

Demonstration of the HRMI/SERF Economic & Social Rights Calculator

HRMI=Human Rights Measurement Initiative/
SERF=Social & Economic Rights Fulfillment Index

**NOTE: The example uses images and results from the 2020 calculator.
Results using the 2021 calculator will be slightly different.**

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Calculator Purpose

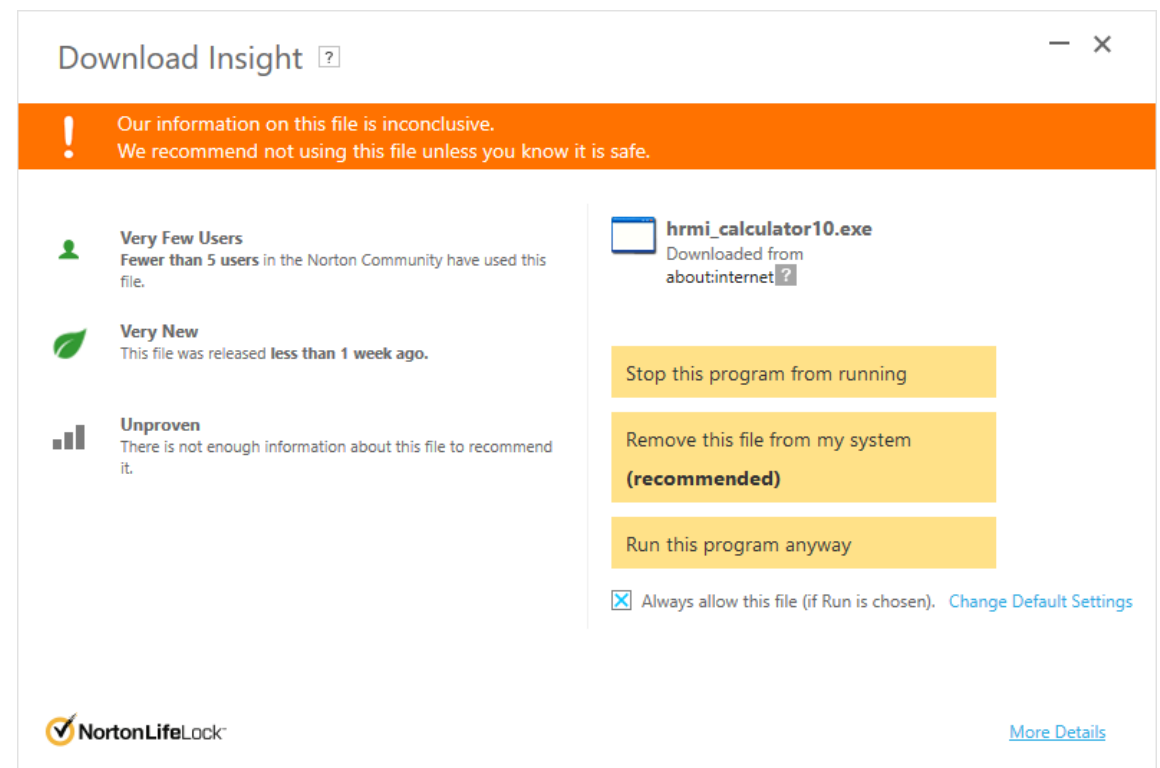
- The goal is to help human rights advocates produce data analyses like those used by www.RightsTracker.org and www.SERFindex.org.
- These analyses measure **how well a nation's government is meeting its obligations to fulfill economic and social rights**.
- These rights are prescribed in the International Covenant for Economic, Social, and Cultural Rights (ICESCR).
- Almost every nation has ratified the ICESCR.

Data & Computer Resources Needed

- The Human Rights Advocate must have **data** ...
 - .. about a specific social group or population (in a particular country)
 - .. from a known year.
 - .. that is **measured in a manner consistent with the indicators used on Rights Tracker.** (The calculator also describes these measurement procedures.)
- Computer Resources
- The calculator app requires a Windows computer
 - With Windows version 7 or higher
 - With 256Mb of system memory and 150Mb of disk space
 - 1024 x 768 color monitor or better
- An attached printer is desirable

Downloading & Extracting the HRMI_Calculator.exe file

- It will be in a zip file that you download to your computer.
- The calculator will be in a folder with **other files that must be with it before the calculator will run.**
- When you open the folder on your computer, your virus checker may warn you about running .exe files from the Internet (or it may quarantine the file without telling you and you may have to find and retrieve it).
- Windows may also warn you. Click the “More Info” and then “Run Anyway.”
- These options may not work on public computers.



Calculator Features

Navigation Buttons

Select the indicator you are using

Indicator must be picked before you can use these buttons

For more information

The screenshot shows the HRMI_Calculator web application. The navigation bar at the top contains several buttons: 'Introduction' (orange), 'List of Indicators' (red border), 'Full Definition of Indicator' (blue border), 'Input of Indicator Data' (blue border), 'Calculator Results' (blue border), 'Economic & Social Rights' (blue border), 'Methodology Appendix' (blue border), 'Credits' (blue border), and a green 'Print' button. Four callout boxes are present: a green box labeled 'Navigation Buttons' pointing to the navigation bar; a red box labeled 'Select the indicator you are using' pointing to the 'List of Indicators' button; a dark blue box labeled 'Indicator must be picked before you can use these buttons' pointing to the 'Full Definition of Indicator', 'Input of Indicator Data', and 'Calculator Results' buttons; and a light blue box labeled 'For more information' pointing to the 'Economic & Social Rights', 'Methodology Appendix', and 'Credits' buttons.

Calculator for HRMI's Economic & Social Rights Metrics

This calculator produces useful statistics for human rights advocates. It assesses how well a selected country's government is meeting its human rights obligations for a particular population subgroup. The user must have the subgroup's value on an indicator related to economic and social rights, e.g., child survival or school enrolment rates. Only very specific indicators can be used. They are given in the "List of Indicators" section of the calculator and are the same as those used in the [SERF Index](#) and HRMI's [Rights Tracker](#).

The calculator methodology has won recognition from the Human Rights Section of the American Political Science Association in 2016 and received the [2019 Grawemeyer Award for Ideas Improving World Order](#). This methodology compares the subgroup's indicator value to other key statistics. One statistic is the best performance on the indicator among countries with the **same** resources as the selected country. This provides an achievable benchmark for the country. It yields a measure of the government's level of success or failure in providing the right aspect measured by the indicator. The calculator gives other useful comparisons.

Newcomers to "Economic and Social Rights" should click that button above. A quick overview on the calculator is given in the "UsingTheCalculator.mp4" video, which should have been in the zipped folder with the calculator. The Appendix gives a thorough, but technical, explanation of the methodology. HRMI also provides [methodology resources](#).

Illustrative Application*

- **Indicator:** Adult Survival Rate (% of 15-year-olds living to age 60)
- **Population or subgroup:** Maori (indigenous group of New Zealand)
- **Indicator score:** 84.71%
- **Country:** New Zealand
- **Year of data:** 2017
- **Useful, but optional information:** In 2017 there were **14,100** 15-year-old Maori. This will be used with the *Performance Shortfall* metric.

* Special thanks to Paddy Baylis for this example.

Selecting the Indicator

- Click on the “List of Indicators” button to get this screen.
- These are the indicators used by RightsTracker.org and SERFindex.org.
- Full descriptions of measurement procedures are given when you click on the short description.
- Our example uses the Adult Survival indicator.

The screenshot shows the HRMI_Calculator application window. At the top, there is a navigation bar with buttons: Introduction, List of Indicators (highlighted in orange), Full Definition of Indicator, Input of Indicator Data, Calculator Results, Economic & Social Rights, Methodology Appendix, Credits, and Print. Below the navigation bar, the title 'List of Available Indicators' is displayed in a large, bold, dark blue font. A green-bordered box contains a note: 'Short descriptions of the available indicators are given below. Scroll through the list and click on any one for its full definition. **This calculator gives accurate results only if your data on the population subgroup was collected in a manner consistent with the full definition.**' Below this, a list of indicators is shown in a scrollable area. The indicator '% Adult Survival (with total & sex subgroups)' is highlighted with a red rectangular box. A red arrow points from the text 'Our example uses the Adult Survival indicator.' in the list on the left to this highlighted indicator in the screenshot.

HRMI_Calculator

Introduction List of Indicators Full Definition of Indicator Input of Indicator Data Calculator Results Economic & Social Rights Methodology Appendix Credits Print

List of Available Indicators

Short descriptions of the available indicators are given below. Scroll through the list and click on any one for its full definition. **This calculator gives accurate results only if your data on the population subgroup was collected in a manner consistent with the full definition.**

- % Net Secondary School Enrolment
- % Net Primary School Enrolment
- % PISA Science Level 3+
- % PISA Math Level 3+
- % PISA Reading Level 3+
- % Children Not Stunted
- % People Food Secure
- % Adult Survival (with total & sex subgroups)**
- % Children Surviving to Age 5 (with total & sex subgroups)
- % Using Modern Contraception
- % Infants Not Low Birth Weight
- % People with Water on Premises
- % People with Access to Basic Sanitation
- % People Using Safely Managed Sanitation
- % People in Lowest Income Quintile with Affordable Housing
- % People above the Relative Poverty Line (50% of median income)
- % People above Absolute Poverty (\$3.20/day 2011 PPP\$)
- % Of Unemployed Not Long Term (> 1 year) Unemployed
- GDP per Capita in 2011 PPP Dollars (FYI, only used in calculations)

Data Check & Indicator Features

- Your data should be consistent with this info.
- If not, the calculator results will be misleading.
- This indicator is part of the **Right to Health** among the social and economic rights.
- It is used to evaluate both High and Low+Middle income nations.
- Clicking this button will start data entry process, after 1 or 2 screening questions.

The screenshot shows a web application titled "HRMI_Calculator". It has a navigation bar with buttons: "Introduction", "List of Indicators", "Full Definition of Indicator" (highlighted in orange), "Input of Indicator Data", "Calculator Results", "Economic & Social Rights", "Methodology Appendix", "Credits", and "Print".

Full Description of Selected Indicator

% Adult Survival (combined and sex subgroups)
(1000 - Adult Mortality Rate)/10 where Adult mortality rate, is the rate per 1000 dying between the ages of 15 and 60. This gives the probability of a 15-year-old reaching age 60, if subject to age-specific mortality rates of the specified year between those ages.

Right: Health

Assessment_Standard*: Both low and middle income and high income

*There are two Assessment Standards: the Low & Middle Income country assessment standard and the High Income country assessment standard. The indicators used in a particular Right may vary by assessment standard.

A red arrow points from the text "Clicking this button will start data entry process..." to a large dark blue button with white text that says "Enter Data for this Indicator".

Data Input Screen

- The data input starts with country selection, then year, description of group, and indicator value.
- These are presented sequentially from the top down.
- Clicking “Submit Data” button takes you to the Results.
- Later you can return to this screen to change any input **for this indicator**.

The screenshot shows the 'HRMI_Calculator' application window. At the top is a navigation bar with buttons: 'Introduction', 'List of Indicators', 'Full Definition of Indicator', 'Input of Indicator Data' (highlighted in orange), 'Calculator Results', 'Economic & Social Rights', 'Methodology Appendix', 'Credits', and 'Print' (highlighted in green). The main content area is titled 'Data Input for % Adult Survival (combined sexes)'. It contains several sections: 1. A 'Start by selecting your country ==>' instruction with a text box stating 'Your chosen country is New Zealand. For year 2017 the GDP/capita was 36046.' and a dropdown menu showing a list of countries (Nepal, Netherlands, New Caledonia, New Zealand, Nicaragua) with 'New Zealand' selected. 2. A 'Briefly describe in the box the social group whose statistic you will input, e.g., village name or ethnic group. ==>' instruction with a text box containing 'Maori indigenous group'. 3. A 'Put the indicator value for your group in the box on the right. Only use numbers and decimal point. No "%". For example, 56.4% should be entered as "56.4"; Not "56.4%" or ".564".' instruction with a text box containing '84.71'. 4. Two buttons at the bottom: 'Submit Data' (highlighted in orange) and 'Reset Data Entry' (highlighted in orange).

Results Overview

- The results are presented in 3 ways described here.
- Navigate between these ways with the three orange buttons.
- We will start with the “Explanations & Applications.”

The screenshot shows the HRMI_Calculator application window. At the top, there is a navigation bar with buttons for Introduction, List of Indicators, Full Definition of Indicator, Input of Indicator Data, Calculator Results, Economic & Social Rights, Methodology Appendix, and Credits. Below this, a secondary navigation bar contains three orange buttons: Concise Summary, Graphic Summary, and Explanations & Applications, connected by double-headed arrows. A red rectangle highlights these three buttons, and a red arrow points from the text 'We will start with the “Explanations & Applications.”' to the 'Explanations & Applications' button. The main content area is titled 'Overview of Results Summaries' and contains three paragraphs of text explaining the different summary options.

HRMI_Calculator

Introduction List of Indicators Full Definition of Indicator Input of Indicator Data Calculator Results Economic & Social Rights Methodology Appendix Credits

Concise Summary ↔ Graphic Summary ↔ Explanations & Applications

Overview of Results Summaries

If you are new to the calculator and its statistical results, you should start with the **"Explanations & Applications."** Your input data is first presented. After that each calculated statistic is explained, then applied with your input data in a summary statement. The Print option for that page can print explanations and applications or just the applications.

The **"Concise Summary"** does just what it says. If you know how to interpret the calculator's statistics, this would be useful for record keeping, especially if doing multiple groups or indicators.

The **"Graphic Summary"** produces two graphs modeled on those given at www.RightsTracker.org. The graph for the *Income Adjusted Score* shows the government's performance, where 100% means the government is performing at the highest level observed for any **country with similar resources**. The *Global Best Score* is similar, but 100% means performing at the best rate observed **in any country**, regardless of resources. In both graphs a 0% score means the government has not helped increase performance on this indicator.

Explanations & Applications

- This scrolling window gives three sets of information.

1. Your input data info
2. The GDP per capita for the country and year from the calculator's database
3. A set of calculated metrics, which are explained then applied to the input data; See the next slide for the first calculated metric.

The screenshot shows the HRMI_Calculator application window. At the top, there is a navigation bar with buttons for 'Introduction', 'List of Indicators', 'Full Definition of Indicator', 'Input of Indicator Data', 'Calculator Results', 'Economic & Social Rights', 'Methodology Appendix', 'Credits', and 'Print'. Below this, there are three main sections: 'Concise Summary', 'Graphic Summary', and 'Explanations & Applications', connected by double-headed arrows. The 'Explanations & Applications' section is currently selected and displays the following content:

EXPLANATION & APPLICATIONS for Advocates

THE INFORMATION YOU PROVIDED

Short name of Indicator: % Adult Survival (combined sexes).
This indicator measures one aspect of the Right to Health in both Assessment Standard(s)*.
Indicator data are for "Maori indigenous group."
Sex composition of subgroup: Combined_sexes.
Subgroup lives within New Zealand.
Data are from year 2017.
The indicator value in the subgroup is 84.71% and gives the percent that are able to live to age 60 or better among the population that is age 15.

*There are two Assessment Standards: one most relevant for Low and Middle income countries (LMY) and one most relevant for High income countries (HiY). The indicators included in a particular right score, e.g., education, will differ between the assessment standards. The Assessment Standard an indicator belongs to is given on the *Full Definition of Indicator* page.

CALCULATOR DATA

The GDP/capita for New Zealand in 2017 is \$36046/capita. This is measured in a manner that is comparable across countries and over time. It is HRMI's measure of a country's resources for meeting its human rights obligations.

Calculated Metrics - 1

- The first metric, *Income Adjusted Benchmark*, is explained here.
- Then applied to the input data.
- The Print button can print all explanations & applications or just the applications.
- *Performance shortfall* metric is on the next slide.

The screenshot shows the HRMI_Calculator application window. At the top, there is a navigation bar with buttons for 'Introduction', 'List of Indicators', 'Full Definition of Indicator', 'Input of Indicator Data', 'Calculator Results' (highlighted in orange), 'Economic & Social Rights', 'Methodology Appendix', 'Credits', and 'Print' (highlighted in green). Below this, there are three orange buttons: 'Concise Summary', 'Graphic Summary', and 'Explanations & Applications', connected by double-headed arrows. The main content area is titled 'EXPLANATION & APPLICATIONS for Advocates' and contains a section titled 'CALCULATED METRICS'. This section includes the 'Income Adjusted Benchmark' explanation, which states that countries with the same GDP/capita have different values on % Adult Survival, and defines the benchmark as an achievable goal. It then provides an example for New Zealand: '=> Given the GDP/capita of \$36046 in New Zealand, the Income Adjusted Benchmark for % Adult Survival (combined sexes) is 95.4%. If New Zealand used its resources efficiently and fairly, it should be able to reach this indicator value in all subgroups within the country.' Below this is the 'Performance Shortfall' section, which explains that most countries have indicator values lower than the benchmark, and the difference is the performance shortfall, calculated as the benchmark minus the indicator value.

HRMI_Calculator

Introduction List of Indicators Full Definition of Indicator Input of Indicator Data Calculator Results Economic & Social Rights Methodology Appendix Credits Print

Concise Summary ↔ Graphic Summary ↔ Explanations & Applications

EXPLANATION & APPLICATIONS for Advocates

CALCULATED METRICS

Income Adjusted Benchmark:
Countries with the **same GDP/capita** have widely different values on % Adult Survival (combined sexes). The value in the best performing countries define what should be possible at this GDP/capita level. This value is called the **Income Adjusted Benchmark**. It gives an achievable goal if the country uses its GDP/capita resources efficiently and fairly. Since this is a national benchmark, it applies to all population groups within the nation.

=> Given the GDP/capita of \$36046 in New Zealand, the *Income Adjusted Benchmark* for % Adult Survival (combined sexes) is 95.4%. If New Zealand used its resources efficiently and fairly, it should be able to reach this indicator value in all subgroups within the country.

Performance Shortfall:
Most countries have indicator values that are lower than the *Income Adjusted Benchmark*. The difference is called the **Performance Shortfall**. It is calculated as the *Income Adjusted Benchmark* minus the indicator value. It gives the increase (or decrease if the shortfall is

Calculated Metrics - 2

- Performance Shortfall Explanation
- Application to our data will always be in terms of **percent** change.
- BUT if the **number** in the reference group (# of 15 year olds) is known, the percent can be changed to the **number** gaining the right. **Hypothetical** 50,000 is used here.
- See next slide for **our data**.

The screenshot shows the HRMI_Calculator application window. The top navigation bar includes buttons for Introduction, List of Indicators, Full Definition of Indicator, Input of Indicator Data, Calculator Results (highlighted in orange), Economic & Social Rights, Methodology Appendix, Credits, and Print. Below this is a secondary bar with Concise Summary, Graphic Summary, and Explanations & Applications (highlighted in orange). The main content area is titled 'EXPLANATION & APPLICATIONS for Advocates' and contains the following text:

Most countries have indicator values that are lower than the *Income Adjusted Benchmark*. The difference is called the **Performance Shortfall**. It is calculated as the *Income Adjusted Benchmark* minus the indicator value. It gives the increase (or decrease if the shortfall is negative) in the indicator value that could be achieved for that subgroup if the country used its resources **efficiently and fairly**.

=>If New Zealand was using its resources efficiently and fairly, 10.69 percent more of the population that is age 15 in "Maori indigenous group" would be able to live to age 60 or better.

Possible Application of the *Performance Shortfall*:

=>If you know the **number of people** who are: population that is age 15 in "Maori indigenous group," you can calculate the **number of additional people** in "Maori indigenous group" who could be able to live to age 60 or better. For example, say this number was 50,000, then $50000 \times 0.107 = 5350$ and you could state:

=>If New Zealand were using its resources efficiently and fairly, 5350 more of the population that is age 15 in the "Maori indigenous group" would be able to live to age 60 or better. (This illustration assumes there are 50,000 population that is age 15 in "Maori indigenous group.")

Three colored arrows point from the text on the left to the application text in the screenshot: a red arrow from 'Performance Shortfall Explanation' to the first paragraph, a green arrow from 'Application to our data will always be in terms of percent change' to the second paragraph, and a blue arrow from 'Hypothetical 50,000 is used here' to the example calculation in the third paragraph.

Using the Performance Shortfall for our example

- (NOTE: Results with 2021 calculator will be slightly different.)
- Performance Shortfall as a **percent**: 10.69% **more** of the Maori 15 year-olds would live to age 60 if they had the Adult Survival rate that New Zealand could provide to all.
- How **many** 15 year-olds would be in this increase of 10.69%?
- In our example we actually know the number of 15 year-old Maori in 2017 = 14,100: 10.69% of 14,100 is $.1069 \times 14,100 = 1,507$.
- 1,507 additional 15 year-old Maori would live to 60 if the Maori population achieved the adult survival rate possible with the resources available in New Zealand in 2017.

Calculated Metrics - 3

- *Income Adjusted Score (IAS)*:
 - Assesses **government** performance..
 - 0% = no contribution above *natural minimum*
 - 100%= best possible, **given its resources**
 - Can be combined with the IAS of other indicators
 - Can compare to other country's IAS
- Application of IAS to our data
- The calculator explains additional metrics not shown in this slide show.

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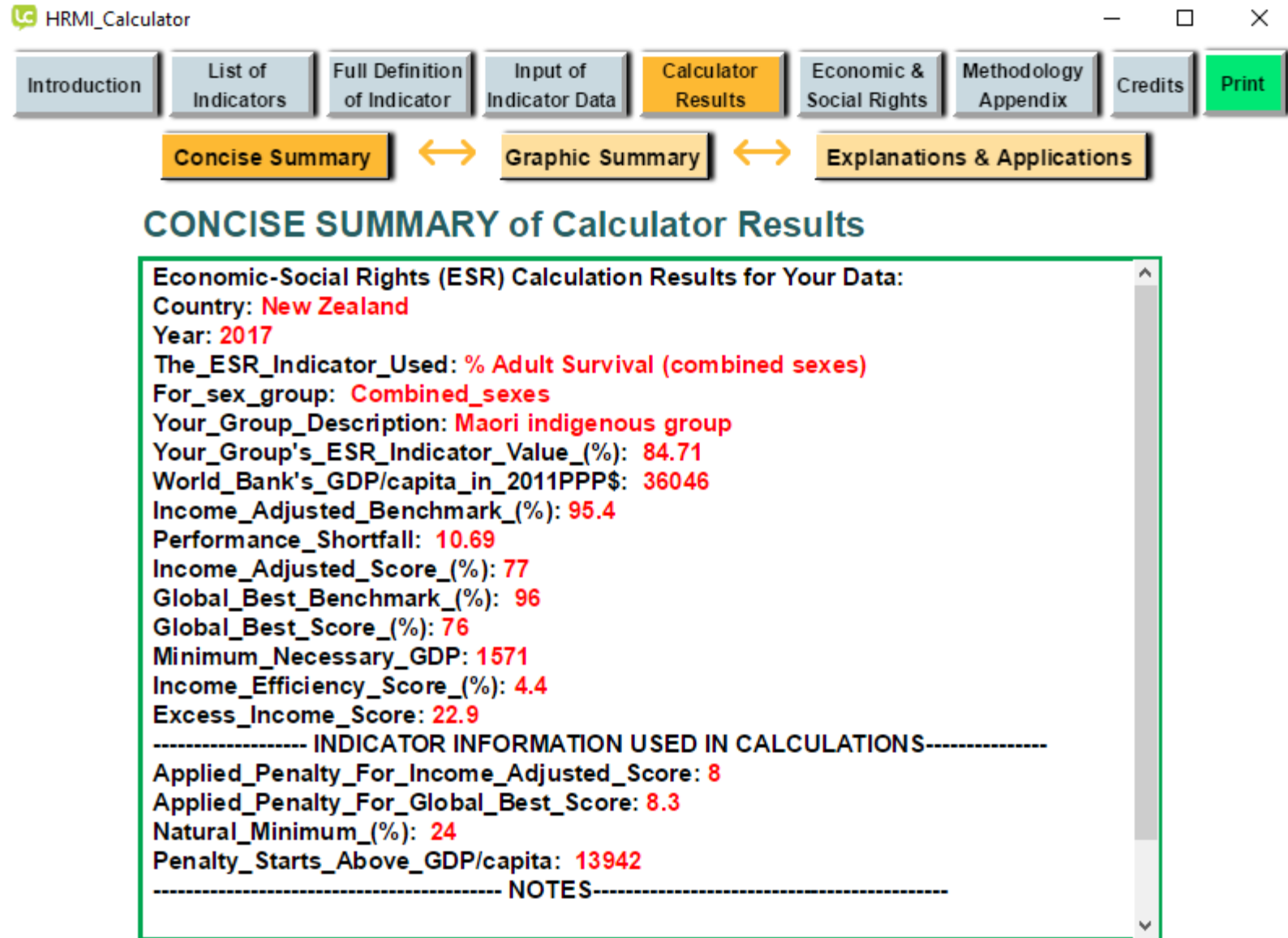
EXPLANATION & APPLICATIONS for Advocates

Income Adjusted Score (IAS):
The most important metric is the *Income Adjusted Score (IAS)*. It assesses the **government's** performance on the indicator. *IAS* scores always range between 0% and 100%. When *IAS* =100%, the observed indicator is at the *Income Adjusted Benchmark*. That is, the country is doing as well as the best performing countries **with a similar GDP/capita level**. When *IAS*=0%, it means the indicator value is at the lowest value of the indicator observed in any country over the past few decades. This lowest value is called the **Natural Minimum** and reflects what would occur without government efforts to raise the country's performance on the indicator. Since the *IAS* considers a country's current resources, every country should be able to reach 100% on the *IAS*. Scores less than 100% reflect levels of government failure. Since the *IAS* also considers the *Natural Minimum* of the indicator, one can compare *IAS* scores on different indicators to assess where government performance is stronger or weaker. Most important: *IAS* scores can be used to compare the government performance of different countries and on different indicators.

=>For New Zealand the *Income Adjusted Benchmark* on this indicator is 95.4%.
=>For % Adult Survival (combined sexes) the *Natural Minimum* is 24%.
=>The *Income Adjusted Score* is 77%. This means the government is achieving 77% of its current potential on % Adult Survival (combined sexes) for "Maori indigenous group".

Concise Summary Page

- Lists your input
- Displays all the calculated metrics
- And related components
- And any notes about the calculations
- Print it for record keeping

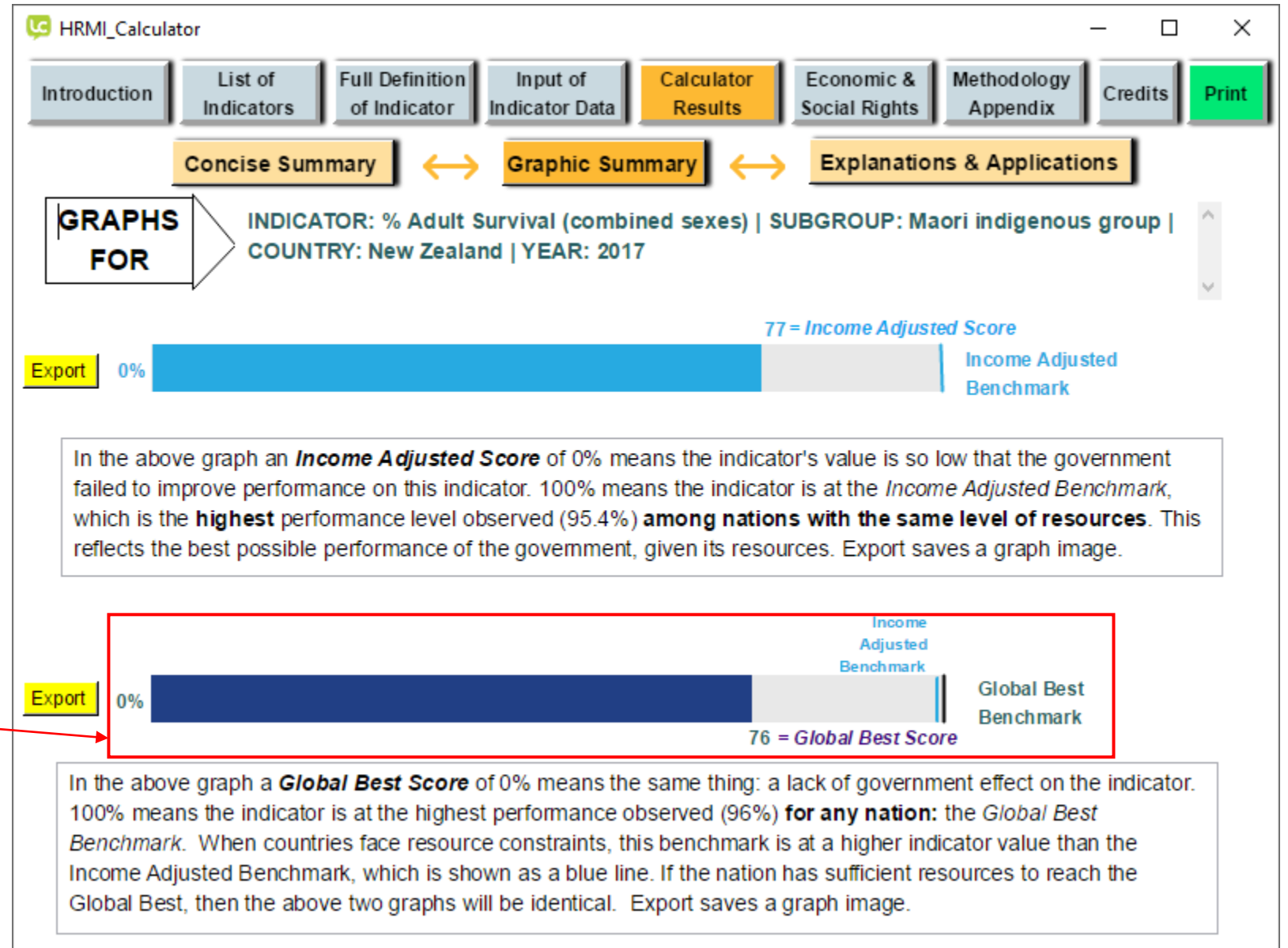


The screenshot shows a web application titled "HRMI_Calculator". At the top, there is a navigation bar with buttons for "Introduction", "List of Indicators", "Full Definition of Indicator", "Input of Indicator Data", "Calculator Results" (which is highlighted in yellow), "Economic & Social Rights", "Methodology Appendix", "Credits", and "Print". Below this bar, there are three main sections: "Concise Summary" (highlighted in yellow), "Graphic Summary", and "Explanations & Applications", connected by double-headed arrows. The "Concise Summary" section is titled "CONCISE SUMMARY of Calculator Results" and contains the following text:

Economic-Social Rights (ESR) Calculation Results for Your Data:
Country: **New Zealand**
Year: **2017**
The_ESR_Indicator_Used: **% Adult Survival (combined sexes)**
For_sex_group: **Combined_sexes**
Your_Group_Description: **Maori indigenous group**
Your_Group's_ESR_Indicator_Value(%): **84.71**
World_Bank's_GDP/capita_in_2011PPP\$: **36046**
Income_Adjusted_Benchmark(%): **95.4**
Performance_Shortfall: **10.69**
Income_Adjusted_Score(%): **77**
Global_Best_Benchmark(%): **96**
Global_Best_Score(%): **76**
Minimum_Necessary_GDP: **1571**
Income_Efficiency_Score(%): **4.4**
Excess_Income_Score: **22.9**
----- INDICATOR INFORMATION USED IN CALCULATIONS-----
Applied_Penalty_For_Income_Adjusted_Score: **8**
Applied_Penalty_For_Global_Best_Score: **8.3**
Natural_Minimum(%): **24**
Penalty_Starts_Above_GDP/capita: **13942**
----- NOTES-----

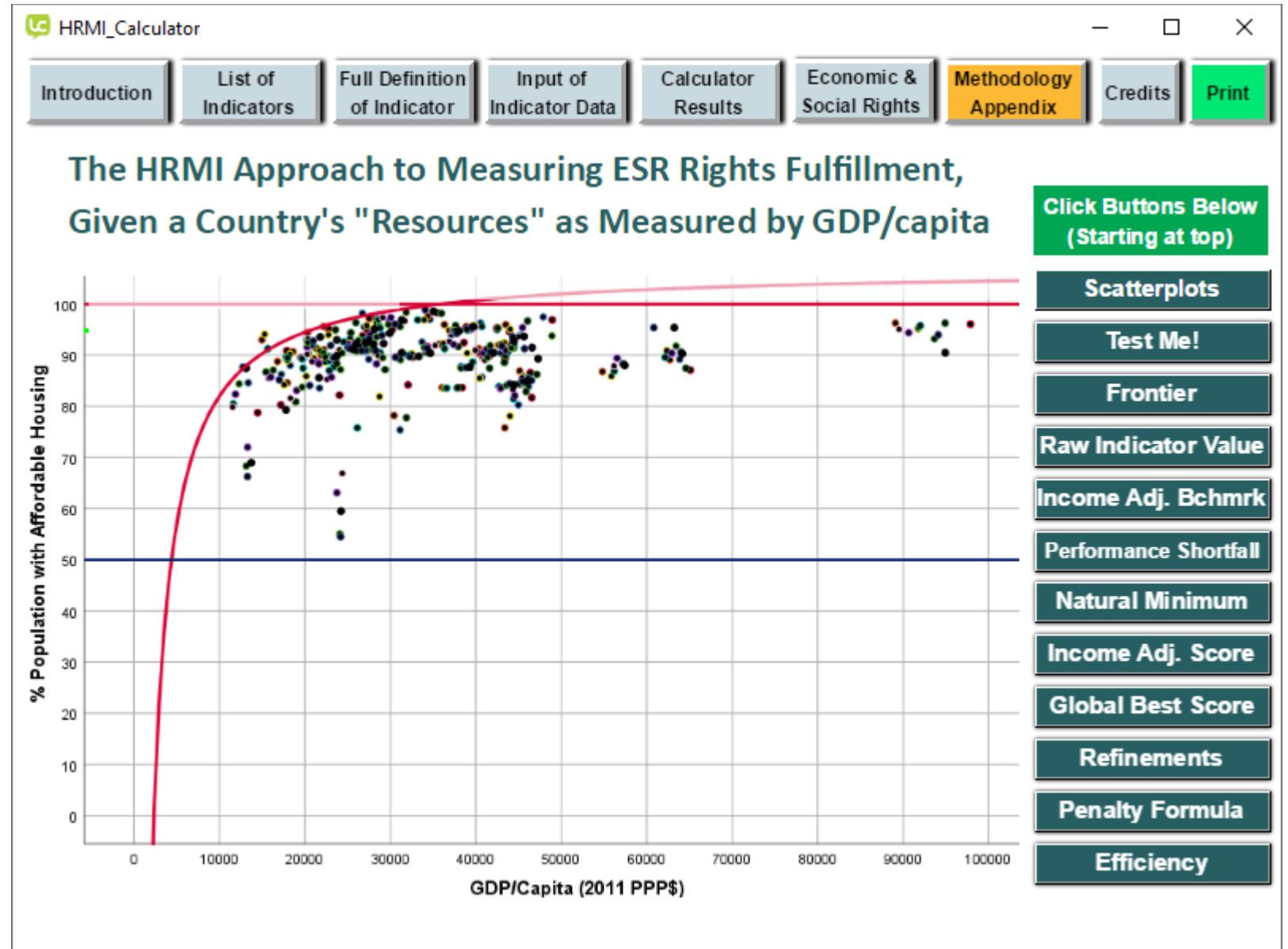
Graphic Summary

- Graphs are similar to RightsTracker.org
- Print button does the whole page
- Export buttons make png file of the graph, but only this part
- So your graph filename should indicate key aspects of your data input, e.g., group, year, indicator, etc.



Methodology Appendix

- Explains all metrics using a scatterplot
- It gets technical, sorry.
- Click buttons from top
- Each pops up text and graphic illustrations
- Print button only prints what is showing



The End

Send comments or questions to
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