Het internationale jaar van de kaart en de duurzame ontwikkelingsdoelstellingen van de Verenigde Naties

Menno-Jan Kraak
President ICA
UNIVERSITY OF TWENTE

Het internationale jaar van de kaart en de duurzame ontwikkelingsdoelstellingen van de Verenigde Naties

What do we do?

• The mission of the ICA is to promote the disciplines and professions of cartography and GIScience in an international context

ICA Instruments

• Journal
• Website (blogs, facebook, twitter)
• Publications (book series, columns, interviews)
• Conferences
• Research scholarships
• Capacity development (fellowships / courses)
• Research agenda
• External contacts
  • ICSU (GeoUnions)
  • JBGIS
  • Partner UN-GGIM (via IMY & JBGIS)
  • Geo for all / OS Geo
ICA's Members and International Cartographic Conferences

The Commissions and working Groups over time

• Commissions are core to ICA's success
• Commissions follow their ToR to reach ICA's objectives
• Commissions act globally
• Commissions might execute specific ICA tasks incorporated in their ToR

ICA and its Commissions and Working Groups
Location Executive Committee members over time

Executive Committee members by country over time

Cartography and maps

About Cartography (tools)
About Cartography (tools)

- the art, science, and technology of making and using maps

Bertin's Data Analysis

But ... some off my nightmares

...worst nightmares

...worst nightmares
About Cartography (tools)

• ....the art, science, and technology of making and using maps

Internet, Displays, Mobile

About Cartography (process)

• ....the art, science, and technology of making and using maps

update coastline

Professionals & Crowd

A to B = 50km

Everyone

About Cartography (process)

• ....the art, science, and technology of making and using maps

Changes

• Yesterday
  • Carefully crafted 'authoritative' products (cartographers)
  • Filling gaps to present the essence of the message

• Today
  • Participatory perspective (cartographers & mapmakers)
  • Big data: creating summaries
Sustainability of the definition of CARTOGRAPHY technology MAPS making science art using CARTOGRAPHY technology MAPS making science art using Societal needs and technological innovation.

Maps
- A map is a visual representation of an environment.
  - maps tell stories
  - maps invite
  - maps show patterns
  - maps reveal relationships
  - maps explain
  - maps provide overview
  - maps offer insight
- Maps that matter should raise interest, be engaging, instantly understandable, and be relevant to society.

What about Maps and Sustainability
- How can maps be relevant for the global goals?

ICA’s International Map Year [mapyear.org]
How can maps be relevant for the global development goals?

Example: Goal 4 Education

<table>
<thead>
<tr>
<th>Goals</th>
<th>4.1</th>
<th>4.2</th>
<th>4.3</th>
<th>4.4</th>
<th>4.5</th>
<th>4.6</th>
<th>4.7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Targets</th>
<th>4.1.1</th>
<th>4.2.1</th>
<th>4.3.1</th>
<th>4.4.1</th>
<th>4.5.1</th>
<th>4.6.1</th>
<th>4.7.1</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.1.1 By 2030, ensure that all girls and boys complete free, equitable and quality primary and secondary education leading to relevant and effective learning outcomes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.1.2 By 2030, ensure that all girls and boys have access to quality early childhood development, care and pre-primary education so that they are ready for primary education</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.3.1 By 2030, ensure ..........</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.....</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Indicators</th>
<th>4.1.1.1</th>
<th>4.2.1.1</th>
<th>4.3.1.1</th>
<th>4.4.1.1</th>
<th>4.5.1.1</th>
<th>4.6.1.1</th>
<th>4.7.1.1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator 4.1.1 Percentage of children who achieve minimum proficiency standards in reading and mathematics at end of: (i) primary (ii) lower secondary</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indicator 4.1.2 Completion rate (primary, lower secondary, upper secondary</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Goal 4: Education - Sample Targets

- **4.1** By 2030, ensure that all girls and boys complete free, equitable and quality primary and secondary education leading to relevant and effective learning outcomes
- **4.2** By 2030, ensure that all girls and boys have access to quality early childhood development, care and pre-primary education so that they are ready for primary education
- **4.3** By 2030, ensure ..........
- .....
**Goal 4: Education - Getting the data**

<table>
<thead>
<tr>
<th>Target</th>
<th>Indicator</th>
<th>Feasibility</th>
<th>Suitability</th>
<th>Relevance</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.1</td>
<td>4.1.1</td>
<td>easy</td>
<td>not</td>
<td>not</td>
</tr>
<tr>
<td>4.2</td>
<td>4.2.1</td>
<td>doable</td>
<td>not</td>
<td>not</td>
</tr>
<tr>
<td>4.3</td>
<td>4.3.1</td>
<td>easy</td>
<td>almost</td>
<td>not</td>
</tr>
<tr>
<td>4.4</td>
<td>4.4.1</td>
<td>doable</td>
<td>consider</td>
<td>not</td>
</tr>
<tr>
<td>4.5</td>
<td>4.5.1</td>
<td>easy</td>
<td>support</td>
<td>not</td>
</tr>
<tr>
<td>4.6</td>
<td>4.6.1</td>
<td>difficult</td>
<td>not</td>
<td>not</td>
</tr>
<tr>
<td>4.7</td>
<td>4.7.1</td>
<td>difficult</td>
<td>doable</td>
<td>easy</td>
</tr>
</tbody>
</table>

M. The sustainability goals and their targets can be mapped based on their indicators.

Seventeen Commission have mapped each of the sustainability goals. They have done this often as a multi-commission effort from their particular perspective.

The resulting poster collection created gives an overview of the strength of cartography. It shows how maps can give insight in the data.

Obviously not all indicators are available as of today, so in some cases the maps are based on fictional or older data.

---

**Goal 4: Education - Analyzing the data**

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.1.1</td>
<td>% minimum proficiency</td>
</tr>
<tr>
<td>4.1.2</td>
<td>Completion rate levels of education</td>
</tr>
<tr>
<td>4.2.1</td>
<td>Early Childhood Development Index</td>
</tr>
<tr>
<td>4.2.2</td>
<td>Participation rate in organized learning</td>
</tr>
<tr>
<td>4.3.1</td>
<td>Enrollment ratios by level and type</td>
</tr>
<tr>
<td>4.4.1</td>
<td>Participation rate among 25-65 years</td>
</tr>
<tr>
<td>4.4.2</td>
<td>% of computer and information literate</td>
</tr>
<tr>
<td>4.5.1</td>
<td>Parity indices (female/male, urban/rural, .</td>
</tr>
<tr>
<td>4.6.1</td>
<td>% of proficient</td>
</tr>
<tr>
<td>4.6.2</td>
<td>Youth/adult literacy rate</td>
</tr>
<tr>
<td>4.7.1</td>
<td>% of 13yrs promoting governance</td>
</tr>
<tr>
<td>4.7.2</td>
<td>% of 15yrs proficiency of environmental science and geoscience</td>
</tr>
</tbody>
</table>

---

**Commissions and Goals**

- Visual Analytics
- Map Production & Geoinfo Management
- Map Design
- Location Based Services
- GI for Sustainability
- Geospatial Analysis & Modelling
- Generalization & Multiple Reprs
- Cognitive Issues in GeoInfoVis
- Art and Cartography
- Map Projections
- Mountain Cartography
- Open Source Geospatial Technology
- Planetary Cartography
- SDI & Standards
- Topographic Mapping
- Use, User and Usability Issues
- Cartography and Children

---

**Commissions and Goals**
Commissions and Goals

- Visual Analytics
- Map Production & Geoinfo Management
- Map Design
- Location Based Services
- GI for Sustainability
- Geospatial Analysis & Modelling
- Generalization & Multiple Reprs
- Cognitive Issues in GeoInfoVis
- Art and Cartography
- Map Projections
- Mountain Cartography
- Open Source Geospatial Technology
- Planetary Cartography
- SDI & Standards
- Topographic Mapping
- Use, User and Usability Issues
- Cartography and Children

Target

Indicator

Commission

Perspective

Take home message

Story

An example

Map design makes a difference because it is key to effective communication

Exhibition Catalog

A map perspective on the sustainable development goals
At the UN-GGIM

Lessons learned: sensitivity

- Language
- Base map
- Content
- Cartographic representation
- Graphic Quality

You want them?

- The posters as well as the catalog for the poster exhibition can be found on: icaci.org/maps-and-sustainable-development-goals.

What is next

- ‘Atlas’ of best practice to avoid my nightmares
- Not an atlas in the traditional sense, nor an atlas mapping all SDG indicators, but an ‘atlas’ with all kind of bad versus good mapping examples using SDG indicator data
- A very pragmatic map book in which ICA explain others the importance of proper maps by showing bad and good examples
- This again through the eyes of the Commissions
- Workshop with Commission (co)chairs at ICC2017
• The map has become an interactive, mobile, dynamic and collaborative interface between a human, groups of people, and the dynamically evolving environment

• Cartography is ready for tomorrow. However, we have to remain innovative and open, so we can handle societal and technological change, without compromising on fundamental cartographic values

Let's make the world a better place with maps