

# Gender Inequality Index

## Project 1 — Data Analysis Report

Tool: MySQL Workbench · Dataset: Kaggle — Gender Inequality Index · Coverage: 194 Countries, 1990–2021

## Dataset Overview

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### About the Dataset

The Gender Inequality Index (GII) measures the gap in equality between men and women across 194 countries. A higher GII score indicates greater inequality; a lower score indicates greater equality. The dataset spans 31 years, from 1990 to 2021, enabling long-term trend analysis.

### Key Columns

- **Country & Continent:** Geographic identifiers for each record
- **GII Rank:** Countries ranked from highest to lowest gender inequality
- **Human Development Group (HDG):** Reflects a country's financial standing, literacy/education levels, and life expectancy — classified as Low, Medium, High, or Very High
- **GII Values (1990–2021):** Annual gender inequality scores used to track progress over time

### Analysis Approach

The dataset was imported into MySQL Workbench and analyzed across 7 targeted queries, each designed to answer a specific business or social question about gender inequality globally.

## Query 1: Countries with the Highest Gender Inequality (2021)

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*Objective: Identify the 10 countries with the largest gender inequality gap in 2021.*

### Findings

The following 10 countries recorded the highest Gender Inequality Index scores in 2021:

- Papua New Guinea
- Central African Republic
- Mauritania
- Tonga
- Guinea
- Ivory Coast
- Mali
- Niger
- Gambia
- Benin

### Key Patterns

- **Geographic concentration:** 9 of the 10 countries are located in Africa. Tonga (Oceania) is the sole exception.
- **Human Development breakdown:**
  - 60% classified as Low HDG — low literacy, poor financial conditions, short life expectancy
  - 30% classified as Medium HDG
  - 10% classified as High HDG (Tonga, Oceania)

**Key Takeaway:** The highest gender inequality is heavily concentrated in Sub-Saharan Africa and closely linked to low human development. Countries with the least resources tend to also have the greatest gender gaps, suggesting inequality and underdevelopment are deeply intertwined.

## Query 2: Countries with the Lowest Gender Inequality (2021)

*Objective: Identify the 10 countries closest to gender equality in 2021.*

### Findings

The following 10 countries recorded the lowest Gender Inequality Index scores in 2021:

- Denmark
- Norway
- Switzerland
- Sweden
- Netherlands
- Finland
- Singapore
- Iceland
- Luxembourg
- Belgium

### Key Patterns

- **Geographic concentration:** 90% of the most gender-equal countries are located in Europe. Singapore (Asia) is the only exception.
- **Human Development Group:** 100% of these countries are classified as High HDG — strong education systems, high life expectancy, and financial stability.
- **Notable contrast with Query 1:** The divide is stark — the most unequal countries are almost entirely African and Low HDG, while the most equal are almost entirely European and High HDG.

**Key Takeaway:** Gender equality is strongly associated with high human development. European nations dominate the top performers, suggesting that education, economic stability, and institutional investment play a critical role in closing the gender gap.

## Query 3: Average Gender Inequality Index by Continent (2021)

*Objective: Identify which continents have the highest and lowest average GII scores in 2021.*

### Findings — Ranked Most to Least Unequal

- **1st (Most Unequal):** Africa
- **2nd:** Oceania

- **3rd:** America
- **4th:** Asia
- **5th (Most Equal):** Europe

#### **Key Patterns**

- **Africa leads in inequality** at the continental level, consistent with Query 1 findings at the country level.
- **Europe is the most gender-equal continent**, consistent with it dominating the lowest GII country rankings.
- **Asia sits in the middle**, reflecting significant internal variation — from high-equality Singapore to much higher-inequality nations elsewhere.

**Key Takeaway:** Continental averages reinforce the country-level findings. Africa and Oceania face the greatest systemic gender inequality challenges, while Europe leads as the most equal region globally. The Americas and Asia occupy the middle ground with considerable internal diversity.

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## **Query 4: Global Gender Inequality Trend (1990–2021)**

**Objective:** Track how the global average GII score has changed over 31 years at 10-year intervals.

#### **Findings**

- **1990:** 0.488 average GII
- **2000:** 0.438 average GII — 10.25% improvement from 1990
- **2010:** 0.374 average GII — 14.60% improvement from 2000
- **2021:** 0.322 average GII — 13.90% improvement from 2010

#### **Overall Progress**

- **Total improvement 1990–2021:** 34.0% reduction in the global gender inequality index
- **Trend direction:** Consistent and sustained improvement across all three decades
- **Pace of improvement:** The fastest gains were recorded in the 2000–2010 decade (14.6%), suggesting this period saw the most accelerated progress globally

**Key Takeaway:** Global gender inequality has declined by 34% over 31 years — a meaningful and consistent improvement. However, a GII of 0.322 in 2021 still indicates significant inequality remains worldwide, and progress must continue to accelerate to achieve true equality.

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## **Query 5: Countries with the Greatest GII Improvement (1990–2021)**

**Objective:** Identify the 10 countries that made the most progress in reducing gender inequality over 31 years.

#### **Top 10 Most Improved Countries**

- **1st:** United Arab Emirates — 92.6% improvement (highest)
- Maldives
- Turkey
- Chile

- Morocco
- Tunisia
- North Macedonia
- Estonia
- Kuwait
- **10th:** Pakistan — 34.2% improvement (lowest among the top 10)

### Key Patterns

- **Group average improvement:** 58.45% across all 10 countries
- **Continental breakdown:**
  - 50% from Asia
  - 20% from Africa
  - 20% from Europe
  - 10% from America (Chile)
- **UAE stands out** with a 92.6% improvement — by far the single greatest national transformation in gender equality over the period.

**Key Takeaway:** The countries that improved the most are predominantly from Asia and Africa — regions that started from a higher base of inequality and had more ground to gain. The UAE's exceptional improvement reflects major policy-driven social reform. This shows that significant change is achievable in a single generation when there is political will and investment.

## Query 6: African Country Deep Dive — HDG vs Inequality Level (2021)

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**Objective:** Analyze 15 African countries by combining Human Development Group and GII level to assess how development correlates with inequality.

### Findings by Human Development Group

- **Very High HDG (1 of 15 countries):**
  - 1/1 has a Medium Inequality Level
- **High HDG (4 of 15 countries):**
  - 3/4 have a Medium Inequality Level
  - 1/4 has a Low Inequality Level — that country is Tunisia
- **Medium HDG (7 of 15 countries):**
  - 3/7 have a High Inequality Level
  - 4/7 have a Medium Inequality Level
- **Low HDG (3 of 15 countries):**
  - 2/3 have a High Inequality Level
  - 1/3 has a Medium Inequality Level

### Key Patterns

- **Clear correlation:** As Human Development Group decreases, Inequality Level increases
- **Tunisia is notable:** The only African country in this sample with both High HDG and Low Inequality — an outlier and a model for the continent
- **Low HDG = High Inequality** in 2 out of 3 cases, confirming the link between underdevelopment and gender disparity

**Key Takeaway:** Within Africa, human development level is a strong predictor of gender inequality. Countries with higher education, longer life expectancy, and stronger economies consistently show lower inequality. Tunisia emerges as a standout success story on the continent.

## Query 7: Global Distribution of Inequality Levels

**Objective:** Categorize all countries with complete data into Low, Medium, and High inequality groups to understand the global distribution.

### Findings

128 of 194 countries had complete data across all required columns and were included in the analysis.

- **Low Inequality:** 57 countries (44.5% of analyzed)
- **Medium Inequality:** 42 countries (32.8% of analyzed)
- **High Inequality:** 29 countries (22.7% of analyzed)

### Key Patterns

- **Majority of countries (44.5%) fall in the Low Inequality category**, which is an encouraging sign of global progress.
- **Data completeness is a limitation:** 66 countries (34%) lacked complete data and could not be included. The true global distribution may differ, particularly if missing countries skew toward higher inequality.
- **High Inequality remains a significant challenge:** Nearly 1 in 4 fully analyzed countries still falls in the High Inequality category.

**Key Takeaway:** While most countries with complete data show Low or Medium inequality, the 29 high-inequality countries represent a concentrated and persistent challenge. The missing data from 66 countries also warrants caution in interpreting the global picture — data gaps themselves may reflect institutional weaknesses correlated with inequality.

## Conclusion & Strategic Insights

### Global Trends

- Gender inequality has declined by 34% globally between 1990 and 2021 — demonstrating that sustained progress is possible
- The 2000–2010 decade saw the fastest rate of improvement, suggesting a period of concentrated global effort and policy effectiveness
- Despite progress, a GII of 0.322 in 2021 confirms that meaningful inequality persists and requires continued focus

### Regional Patterns

- Africa has the highest continental gender inequality, driven by low human development, limited education access, and financial instability
- Europe is the most gender-equal continent, with all top performers sharing High HDG status
- Asia shows the most internal variation — from world leaders like Singapore to significant improvers like the UAE and Maldives

## **Key Correlations**

- Human Development Group is the strongest predictor of gender inequality — High HDG countries consistently show Low GII scores
- Countries with low literacy, poor financial conditions, and short life expectancy face the most severe gender gaps
- The UAE demonstrates that rapid improvement is achievable through deliberate policy reform, even from a high inequality baseline

## **Data Considerations**

- 66 of 194 countries lacked complete data, limiting the scope of the global distribution analysis (Query 7)
- Future analysis should investigate why data is missing and whether those gaps are themselves correlated with inequality levels

— *End of Project 1 Analysis Report* —