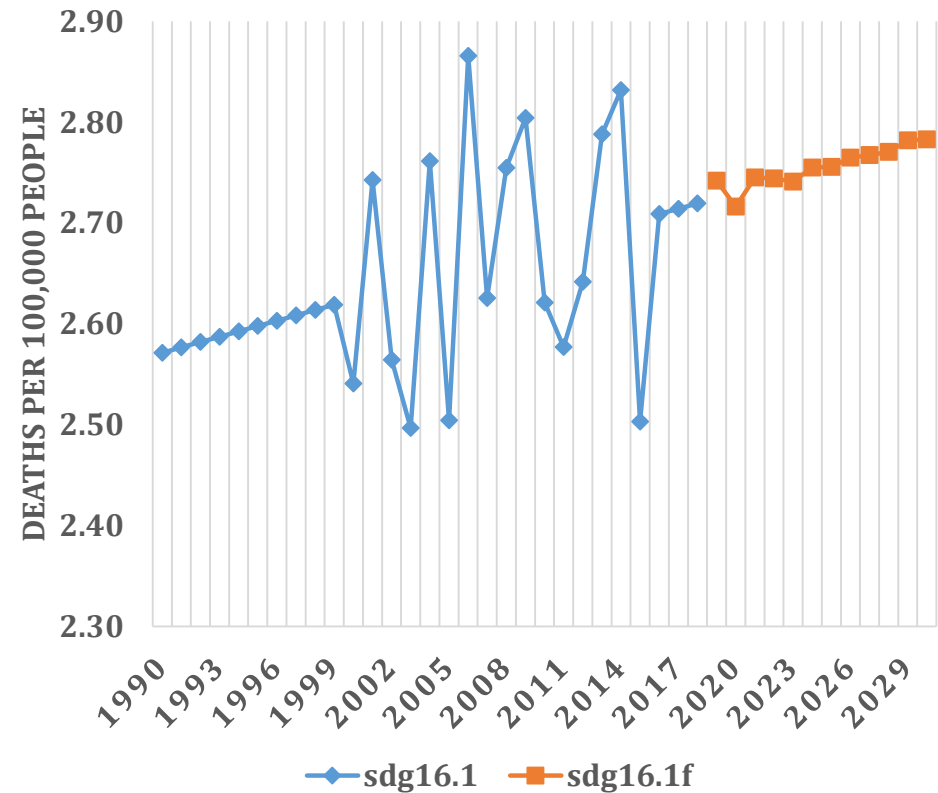


Target & indicator chosen:

SDG 16.1 Intentional Homicides

- The target for 2030 is to reduce the murder rate
- Projecting the current trends shows an increasing trend in the murder rate
- Generally, criminal activity is unpredictable by nature

Figure: SDG 16.1 Intentional Homicides
(Per 100,000 People)



Source: Authors' calculations

SDG 17: Strengthen Means of Implementation

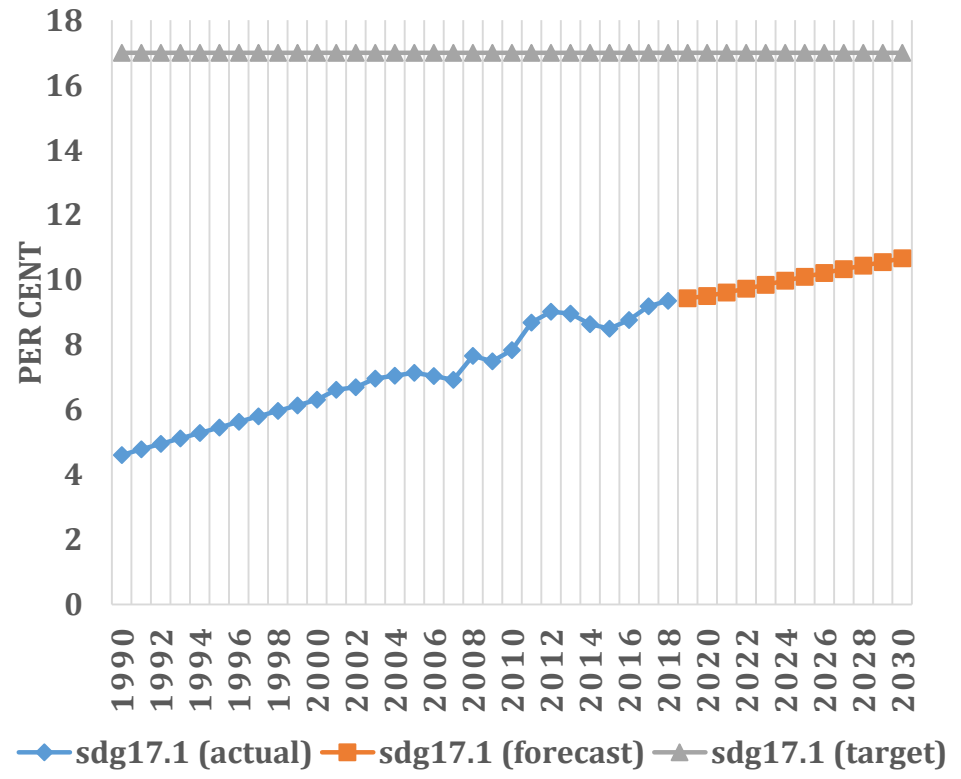


Target & indicator chosen:

SDG 17.1 Tax Revenue

- The target for 2030 is to have tax revenue which is double the level of tax revenue in 2015
- For Bangladesh, this would be mean that tax revenue as a percentage of GDP would have to be 17%
- Tax revenue as a percentage of GDP will be 10.7% in 2030 if current trends continue

Figure: SDG 17.1 Tax Revenue (% of GDP)

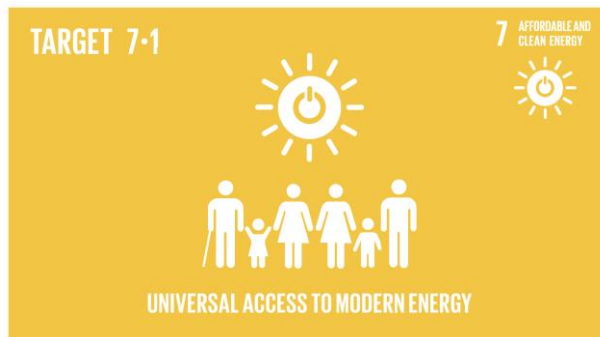


Source: Authors' calculations

5. Conclusions and Recommendations

On-track SDGs

- The following SDG targets will be achieved or nearly achieved in 2030



Partially Off-track SDGs

- The following SDG targets will require intervention to be achieved or nearly achieved by 2030

TARGET 2-1 **2 ZERO HUNGER**



UNIVERSAL ACCESS TO SAFE AND NUTRITIOUS FOOD

TARGET 5-3 **5 GENDER EQUALITY**



ELIMINATE FORCED MARRIAGES AND GENITAL MUTILATION

TARGET 6-2 **6 CLEAN WATER AND SANITATION**



END OPEN DEFECTION AND PROVIDE ACCESS TO SANITATION AND HYGIENE

TARGET 9-2 **9 INDUSTRY, INNOVATION AND INFRASTRUCTURE**



PROMOTE INCLUSIVE AND SUSTAINABLE INDUSTRIALIZATION

TARGET 11-1 **11 SUSTAINABLE CITIES AND COMMUNITIES**



SAFE AND AFFORDABLE HOUSING

TARGET 12-2 **12 RESPONSIBLE CONSUMPTION AND PRODUCTION**



SUSTAINABLE MANAGEMENT AND USE OF NATURAL RESOURCES

TARGET 14-4 **14 LIFE BELOW WATER**



SUSTAINABLE FISHING

TARGET 17-1 **17 PARTNERSHIPS FOR THE GOALS**



FINANCE

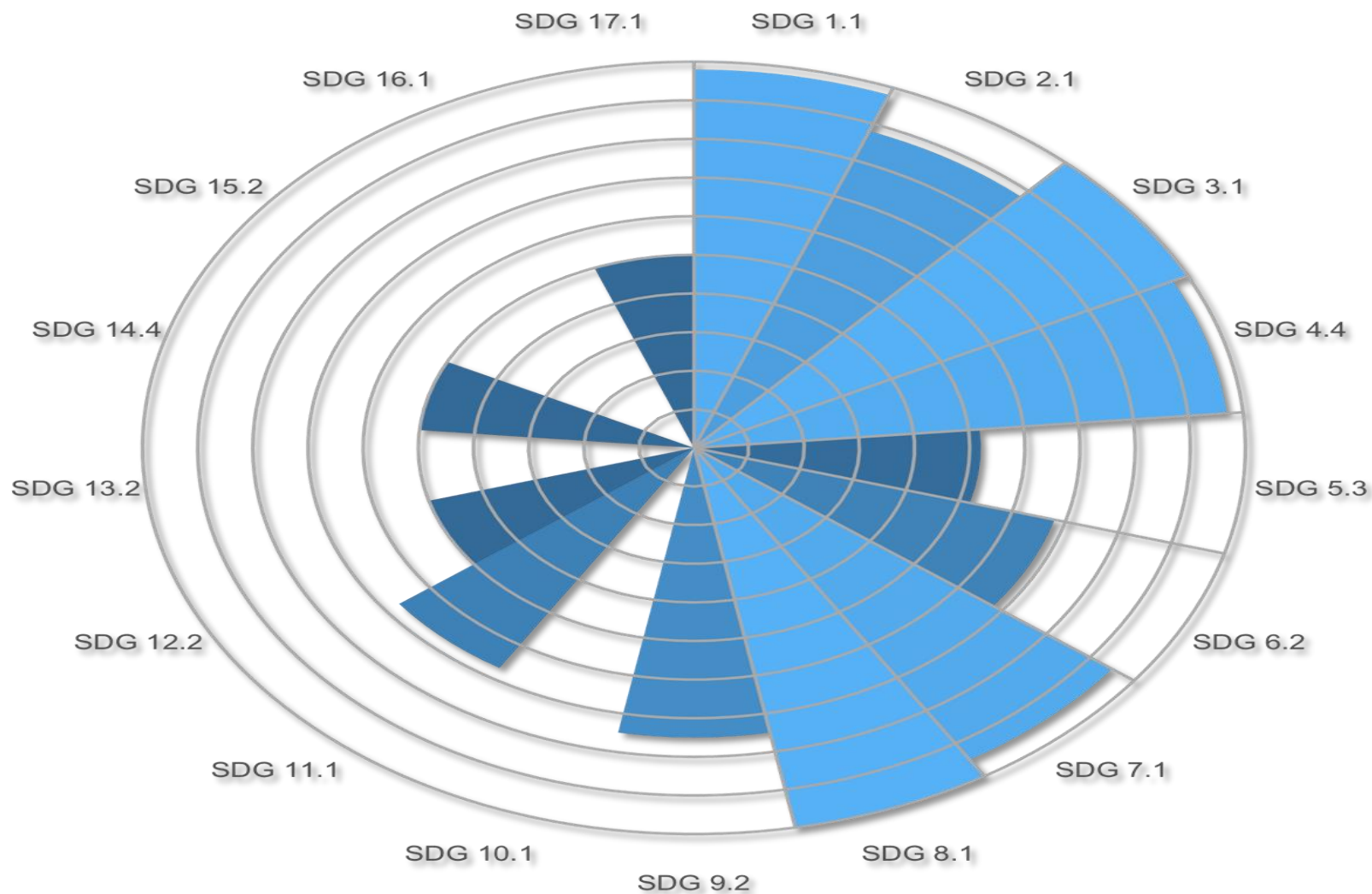
MOBILIZE RESOURCES TO IMPROVE DOMESTIC REVENUE COLLECTION

Completely Off-track SDGs

- The following SDG targets will not be achieved by 2030, and require immediate attention



An SDG Scorecard for Bangladesh



Recommendations

- **Reduce tax evasion, and increase the number of direct tax-payers**
- **Shift taxes away from consumption and income and towards wealth and capital gain**
- **Revolutionise the education system in line with the needs of the modern labour market**
- **Simplify the process of starting a business to encourage entrepreneurship**
- **Create job opportunities for skilled youth**
- **Increase the number of protected areas and nature reserves**

Recommendations (continued)

- **Increase investment in agricultural research and technology to increase food yields**
- **Create awareness about reducing early marriage**
- **Involve local government actors to improve sanitation**
- **Decentralise public institutions to reduce pressure on cities**
- **Improve management of natural resources**
- **Prevent overfishing to protect fish stocks**

THANK YOU



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