



Introduction

The Federative Republic of Brazil, like the rest of the world, has committed itself to the 2030 Agenda. However, this roadmap will only be effective if all levels of government work together to implement it. This means following up on and monitoring the processes associated with the localisation of the Sustainable Development Goals (SDGs).

Local governments play an important role in both the process of local implementation and in the creation and development of the procedures required to achieve sustainable development. Many national associations are currently faced with the challenge of monitoring the localisation of the SDGs in their municipalities. For this reason, United Cities and Local Governments (UCLG) is working to support localisation processes and share successful methodologies.

In order to complement the monitoring process at the national level, it is important to break down the data and indicators by area. The starting point for the 5,570 Brazilian municipalities is very particular: they include large metropolitan areas which are connected to global markets, but also small municipalities with strong urban-rural links.

The National Confederation of Brazilian Municipalities (CNM) is urging its members to make use of available national data to monitor regional development at the local level, and also to provide local indicators that can be considered at the national level.

In this way, the CNM is encouraging each municipality to evaluate its contribution to the process of localising the 2030 Agenda. This allows the different municipalities

to analyse their own development over time, to compare their achievements with those of other municipalities (benchmarking), and to shape the development of local policies based on their evidence and experiences.

The Mandala tool is a type of 'radar' chart which was designed by the International Foundation for the Development of Reliable Governments (FIDEGOC), which subsequently became the international regulation ISO 18091, published by the International Organisation for Standardisation (ISO). The chart was developed by the organisation over thirty years of action research, together with hundreds of local governments and integral citizens' observatories from Mexico and all over the world. This model provides a visualisation of the process of development in each municipality according to four different dimensions, three of which are taken from Agenda 21 of the United Nations. The final element was added to these with the purpose of allowing an evaluation of the directive level. The diagram also uses a 'traffic light' design, which facilitates comparison between the municipalities.

The four dimensions of the Mandala tool are: 1) economic, 2) social, 3) environmental and 4) institutional.

The process of introducing the Mandala process in Brazil began in 2016, with the formulation of the criteria and indicators required to create the different analysis groups. Once the indicators had been decided, the necessary data were collected, systematised and validated by the CNM team. The process, promoted within the framework of the 'Localising the SDGs in Brazilian municipalities' project in association with the United Nations Development Programme (UNDP), was publicised in a subsequent outreach campaign.

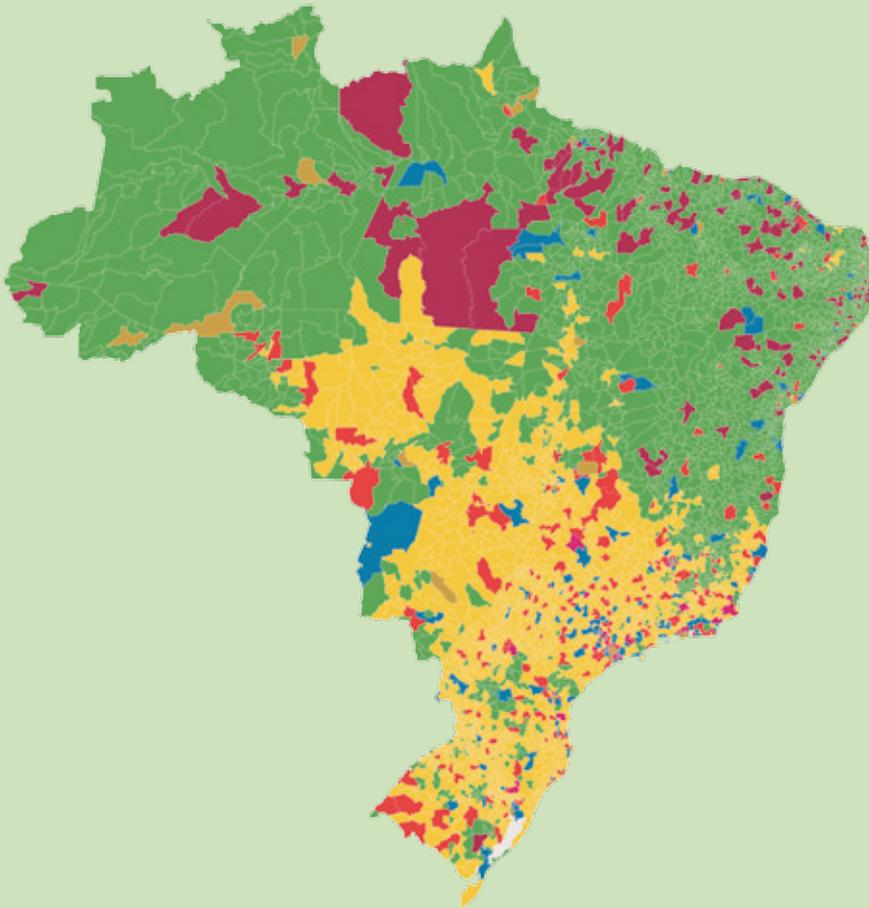
Data collection is predominantly based on secondary sources. In other words, information is mainly obtained from the databases of national statistics institutes, which are easily accessible and regularly updated. In the case of Brazil, the implementation of this tool offers 28 indicators to the 5,570 member municipalities of the CNM.

The CNM is committed to supporting all of its municipalities to use these data and indicators to shape their policies. Only then will it be possible to appreciate the great efforts made by mayors to create a better and more sustainable world.

Paulo Ziulkoski
President of the CNM

Map showing the distribution of the six analysis groups

Brazil 2018



Summary of the groups of municipalities

- **Group 0**
The 27 capitals of the States of Brazil
- **Group 1**
Municipalities grouped in cluster 1 (high HDI, large population, middle income per capita and an average number of families in extreme poverty)
- **Group 2**
Municipalities grouped in cluster 2 (high HDI, large population, high income per capita and few families in extreme poverty)
- **Group 3**
Municipalities grouped in clusters 2 and 3 (low HDI, less than 50,000 inhabitants, average income per capita and many families in extreme poverty)
- **Group 4**
Municipalities grouped in clusters 2 and 3 (low HDI, more than 50,000 inhabitants, low income per capita and many families in extreme poverty)
- **Group 5**
Municipalities grouped in cluster 5 (high HDI, less than 50,000 inhabitants, high income per capita and an average number of families in extreme poverty)
- **Group 6**
Municipalities grouped in cluster 5 (high HDI, more than 50,000 inhabitants, average income per capita and an average number of families in extreme poverty)

The information obtained has enabled the CNM to create a map. The division of the municipalities into seven different groups is not based on administrative boundaries, but corresponds to levels of local development. These seven groups of municipalities were created due to the large number of municipalities in Brazil and the great heterogeneity between them. Categorising them into groups reflects local realities, based on the information relating to the available indicators. This facilitates the comparison and analysis of municipalities which have similar circumstances.

The Mandala tool encourages the use of data and reflects local realities based on different indicators, in order to develop appropriate public policies

The process began with a cluster analysis. The clusters were determined by four criteria selected a priori, based on the team's previous experience:

- Total population
- Net income per capita
- Population in extreme poverty
- Human Development Index (HDI)

Based on the analysis of these four variables in the municipalities, six clusters were identified, which then allowed the municipalities to be categorised into different groups. After sharing the results of the cluster analysis, it was decided to create a group comprised of the 27 capitals of the federal states; the other 5,543 municipalities were divided into six groups. This classification system guarantees homogeneity and served as the basis for subsequent steps in the development of the Mandala tool.

How does the Mandala tool work?

The Mandala tool has generated an information chart for each municipality based on the 28 indicators. This information is presented in a radar chart where values are represented by the colours red, yellow and green, as shown in the image.

A German example of local-scale monitoring

Mandala is an innovative tool, but it is not the only method available for monitoring the localisation process for achieving the SDGs. One interesting example of monitoring at the local level was developed by the German County Association (LKT) and the Associations of German Cities and Municipalities (DST and DSGB, respectively), in cooperation with the Bertelsmann Foundation and the Federal Institute for Research on Building, Urban Affairs and Spatial Development (BBSR).

Unlike Mandala, this example uses the 17 SDGs as a starting point, with each of the goals being assigned three or four indicators. The selection of these indicators is based on an analytical process with a systematic and multi-level focus. The majority of the indicators are generated from a database of municipal data which is periodically updated. The availability and accessibility of municipal data, through a database which is categorised by region, can be considered a significant advantage for benchmarking and clustering according to local traits and needs.

However, not all of the indicators are based on data collected directly in municipalities using a process of municipal monitoring (bottom-up approach). 10% of the indicators require data from national or regional statistics institutes (top-down approach). These indicators based on national data not only facilitate alignment with the global indicators of the SDGs, but also allow comparisons of the efforts made by different regions to be compared more easily at national level.

The German example demonstrates that the integration of national indicators into the process of local monitoring is crucial for policymaking. In other words, a combination of bottom-up and top-down indicators provides added value for the monitoring of localisation.

Top
Down

Bottom
Up

Economic

5. Rate of access to high-speed internet



Related SDGs



Description

The figure is derived from the following calculations (%):

$$x = \frac{\text{Rate of access to high-speed internet}}{\text{Population of the municipality in the reference year}}$$

Value (UN)

1.28

Source

Anatel/Ibge

Base Year

2018

Unit

Unit (un)

Available Years

2014

Internet is considered to be high-speed when it reaches an average of more than 12 Mbps.

Social

19. School dropout rate – primary level



Related SDGs



Description

School dropout is considered to be when a student stops attending school before concluding the school year, without having been formally deregistered by transfer. This indicator presents the percentage of students who did not leave school between the first and fifth year.

Value (UN)

0.70

Source

MEC-INEP

Base Year

2015

Unit

Unit (un)

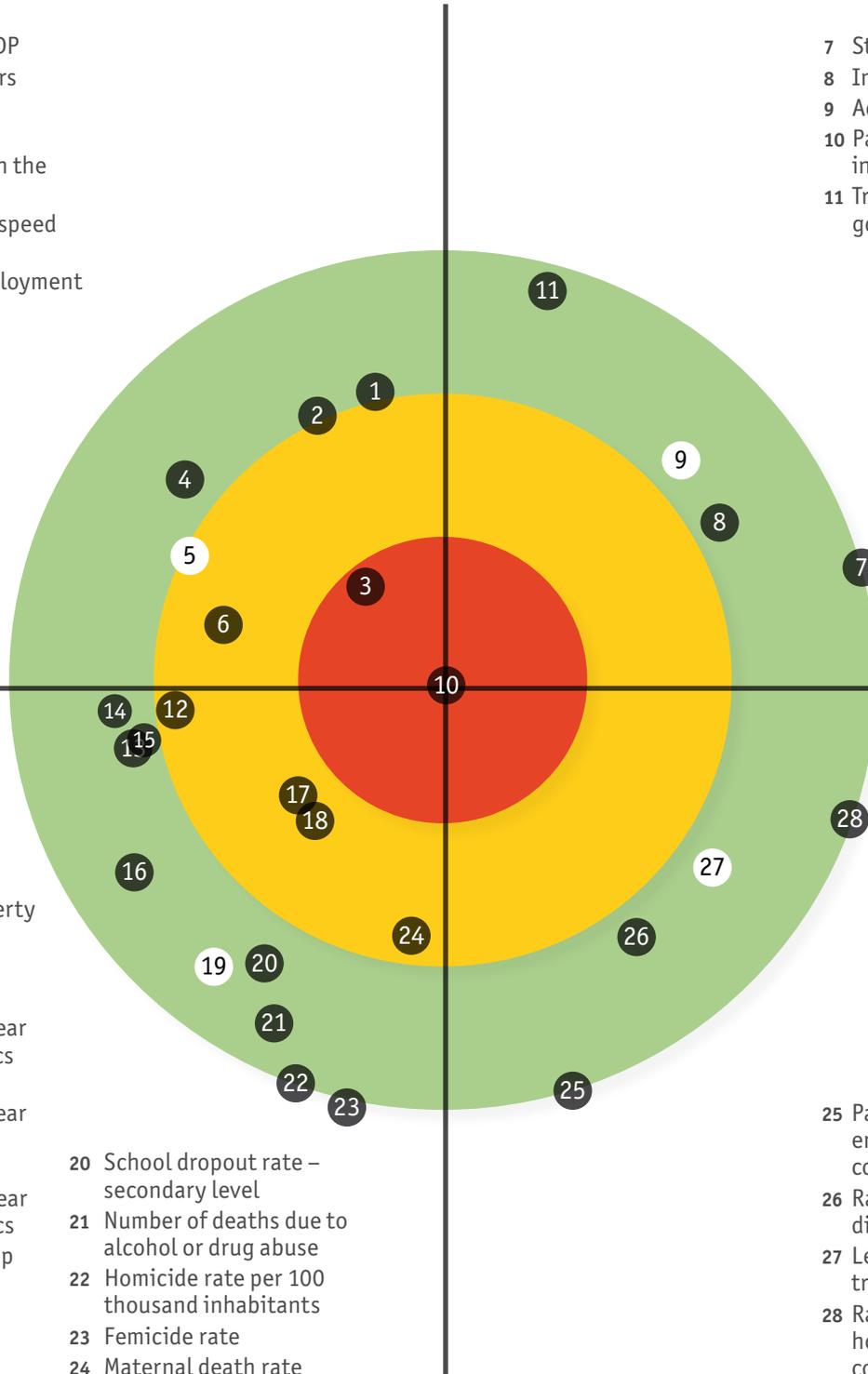
Available Years

2015

Example of São Paulo

- 1 Municipal per capita GDP
- 2 Average wage of workers
- 3 Evolution of business establishments
- 4 Exporting companies in the municipality
- 5 Rate of access to high-speed internet
- 6 Creation of formal employment

- 7 Staff expenses
- 8 Index of fiscal equality
- 9 Administration costs
- 10 Participation in inter-municipal consortia
- 11 Transparency of municipal government



- 12 Proportion of people living in extreme poverty
- 13 Infant mortality rate
- 14 Low birth weight
- 15 Index of adequate education up to 5th year (age 11) – Mathematics
- 16 Index of adequate education up to 5th year (age 11) – Portuguese
- 17 Index of adequate education up to 9th year (age 14) – Mathematics
- 18 Adequate education up to 9th year (age 14) – Portuguese
- 19 School dropout rate – primary level

- 20 School dropout rate – secondary level
- 21 Number of deaths due to alcohol or drug abuse
- 22 Homicide rate per 100 thousand inhabitants
- 23 Femicide rate
- 24 Maternal death rate

- 25 Participation in environmental conservation policies
- 26 Rate of loss in urban water distribution
- 27 Level of urban sewage treatment
- 28 Rate of coverage of household waste collection

 An area where the value of the selected indicator is higher than the mean value of the same indicator within the group

 An area where the value of the selected indicator is a little lower than the mean value of the same indicator within the group

 An area where the value of the selected indicator is considerably lower than the mean value of the same indicator within the group

Institutional

9. Administration Costs



Related SDGs



Description

Administration costs are derived from the following calculation:

$$x = \frac{\text{Administration costs (R\$)}}{\text{Municipal income (R\$)}}$$

Value (UN)

2.91

Unit

Unit (un)

Source

FINBRA

Available Years

2015

Base Year

2015

Environmental

27. Level of urban sewage treatment



Related SDGs



Description

This indicator uses data on the volume of sewage which is treated and the volume of sewage which is collected

Value (UN)

75.21

Unit

Unit (un)

Source

SNIS

Available Years

2015

Base Year

2015

1 | Identification of the data with a local dimension

First, the available data must be disaggregated by region, at regional or national statistics centers. If possible, obtain data directly from the cities or municipalities.

9 | Communication and benchmarking

The tool facilitates the comparison, evaluation and acknowledgement of municipalities with similar realities in localising the SDGs. The monitoring of local indicators can have strategic importance for local, national and international policymaking.

8 | Feedback

Feedback received from the municipalities, associations and other users provides an opportunity to perfect the tool. A group of experts can monitor its implementation and propose new applications to support the localisation process.

2 | Alignment with the SDGs

It is then necessary to consider how to link the available data to the SDGs, or to the economic, social, territorial and cultural or institutional dimensions.

3 | Validation of the data

Before concluding the process of analysis, the data have to be validated. This includes defining the indicators, specifying what each of them measures and how accurately, and justifying the choice of data for the creation of each indicator.

4 | Preparation of the data

The gathered information must be organised in a relational database, considering the name, function, frequency, origin and any other information.

5 | Grouping the municipalities

A cluster analysis can be used to identify municipalities with similar characteristics and to group them together. This step ensures that municipalities with similar realities are compared with each other and no inappropriate comparisons are made.

6 | Presenting the results

The radar chart (and/or comparative graphics and tables) for each municipality and indicator should be posted on a webpage.

7 | Periodic updates

In order to guarantee the quality of the tool, it is necessary to update the data regularly.

How to build your Mandala

Implementation and data analysis step by step

“ The localisation of the Sustainable Development Goals at the territorial level is a strategic objective of UCLG because we believe that this does not just help us to improve our services to communities, but also puts local leadership, with its experience and learnings, at the heart of the development agenda.

We wish to present this and other lessons at the High Level Political Forum at the United Nations.

For this reason, UCLG is proud to support the localisation of the Global Agenda, together with its international partners from the Global Task Force, UN-Habitat, UNDP and Local2030.

Mandala, which has been developed by the Brazilian Confederation of Municipalities, is one of the many tools that UCLG is using in its learning sessions and is of special interest for national associations. With the help and creativity of our members, we are looking forward to sharing even more tools in the future.”

Emilia Saiz
Secretary General of UCLG

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