Data Storytelling in SDG Reporting

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Example: A soulless infographics

- It does not have a key message.
- It does not have a logical flow.
- It is a collage of facts.
- It is not a data story.

Source: 2020 International Year of Plant Health infographic
Agenda

1. What is data storytelling?
2. What does data storytelling look like in SDG reporting?
3. How to tell data stories in SDG reporting?
Does data speak for itself?

• Data gives the ‘what’, but only humans know the ‘why’ and the ‘so-what’.

• “Numbers are boring, people are interesting. You need to look at the numbers but also understand the lives behind the numbers.” – Hans Rosling
What do scientists say?

Human brain is not a logic processor.
Numbers and facts stimulate the language-processing areas in the human brain.

Human brain is a story processor.
Stories stimulate language-processing areas and areas that help the audience experience the story.

Sources:
• “Your Brain on Fiction”, New York Times
What is data storytelling?

Data storytelling is a multidisciplinary process that combines the results of data analysis with compelling narratives and presents the combination via text and visuals to inform, engage, and influence the audience.

Source: Venngage Data Storytelling Benchmark Report 2021
Data storytelling components

Data
- Collection
- Exploration
- Analysis

Design
- Visualisation
- Creation

Context
- Audience
- Communications goals

Narrative
- Messaging
- Structure
- Language

Source: Venngage Data Storytelling Benchmark Report 2021
Data stories come in many shapes, forms, and sizes

Report
Article
Presentation
Infographics
Chart
Webpage
More
Example: Save the Children report

Source: Save the Children Change for Children 2020 Report
Example: WIPO report

Source: WIPO Technology Trends 2019: Artificial Intelligence
Agenda

- What is data storytelling?
- What does data storytelling look like in SDG reporting?
- How to tell data stories in SDG reporting?
SDG content is dense and heavy by nature.

- Numbers
- Geographies
- Topics
- Terminologies
SDG data stories have a broad audience.

- Media
- Government agencies
- International organisations
- General public
- Civil society
- Businesses
- Academia
- More
How to analyse your audience

Some key questions for audience analysis:

• Who are the audiences?
• How is the data story relevant to the audiences?
• Why do the audiences need the information?
• How will the audiences use the information?
• What role(s) do the audiences play (decision making, influencing, or information gathering)?
• What data is available that would support the storytelling needed by the audiences?
• What do you need your audiences to do with the data story?
• How experienced are the audiences with data and the data story (laymen versus fluent)?
• What do the audiences care about in the data story (microdata, metadata, key figures, key messages, explanatory texts, guidance on how to understand statistics, insights for sharing, or in-depth analyses)?
Data story genres

Informative (Media)

Persuasive (Marketing)

SDG data stories
What are the objectives of data storytelling in SDG reporting?

Immediate objectives

- Present patterns and trends
- Share insights and observations
- Influence perceptions
- Generate actions

Long-term objectives
SDG data storytellers need to bring out the meaning of data for the audience.

Move from **Data analysis** to **Data storytelling**

- Data analysis
  - Bottom-up process
  - Showing data
  - Making sense
  - Finding ‘what’

- Data storytelling
  - Top-down process
  - Telling data stories
  - Making meaning
  - Highlighting “what” and “so-what”
Example: OECD Better Life Index

### Housing

#### Background
Living in satisfactory housing conditions is one of the most important aspects of people’s lives. Housing is essential to meet basic needs, such as shelter, but it is not just a question of four walls and a roof. Housing should offer a place to sleep and rest where people feel safe and have privacy and personal space; somewhere they can raise a family. All of these elements help make a house a home. And of course, there is the question whether people can afford adequate housing.

#### Rooms per person and dwellings with basic facilities
When looking at housing, it is important to examine living conditions, such as the average number of rooms shared per person and whether dwellings have access to basic facilities. The number of rooms in a dwelling divided by the number of persons living there, indicates whether residents are living in crowded conditions. Overcrowded housing may have a negative impact on physical and mental health, relations with others, and children’s development. In addition, dense living conditions are often a sign of inadequate water and sewage supply. In the OECD, the average home contains 1.8 rooms per person. In terms of basic facilities, 95.6% of dwellings across the OECD contain private access to an indoor flushing toilet.

#### Housing expenditure
Housing costs take up a large share of the household budget and represent the largest single expenditure for many individuals and families. By the time you add up elements such as rent, gas, electricity, water, furniture and repairs, in the OECD, households on average spend around 20% of their gross adjusted disposable income on keeping a roof over their heads. The level of housing costs in household budgets varies from 20% in New Zealand and the United Kingdom to 15% in Korea.

#### Top Ranking

<table>
<thead>
<tr>
<th>Housing expenditure</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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#### Indicators

<table>
<thead>
<tr>
<th>Housing expenditure</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

#### Find Out More

- OECD Affordable Housing Database
- The Future of Housing: Policy Sonarise
Example: UN Women infographics

Source: Learn the facts: Rural women and girls | UN Women
Agenda

What is data storytelling?

What does data storytelling look like in SDG reporting?

How to tell data stories in SDG reporting?
How to make SDG materials friendlier to the audience

Keep it simple
- Create a crisp storyline (key message + ≤3 core arguments)
- Write a clear, powerful title
- Minimize the use of jargon
- Use visuals strategically

Bring a perspective
- Present insights identified in the data
- Show “what” and “so-what”
How to locate a story in data

1. Identify trends and patterns
2. Draw comparisons
3. Look for correlations
4. Check on outliers
What is the story?

- **Trends and patterns**: Compare Global 2020 with Global 2000 to highlight progress

- **Comparisons and correlations**: Oceania, Sub-Saharan Africa, and Central and Southern Asia vs. the rest. Why? Are children more vulnerable in these regions hence demand more attention?

- **Outliners**: Oceania is the only region that has higher stunting statistics in 2020 than in 2000. Why?

How to write a data story title

**SMART rule**

- **Specific**
- **Measurable**
- **Action-oriented**
- **Relevant**
- **Time-bound**
A decade of progress in reproductive, maternal and child health could be stalled or reversed by the pandemic. (Source: UN SDG Report 2021 Goal 3)

Global warming of 1.5°C and 2°C will be exceeded during the 21st century. (Source: IPCC | Climate Change 2021: The Physical Science Basis)

Pfizer Vaccine Has 23% Efficacy Vs. Omicron in South African Lab Study (Time, December 12, 2021)
Clear, powerful titles reduce the cognitive load on the audience.

Source: Economist

Source: NY Times
How to write the key message

1. Construct the key message as a big idea
   - What is at stake?
   - What will the future look like?
   - How does it compare with the past situation?
   - Trends and patterns

2. Provide essential information
   - Who
   - What
   - Where
   - When
   - Why
   - How

3. Show the meaning of data
   - Highlight the insights identified in the data
   - Summarize the core statistical finding
A powerful key message with:

- **Insight:**
  
  “… the second (year of the COVID-19 pandemic) has been marked by profound inequalities and a failure of leaders to understand our interconnectedness and act accordingly.”

- **Statistical finding:**
  
  63% of those living in high-income countries had received at least one dose of COVID-19 vaccine. In low-income countries, only 4.5% had received the same.

Source: Global Preparedness Monitoring Board Annual Report 2021
Example: New Yorker article

Source: Mapping New York’s Noisiest Neighborhoods - The New Yorker
How to structure a data story—Inverted Pyramid Model

**Essential Information**
Who, What, When, Where, Why, and How

**Lead**

**Supporting Details**
Quotes, Sources, and supplementary information

**Body**

**Conclusion**
Background and additional information

**End**
Inverted Pyramid example: Gates Foundation Report

Millions More in Extreme Poverty

For many, the economic impacts of the pandemic continue to be severe and enduring. We know we may seem like unlikely messengers on this topic—we’re two of the most fortunate people on the planet. And the pandemic has made that even more clear. People like us have weathered the pandemic in good shape, while those who are most vulnerable have hit the hardest and will likely be the slowest to recover. An additional 31 million people around the world have been pushed into extreme poverty as a result of COVID-19. Although men are 70% more likely to die from COVID-19, women continue to be disproportionately affected by the economic and social impacts of the pandemic: This year, women’s employment globally is expected to remain 13 million jobs below the 2019 level—while men’s employment is largely expected to recover to pre-pandemic rates.

Source: Gates Foundation Goalkeepers Report 2021
31 million more people were pushed into extreme poverty due to COVID-19.

Women continue to be disproportionately affected by COVID-19’s economic and social impacts.

- Women’s employment is expected to remain 13 million jobs below the 2019 level.
- Men’s employment is expected to recover.
How to structure a data story—Pyramid Model

Key Message

Core Arguments (≤3)

Supporting Details

Key Message

Argument 1
  - Supporting Details
  - Additional Details

Argument 2
  - Supporting Details
  - Additional Details

Argument 3
  - Supporting Details
  - Additional Details
Example: Marine Stewardship Council story

The ocean is vast

The ocean is so big that most of it remains unexplored. Scientists don’t know exactly how many species of plants and animals live in the ocean, but some think that more than 90% of them have yet to be discovered.

There’s one thing that everyone is agreed on, though: the ocean is home to an extraordinary variety of plants and animals.

From coral reefs to polar seas, the ocean bursts with life and diversity.

And much of this life is essential to sustaining us. Around the world, more than a billion people rely on fish for their main source of protein, while around 1 in 10 depends on fishing for their livelihood.

Source: Dad fishes for the future, MSC
MSC story analysed in a pyramid structure

**Key Message**
The ocean is vast.

**Argument 1**
Only 20% of the ocean has been explored.

**Details**
From coral reefs to polar seas, the ocean bursts with life and diversity.

**Argument 2**
91% of ocean species are yet to be specified

**Argument 3**
1 billion people rely on fish to live.

**Details**
Fish is the most traded food in the world.
General writing tips

- Put key message first.
- One paragraph, one idea.
- Start a paragraph with a topic sentence.
- Write short sentences.

- No more than 3 sentences in one paragraph.
- Use headlines, headings, subheadings, bold text, and bullets.
- Use active voice.
- Use appropriate verbs.

- Minimize the use of jargon.
- Minimize the use of acronyms.
- Try not to use long words.
- Avoid redundancy.
Print writing and web writing are different

Print content is
- passive
- linear
- Slow
- detailed
- complete

Web content is
- active
- interactive
- fast
- concise
- Complete or fragmented

Source: Writing Style for Print vs. Web
How to repurpose print materials for the web

- Keep the most important message at the top of the web page.
- Chunk the content into logical sections.
- Use headings, subheadings, and bold text to help the audience navigate the content.
- Highlight key facts in bulleted lists.
- Use intentional, creative visuals to help explain complex content.

Source: Repurpose print material for the web | plainlanguage.gov
There is no ‘right’ way to data storytelling

Source: Seeing How Much We Ate Over the Years, flowingdata.com

Source: God and Guns, fivethirtyeight.com
Think beyond storytelling

Set the communications objectives upfront

Develop the narrative before visualizing data

Connect with the audience at their level of data literacy

Promote and advocate for your data stories with a plan
Those who tell the stories rule the world.

-- Native American proverb
Those who tell good data stories influence the world.
Thank you.

Contact: caseyxh@yahoo.com
Additional Resources (1/3)

Data storytelling

- Nancy Duarte, “Data Story: Explain Data and Inspire Action Through Story”, IDEAPRESS Publishing, 2019; Duarte DataStory®
- Data Storytelling in Marketing: Venn Benchmark Report 2021
- Data Storytelling: The Essential Data Science Skill Everyone Needs
- https://www.nugit.co/what-is-data-storytelling/
- https://narrativescience.com/data-storytelling/
Additional Resources (2/3)

Context and audience

- Purdue Online Writing lab
- https://style.ons.gov.uk/category/writing-for-the-web/personas/

Writing

- Style.ONS: A guide to writing about statistics
- https://datajournalism.com/
- https://training.npr.org/2016/10/12/leads-are-hard-heres-how-to-write-a-good-one/
- https://www.clearvoice.com/blog/the-dos-donts-of-writing-a-good-lead-according-to-dear-megan/
- Story Structure: 7 Narrative Structures All Writers Should Know
Additional Resources (3/3)

Data visualization