

MILESTONE 2: GLOBAL ECONOMIC AND DEMOGRAPHIC ANALYSIS

RIYA RAJESH
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DA DS
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OBJECTIVE:

The objective of this project is to analyze and derive insights from global data covering population, GDP, country characteristics, and health-related indicators from multiple sources.

DATASET OVERVIEW:

```
• CREATE TABLE countries_world (
  Country VARCHAR(100),Country_Code VARCHAR(10),Region VARCHAR(100),Population BIGINT,Area_sq_mi INT,
  Pop_Density DECIMAL(10,4),Coastline_Ratio DECIMAL(10,4),Net_Migration DECIMAL(10,4),Infant_Mortality DECIMAL(10,4),GDP_per_Capita INT,Literacy DECIMAL(10,4)
);

• INSERT INTO countries_world VALUES
('Albania', 'ALB', 'EASTERN EUROPE', 3581655, 28748, 124.6, 46023, -4.93, 21.52, 4500, 86.5, 71.2, 44095, 74.49, 3, 44150, 44682, 0.232, 0.188, 0.579),
('Algeria', 'DZA', 'NORTHERN AFRICA', 32930091, 2381740, 13.8, 0.04, -0.39, 31, 6000, 70, 78.1, 44621, 96.53, 1, 17.14, 22372, 0.101, 0.6, 0.298),
```

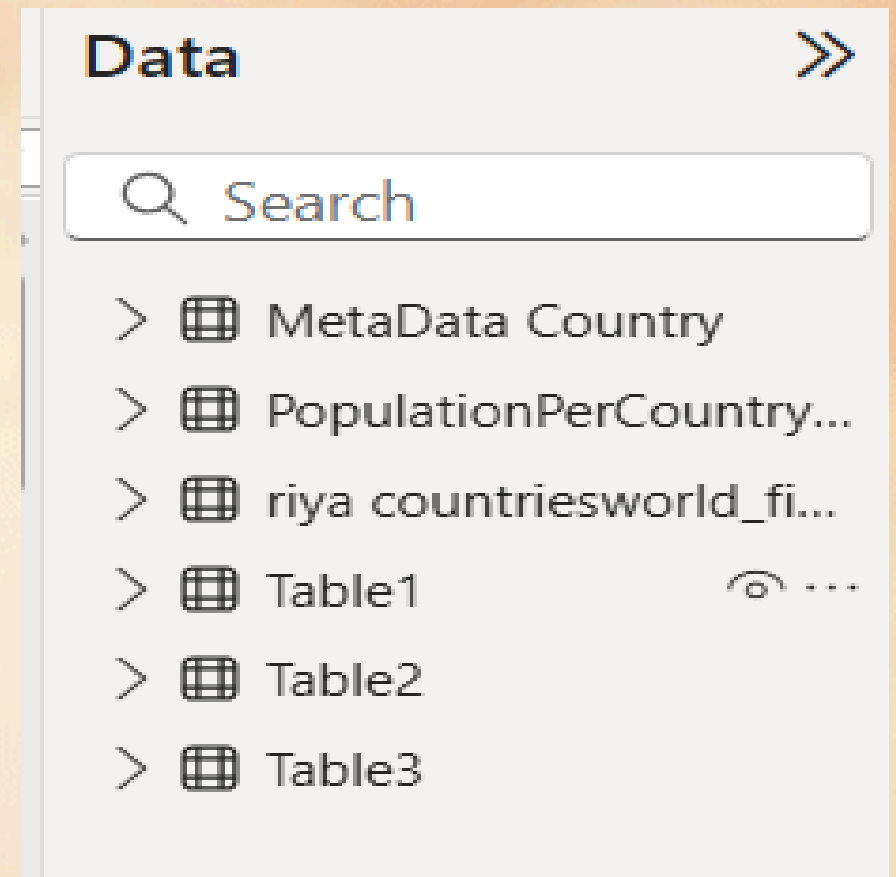
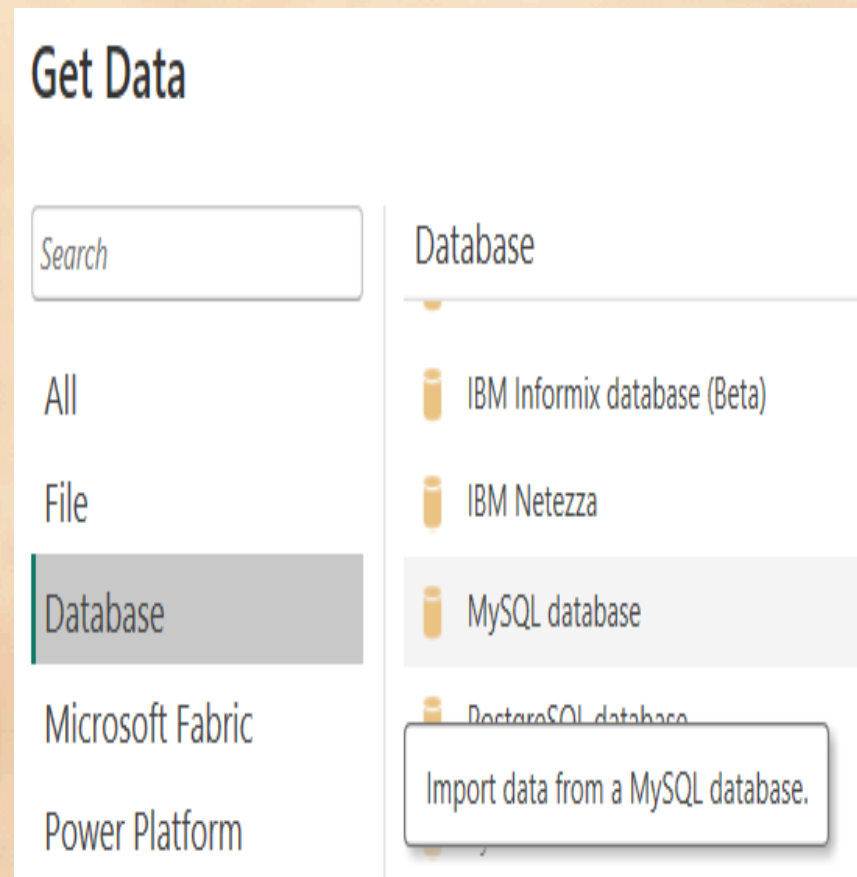
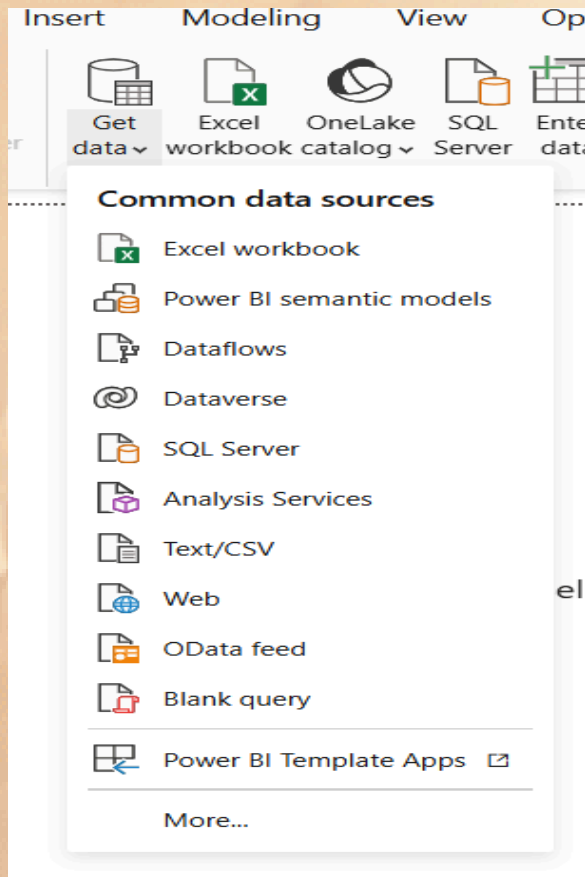
Country Code	Indicator Name	Indicator Code	2000	2001
ABW	GDP (current US\$)	NY.GDP.MKTP.CD	1873452514	1
AFG	GDP (current US\$)	NY.GDP.MKTP.CD	101250000000	2
AGO	GDP (current US\$)	NY.GDP.MKTP.CD	9129594819	8
ALB	GDP (current US\$)	NY.GDP.MKTP.CD	3632043908	4
AND	GDP (current US\$)	NY.GDP.MKTP.CD	1434429703	1
ARB	GDP (current US\$)	NY.GDP.MKTP.CD	735025140327	723
ARE	GDP (current US\$)	NY.GDP.MKTP.CD	104337372362	103
ARG	GDP (current US\$)	NY.GDP.MKTP.CD	284203750000	268
ARM	GDP (current US\$)	NY.GDP.MKTP.CD	1911563665	2
ASM	GDP (current US\$)	NY.GDP.MKTP.CD	101250000000	1009
ATG	GDP (current US\$)	NY.GDP.MKTP.CD	830158769	
AUS	GDP (current US\$)	NY.GDP.MKTP.CD	415446209885	378
AUT	GDP (current US\$)	NY.GDP.MKTP.CD	196799778883	197
AZE	GDP (current US\$)	NY.GDP.MKTP.CD	5272617196	5
BDI	GDP (current US\$)	NY.GDP.MKTP.CD	870486066	
BEL	GDP (current US\$)	NY.GDP.MKTP.CD	237904919845	237
BEN	GDP (current US\$)	NY.GDP.MKTP.CD	2569186643	2
BFA	GDP (current US\$)	NY.GDP.MKTP.CD	2628920056	2
BGD	GDP (current US\$)	NY.GDP.MKTP.CD	53369787319	53

PopulationPerCountry_final *					
C	D	E	F	G	H
Indicator Name	Indicator Code	1960	1961	1962	1963
Population, total	SP.POP.TOTL	54211	55438	56225	56980
Population, total	SP.POP.TOTL	8996351	9166764	9345868	9533961
Population, total	SP.POP.TOTL	5643182	5753024	5866061	5980404
Population, total	SP.POP.TOTL	1608800	1659800	1711319	1762000
Population, total	SP.POP.TOTL	13411	14375	15370	16400
Population, total	SP.POP.TOTL	92490932	95044497	97682294	100365000
Population, total	SP.POP.TOTL	92634	101078	112472	125000
Population, total	SP.POP.TOTL	20619075	20953077	21287682	21621000
Population, total	SP.POP.TOTL	1874120	1941491	2009526	2077000
Population, total	SP.POP.TOTL	20013	20486	21117	21800
Population, total	SP.POP.TOTL	55339	56144	57144	58000
Population, total	SP.POP.TOTL	10276477	10483000	10742000	10950000
Population, total	SP.POP.TOTL	7047539	7086299	7129864	7175000
Population, total	SP.POP.TOTL	3895396	4030320	4171425	4315000
Population, total	SP.POP.TOTL	2786106	2839666	2893669	2949000
Population, total	SP.POP.TOTL	9153489	9183948	9220578	9289000
Population, total	SP.POP.TOTL	2431622	2465867	2502896	2542000
Population, total	SP.POP.TOTL	4829288	4894580	4960326	5027000
Population, total	SP.POP.TOTL	48199747	49592802	51030137	52532000
Population, total	SP.POP.TOTL	7867374	7943118	8012946	8078000

MetaData Country *				
A	B	C	D	
Country Code	Region	IncomeGroup	SpecialNotes	Country
ABW	Latin America & Caribbean	High income	SNA data for 2000-2011 are updated	Aruba
AFG	South Asia	Low income	Fiscal year end: March 20; reporting p	Afghanistan
AGO	Sub-Saharan Africa	Lower middle income	Unknown	Angola
ALB	Europe & Central Asia	Upper middle income	Unknown	Albania
AND	Europe & Central Asia	High income	WB-3 code changed from ADO to A	Andorra
ARB	Unknown	Unknown	Arab World aggregate. Arab World is	Arab World
ARE	Middle East & North Africa	High income	Unknown	United Arab Emirates
ARG	Latin America & Caribbean	Upper middle income	National Institute of Statistics and C	Argentina
ARM	Europe & Central Asia	Lower middle income	Unknown	Armenia
ASM	East Asia & Pacific	Upper middle income	Unknown	American Samoa
ATG	Latin America & Caribbean	High income	Unknown	Antigua and Barbuda
AUS	East Asia & Pacific	High income	Fiscal year end: June 30; reporting p	Australia
AUT	Europe & Central Asia	High income	A simple multiplier is used to conver	Austria
AZE	Europe & Central Asia	Upper middle income	Unknown	Azerbaijan
BDI	Sub-Saharan Africa	Low income	Unknown	Burundi
BEL	Europe & Central Asia	High income	A simple multiplier is used to conver	Belgium
BEN	Sub-Saharan Africa	Low income	Unknown	Benin
BFA	Sub-Saharan Africa	Low income	Unknown	Burkina Faso
BGD	South Asia	Lower middle income	Fiscal year end: June 30; reporting p	Bangladesh

DATA CLEANING AND IMPORTING STEPS:

- .Removed null values and filled blanks
- .Formatted columns
- .Imported SQL dataset: Using SQL connector and from 'Get Data' - MySQL Database - (Select file) - Connect
- .Imported CSV file: 'Get Data' - Text/CSV - Select file - Import
- .Imported Excel Worksheet: 'Get Data' - Excel Workbook - Select file and particular sheets needed - Import



DAX FUNCTIONS USED:

```
1 Tot_Coun = SUM((PopulationPerCountry_final[Country]))
```

```
1 Country Count by Region =
```

```
2 CALCULATE(  
3     DISTINCTCOUNT('MetaData Country'[Country]),  
4     ALLEXCEPT('MetaData Country', 'MetaData Country'[Region])  
5 )
```

```
1 Income Level =
```

```
2 SWITCH(  
3     TRUE(),  
4     'riya countriesworld_final'[GDP ($ per capita)] < 1000, "Low Income",  
5     'riya countriesworld_final'[GDP ($ per capita)] < 4000, "Lower-Middle Income",  
6     'riya countriesworld_final'[GDP ($ per capita)] < 12000, "Upper-Middle Income",  
7     "High Income"  
8 )
```

```
1 Country Info =
```

```
2 'MetaData Country'[Country] & " - " & 'MetaData Country'[Region] & " (" & 'MetaData Country'[IncomeGroup] & ")"  
3
```

```
1 Avg GDP per Capita = AVERAGE('riya countriesworld_final'[GDP ($ per capita)])  
2
```

```
1 Total_Population = SUM('riya countriesworld_final'[Population])  
2
```

```
1 Avg Literacy Rate = AVERAGE('riya countriesworld_final'[Literacy (%)])  
2
```

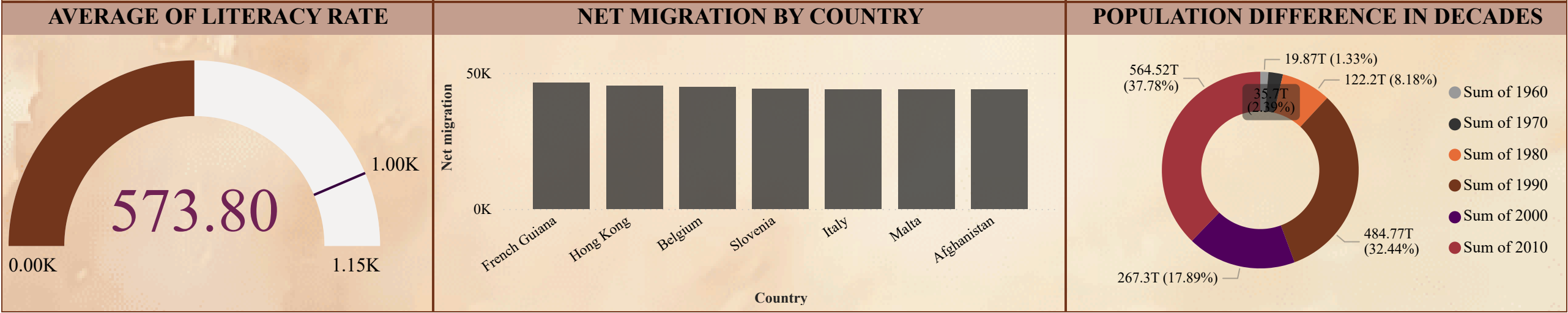
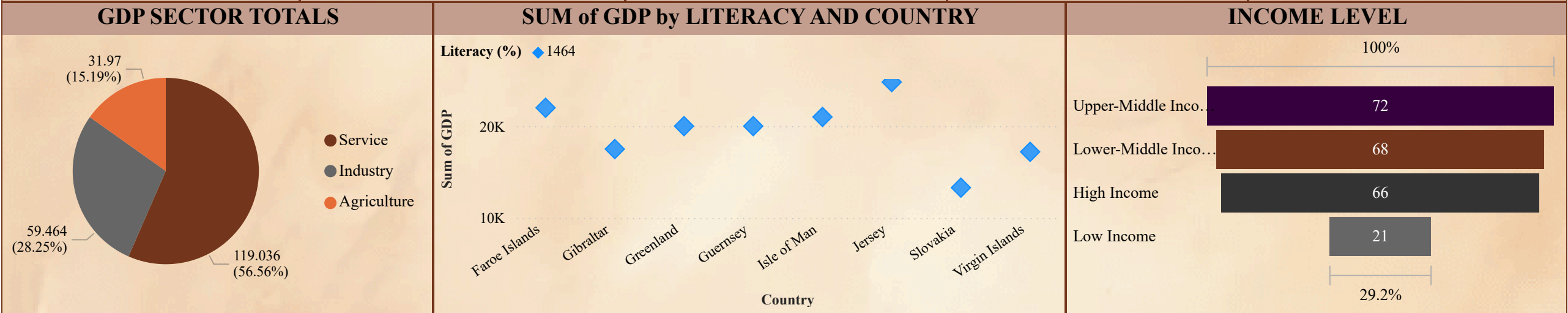
```
1 Infant Mortality StdDev = STDEV.P('riya countriesworld_final'[Infant mortality (per 1000 births)])
```

```
1 Max GDP per Capita = MAX('riya countriesworld_final'[GDP ($ per capita)])
```

```
Avg Agriculture % = AVERAGE('riya countriesworld_final'[Agriculture])
```

GLOBAL ECONOMIC AND DEMOGRAPHIC ANALYSIS

TOTAL COUNTRIES	AVERAGE LITERACY RATE	AVERAGE GDP PER CAPITA	AVERAGE BIRTHRATE	AVERAGE DEATHRATE
225	573.80	9.72K	13.51K	29.15K



KEY INSIGHTS:

1. Global Population Dynamics

- **Countries with highest populations** include China, India, and the United States, showing consistent growth since 1960.
- **Population growth rates** are significantly higher in African and South Asian countries compared to Europe and North America.
- **Low population density** regions include large-area countries like Canada and Australia, despite their size.

2. Economic Strength – GDP Analysis

- **Top GDP per capita countries** include developed nations like Luxembourg, Switzerland, and Norway.
- **Lowest GDP per capita** is observed in Sub-Saharan Africa and conflict-affected countries.
- There is a clear **positive correlation between GDP per capita and literacy rate**
- **High GDP volatility** is seen in oil-dependent economies (e.g., Middle East).

3. Sector Contribution to GDP

- **High-income countries** have a **greater share of GDP from services**, while **low-income countries** rely more on **agriculture**.
- **Industry-heavy countries** (like China and Germany) balance GDP contributions across manufacturing and services.

KEY INSIGHTS:

4. Literacy and Education

- . **Highest literacy rates** are found in Northern and Western Europe, North America, and East Asia.
- . **Low literacy regions** overlap with low-income economies, mostly in Sub-Saharan Africa and parts of South Asia.
- . Countries investing more in **services and education** show better GDP and health indicators.

5. Infant Mortality & Health

- . **Infant mortality** is drastically higher in low-GDP, low-literacy countries.
- . Countries with higher GDP per capita tend to have **lower infant mortality rates**, confirming the importance of economic development in improving healthcare.
- . Over time (from 1960–2016), **most countries have reduced infant mortality**, but the pace varies greatly by region.

6. Regional Insights

- . **South Asia** and **Africa** exhibit rapid population growth but face developmental challenges like low GDP and literacy.
- . **Europe** shows declining birthrates and stagnant population growth but maintains high GDP and strong health indicators.
- . **Middle Eastern countries** show high GDP per capita but often low diversity in GDP sectors (oil-driven).

RECOMMENDATIONS:

1. Strengthen Investment in Education
2. Improve Healthcare Infrastructure
3. Diversify Economies in Resource-Rich Countries
4. Control Population Growth in Rapidly Growing Regions
5. Encourage Urban Infrastructure in Densely Populated Countries
6. Leverage Digital Infrastructure
7. Enhance Data Monitoring and Policy Alignment

CONCLUSION:

Global data reveals strong links between population, economy, education, and health.

High-income countries show high GDP per capita, strong literacy rates, and low infant mortality.

Low-income countries face challenges with rapid population growth and poor health outcomes.

Literacy and GDP have a **positive correlation** — education drives economic growth.

Infant mortality and GDP show a **negative correlation** — better economies support better healthcare.

Service-oriented economies tend to be more prosperous and stable than agriculture-dependent ones.

**THANK YOU EVERYONE
FOR YOUR PATIENCE**