

Galves et al. (2025). Proposal for indicators and resilience index for Brazilian municipalities using MUNIC/IBGE data. *Derbyana*, 46, Article 890. (Appendix).

APPENDIX

List of indicators for the Disaster Risk Management sub-index (GRD):

#	Source	MUNIC code	Indicator (MUNIC survey question)
1	MUNIC 2019	MTIC263	Regarding the existence of digital systems in the daily life of the population: Control and Operations Center
2	MUNIC 2019	MTIC266	Regarding the existence of digital systems in the daily life of the population: Sensors for monitoring risk areas
3	MUNIC 2020	MGRD212	A municipal Civil Protection and Defense agency exists
4	MUNIC 2020	MGRD213	Civil Defense Community Units exist
5	MUNIC 2020	MGRD221	The person responsible for coordination works exclusively in this role
6	MUNIC 2020	MGRD172	Existence of a Land Use and Occupation Law that addresses the prevention of floods or gradual inundations, flash floods, or sudden inundations
7	MUNIC 2020	MGRD175	Existence of a Land Use and Occupation Law that addresses the prevention of landslides or slope failures
8	MUNIC 2020	MGRD173	Existence of a specific law that addresses the prevention of floods or gradual inundations, flash floods, or sudden inundations
9	MUNIC 2020	MGRD176	Existence of a specific law that addresses the prevention of landslides or slope failures
10	MUNIC 2020	MGRD179	Existence of a plan for the implementation of works and services aimed at disaster risk reduction
11	MUNIC 2020	MGRD177	Existence of a Municipal Disaster Risk Reduction Plan
12	MUNIC 2020	MGRD222	Regarding the Municipal Civil Protection and Defense Agency: Conducts coordinated and integrated actions within the Municipal Civil Protection and Defense System
13	MUNIC 2020	MGRD223	Regarding the Municipal Civil Protection and Defense Agency: Is familiar with the Integrated Disaster Information System – S2ID
14	MUNIC 2020	MGRD224	Regarding the Municipal Civil Protection and Defense Agency: Uses its own system in the area of Civil Protection and Defense
15	MUNIC 2020	MGRD227	Regarding the Municipal Civil Protection and Defense Agency: Has a dedicated physical space
16	MUNIC 2020	MGRD2212	Regarding the Municipal Civil Protection and Defense Agency: Has staff with formal employment contracts
17	MUNIC 2020	MGRD231	Are there educational practices aimed at raising awareness and risk perception in schools?
18	MUNIC 2020	MGRD232	Are there educational practices aimed at raising awareness and risk perception in communities?
19	MUNIC 2020	MGRD233	Regarding Civil Protection and Defense activities: Is Environmental Education provided in schools?
20	MUNIC 2020	MGRD234	Regarding Civil Protection and Defense activities: Is Environmental Education provided in communities?
21	MUNIC 2020	MGRD235	Regarding Civil Protection and Defense activities: Have there been public awareness campaigns on disaster risks?
22	MUNIC 2020	MGRD236	Regarding Civil Protection and Defense activities: Is there training for civil protection and defense professionals?
23	MUNIC 2020	MGRD183	Are there monitoring and enforcement mechanisms to prevent occupation in areas susceptible to Floods and flash floods?
24	MUNIC 2020	MGRD203	Are there monitoring and enforcement mechanisms to prevent occupation in areas susceptible to landslides?
25	MUNIC 2020	MGRD178	Does the municipality have a Geotechnical Map for Urban Development Suitability?
26	MUNIC 2020	MGRD228	Does the Municipal Civil Protection and Defense Agency have a vehicle?
27	MUNIC 2020	MGRD229	Does the Municipal Civil Protection and Defense Agency have computers?
28	MUNIC 2020	MGRD2210	Does the Municipal Civil Protection and Defense Agency have GPS equipment
29	MUNIC 2020	MGRD2211	Does the Municipal Civil Protection and Defense Agency have safety jackets?
30	MUNIC 2020	MGRD05	Does the municipality have a Contingency and/or Drought Prevention Plan?
31	MUNIC 2020	MGRD182	Regarding the management of disaster risks resulting from floods or gradual inundations, flash floods, or sudden inundations, the municipality has: A housing program for the relocation of low-income populations living in risk areas (such as resettlement in social housing developments, provision of rental assistance or similar support, compensation for improvements, purchase of new housing, or other forms of assistance);
32	MUNIC 2020	MGRD185	Regarding the management of disaster risks resulting from floods or gradual inundations, flash floods, or sudden inundations, the municipality has: Engineering projects related to the event;

List of indicators for the Disaster Risk Management sub-index (GRD)(continuation):

#	Source	MUNIC code	Indicator (MUNIC survey question)
33	MUNIC 2020	MGRD187	Regarding the management of disaster risks resulting from floods or gradual inundations, flash floods, or sudden inundations, the municipality has: A risk registry;
34	MUNIC 2020	MGRD19	Regarding the management of disaster risks resulting from floods or gradual inundations, flash floods, or sudden inundations, the municipality has: Periodic cleaning of storm drains throughout the city, especially prior to the rainy season.
35	MUNIC 2020	MGRD202	Regarding the management of disaster risks resulting from landslides or slope failures, the municipality has: A housing program for the relocation of low-income populations living in risk areas (such as resettlement in social housing developments, provision of rental assistance or similar support, compensation for improvements, purchase of new housing, or other forms of assistance);
36	MUNIC 2020	MGRD205	Regarding the management of disaster risks resulting from landslides or slope failures, the municipality has: Engineering projects related to the event;
37	MUNIC 2020	MGRD207	Regarding the management of disaster risks resulting from landslides or slope failures, the municipality has: A risk registry.
38	MUNIC 2020	MGRD225	Are budgetary resources allocated for civil protection and defense actions in the Annual Budget Law (LOA)?
39	MUNIC 2020	MGRD226	Funding sources and insurance: Are there additional funding sources for civil protection and defense actions?
40	MUNIC 2020*	MGRD041	Regarding municipal actions to prevent or mitigate drought-related damage: Construction of cisterns;
		MGRD042	Regarding municipal actions to prevent or mitigate drought-related damage: Construction of reservoirs (açudes);
		MGRD043	Regarding municipal actions to prevent or mitigate drought-related damage: Construction of dams;
		MGRD044	Regarding municipal actions to prevent or mitigate drought-related damage: Construction of wells;
		MGRD045	Regarding municipal actions to prevent or mitigate drought-related damage: Revegetation;
		MGRD046	Regarding municipal actions to prevent or mitigate drought-related damage: Public incentives for climate- and soil-adapted agriculture, including irrigation systems;
		MGRD047	Regarding municipal actions to prevent or mitigate drought-related damage: Regular water distribution via water trucks during drought periods (emergency situations).
		MGRD048	Regarding municipal actions to prevent or mitigate drought-related damage: Actions for the sustainable use of natural resources (such as wind or solar energy sources, watershed management plans, awareness and education programs, etc.)
41	MUNIC 2020*	MGRD1051	Actions to prevent or mitigate damage caused by floods or gradual inundations: Upstream dam construction for flood regulation;
		MGRD1052	Actions to prevent or mitigate damage caused by floods or gradual inundations: Construction of macro-drainage channels;
		MGRD1053	Actions to prevent or mitigate damage caused by floods or gradual inundations: Creation of parks;
		MGRD1054	Actions to prevent or mitigate damage caused by floods or gradual inundations: Construction of flood retention reservoirs;
		MGRD1055	Actions to prevent or mitigate damage caused by floods or gradual inundations: Dredging of water bodies;
		MGRD1056	Actions to prevent or mitigate damage caused by floods or gradual inundations: River straightening, channel widening, or diversion of watercourses;
		MGRD1057	Actions to prevent or mitigate damage caused by floods or gradual inundations: Relocation of populations living in risk areas;
		MGRD1058	Actions to prevent or mitigate damage caused by floods or gradual inundations: Revegetation;
		MGRD1059	Actions to prevent or mitigate damage caused by floods or gradual inundations: River or watershed revitalization.
42	MUNIC 2020*	MGRD1351	Actions to prevent or mitigate damage caused by flash floods or sudden inundations: Upstream dam construction for flood regulation;
		MGRD1352	Actions to prevent or mitigate damage caused by flash floods or sudden inundations: Construction of macro-drainage channels;
		MGRD1353	Actions to prevent or mitigate damage caused by flash floods or sudden inundations: Creation of parks;
		MGRD1354	Actions to prevent or mitigate damage caused by flash floods or sudden inundations: Construction of flood retention reservoirs;
		MGRD1355	Actions to prevent or mitigate damage caused by flash floods or sudden inundations: Dredging of water bodies;
		MGRD1356	Actions to prevent or mitigate damage caused by flash floods or sudden inundations: River straightening, channel widening, or diversion of watercourses;
		MGRD1357	Actions to prevent or mitigate damage caused by flash floods or sudden inundations: Relocation of populations living in risk areas;
		MGRD1358	Actions to prevent or mitigate damage caused by flash floods or sudden inundations: Revegetation;
		MGRD1359	Actions to prevent or mitigate damage caused by flash floods or sudden inundations: River or watershed revitalization.

List of indicators for the Disaster Risk Management sub-index (GRD)(continuation):

#	Source	MUNIC code	Indicator (MUNIC survey question)
43	MUNIC 2020*	MGRD1651	Actions to prevent or mitigate damage caused by landslides or slope failures: Slope stabilization and protection;
		MGRD1652	Actions to prevent or mitigate damage caused by landslides or slope failures: Regrading of slopes;
		MGRD1653	Actions to prevent or mitigate damage caused by landslides or slope failures: Construction of retaining structures;
		MGRD1654	Actions to prevent or mitigate damage caused by landslides or slope failures: Construction of macro-drainage channels;
		MGRD1655	Actions to prevent or mitigate damage caused by landslides or slope failures: Relocation of populations living in risk areas;
		MGRD1656	Actions to prevent or mitigate damage caused by landslides or slope failures: Slope revegetation.
44	MUNIC 2023	SMAP122	Risk mapping and zoning of hazard-prone areas.
45	MUNIC 2023	MSEG19	Regarding disaster and risk management, the municipality has: A Fire Department unit;
46	MUNIC 2023	MSEG17	Regarding disaster and risk management, the municipality has: A Medical Examiner (Forensic Medicine) service.
47	MUNIC 2023	SMAP123	Contingency Management Plan.
48	MUNIC 2023	SMAP126	Risk alert system.
49	MUNIC 2023	MASS2513	Shelters for families displaced or made homeless by disasters.
50	MUNIC 2023	SMAP125	Funding sources and insurance: Insurance against critical hydrological events;
51	MUNIC 2023	MASS2713	Funding sources and insurance: Emergency benefits for situations of public calamity.
52	MUNIC 2023	SMAP127	Regarding the existence of digital systems in the daily life of the population: Rainfall monitoring system (rain height or intensity);
53	MUNIC 2023	SMAP128	Regarding the existence of digital systems in the daily life of the population: Streamflow monitoring system (channel, gallery, retention reservoir water levels or discharge rates);
54	MUNIC 2023	SMAP129	Regarding the existence of digital systems in the daily life of the population: Water quality monitoring system for urban water bodies and drainage system flows.
55	MUNIC 2023*	SMAP1311	Regarding technical and institutional support for reducing the impacts of rainfall – existence of: Partnerships with research institutions;
		SMAP1312	Regarding technical and institutional support for reducing the impacts of rainfall – existence of: Consulting services or projects contracted from specialized companies;
		SMAP1313	Regarding technical and institutional support for reducing the impacts of rainfall – existence of: Cooperation agreements between federative entities;
		SMAP1314	Regarding technical and institutional support for reducing the impacts of rainfall – existence of: Other institutions (such as State Environmental Councils, Water Resources Councils, River Basin Committees, or other Urban Development Councils, etc.);
		SMAP1315	Regarding technical and institutional support for reducing the impacts of rainfall – existence of: Other(s).

* The MUNIC survey questions were grouped into a single indicator. In other words, if the municipality responded favorably to resilience (“yes”) to any of the questions, a value of 1.0 was assigned to that indicator. This is because not all the actions described in 41, 42, 43, and 55 are applicable to all municipalities. Therefore, this was the approach adopted so as not to penalize those for whom the described actions would not be necessary.

List of indicators for the Environment sub-index (MA):

#	Source	MUNIC code	Indicator (MUNIC survey question)
1	MUNIC 2017	SMSBAA0706	Does municipal legislation require the approval and implementation of a water supply system for new subdivisions?
2	MUNIC 2017	SMSBAA072111**	What is the coverage area (urban) of the water distribution network in the municipality?
3	MUNIC 2017	SMSBAA072121**	What is the coverage area (rural) of the water distribution network in the municipality?
4	MUNIC 2017	SMSBES0805	Is there inspection to ensure the implementation of a sanitary sewage system for new subdivisions?
5	MUNIC 2017	SMSBES081511**	What is the coverage area (urban) of the municipal sewage collection network?
6	MUNIC 2017	SMSBES081521**	What is the coverage area (rural) of the municipal sewage collection network?
7	MUNIC 2020	MMAM01	How is the municipal environmental agency characterized?
8	MUNIC 2020	MMAM06	Education level of the head of the managing agency: Manager with completed higher education degree.
9	MUNIC 2020	MMAM10	Existence of an Environmental Council
10	MUNIC 2020	MMAM201	Regarding environmental legislation and management instruments: Concerning selective collection of household solid waste;

List of indicators for the Environment sub-index (MA) (continuation):

#	Source	MUNIC code	Indicator (MUNIC survey question)
11	MUNIC 2020	MMAM203	Regarding environmental legislation and management instruments: Concerning watershed management;
12	MUNIC 2020	MMAM204	Regarding environmental legislation and management instruments: Concerning environmental protection or control areas/zones;
13	MUNIC 2020	MMAM205	Regarding environmental legislation and management instruments: Concerning the disposal of packaging used for agrochemical products.
14	MUNIC 2020	MMAM206	Regarding environmental legislation and management instruments: On air pollution;
15	MUNIC 2020	MMAM207	Regarding environmental legislation and management instruments: On the permitting of mineral extraction activities;
16	MUNIC 2020	MMAM208	Regarding environmental legislation and management instruments: On wildlife;
17	MUNIC 2020	MMAM209	Regarding environmental legislation and management instruments: On forests;
18	MUNIC 2020	MMAM2010	Regarding environmental legislation and management instruments: On biodiversity protection;
19	MUNIC 2020	MMAM2011	Regarding environmental legislation and management instruments: On climate change adaptation and mitigation;
20	MUNIC 2020	MMAM21	Does the municipality have an Integrated Solid Waste Management Plan?
21	MUNIC 2020	MMAM17	Does the municipality have a Municipal Environmental Fund or a similar mechanism?
22	MUNIC 2020	MMAM171	Is the fund managed by the Municipal Environmental Council or an equivalent body?
23	MUNIC 2020	MMAM224	Regarding environmental education and the programs implemented by the municipal government in partnership with the Federal Government: Municipal stage of the Children's and Youth Conference for the Environment;
24	MUNIC 2020	MMAM228	Regarding environmental education and the programs implemented by the municipal government in partnership with the Federal Government: Municipal stage of the National Environmental Conference.
25	MUNIC 2020	MMAM23	Does the municipality make direct payments for environmental services – PES (Payment for Environmental Services)?
26	MUNIC 2020	MMAM25	Regarding environmental impacts and/or processes/actions resulting in environmental impacts: Has the municipality observed any environmental impact or any process/action resulting in environmental impact in the past 24 months?
27	MUNIC 2020	MMAM261	Regarding environmental impacts and/or processes/actions resulting in environmental impacts: Extreme weather events (droughts, flash floods);
28	MUNIC 2020	MMAM262	Regarding environmental impacts and/or processes/actions resulting in environmental impacts: Air pollution;
29	MUNIC 2020	MMAM263	Regarding environmental impacts and/or processes/actions resulting in environmental impacts: Pollution of a water body;
30	MUNIC 2020	MMAM264	Regarding environmental impacts and/or processes/actions resulting in environmental impacts: Siltation of a water body;
31	MUNIC 2020	MMAM265	Regarding environmental impacts and/or processes/actions resulting in environmental impacts: Reduced flow in a water body;
32	MUNIC 2020	MMAM266	Regarding environmental impacts and/or processes/actions resulting in environmental impacts: Deforestation;
33	MUNIC 2020	MMAM267	Regarding environmental impacts and/or processes/actions resulting in environmental impacts: Wildfires;
34	MUNIC 2020	MMAM268	Regarding environmental impact and/or processes/actions resulting in environmental impact: Soil contamination (by pesticides, fertilizers);
35	MUNIC 2020	MMAM269	Regarding environmental impact and/or processes/actions resulting in environmental impact: Soil loss due to erosion and/or desertification (gullies, sandification);
36	MUNIC 2020	MMAM2610	Regarding environmental impact and/or processes/actions resulting in environmental impact: Degradation of legally protected areas;
37	MUNIC 2020	MMAM2611	Regarding environmental impact and/or processes/actions resulting in environmental impact: Loss of biodiversity (fauna and flora);
38	MUNIC 2020	MMAM2612	Regarding environmental impact and/or processes/actions resulting in environmental impact: Existence of housing in environmentally hazardous areas;
39	MUNIC 2020	MMAM2613	Regarding environmental impact and/or processes/actions resulting in environmental impact: Lack of sanitation (inadequate disposal of domestic sewage).
40	MUNIC 2020	MMAM08	In the past four years, have municipal staff participated in environmental training programs promoted by the federal government?
41	MUNIC 2023	MSEG167	Existing Security Structure: Environmental Protection Police Station.
42	MUNIC 2023	SDG17	Existence of the Municipal Basic Sanitation Council.
43	MUNIC 2023	SDG09**	Existence of the Municipal Basic Sanitation Plan.

List of indicators for the Environment sub-index (MA) (continuation):

44	MUNIC 2023	SMAP35	Existence of incentives/legislation for the adoption of individual and/or collective rainwater detention solutions.
45	MUNIC 2023	SMAP36	Existence of municipal incentives/legislation for reducing impervious surface areas.
46	MUNIC 2023	SMAP37	Existence of incentives for the collection and use of rainwater in public buildings.
47	MUNIC 2023	SMAP124	Regarding environmental legislation and management instruments: Water Resources Plan;
48	MUNIC 2023	SMAP119	Regarding environmental legislation and management instruments: Climate Change Adaptation Plan – existence.
49	MUNIC 2023	SDG3911	Regarding basic sanitation services: Water Supply;
50	MUNIC 2023	SDG3912	Regarding basic sanitation services: Sanitary Sewage;
51	MUNIC 2023	SDG3913	Regarding basic sanitation services: Urban Cleaning and Solid Waste Management;
52	MUNIC 2023	SMRS34	Regarding basic sanitation services: Existence of special solid waste collection services;
53	MUNIC 2023	SMRS38	Regarding basic sanitation services: Existence of reverse logistics systems;
54	MUNIC 2023	SDG3914	Regarding basic sanitation services: Stormwater Drainage and Management.
55	MUNIC 2023	SDG38**	Existence of a Municipal Environmental Education Policy.
56	MUNI 2023	SMRS69**	Existence of an environmental education program on urban cleaning and solid waste management.
57	MUNIC 2023	SMAP42**	Existence of an environmental education program on stormwater management
58	MUNIC 2023	SMAP29	Existence of nature-based solutions for stormwater management
59	MUNIC 2023	SMAP17	Existence of a diagnostic assessment of the drainage system
60	MUNIC 2023	SMAP18	Existence of an inventory and/or mapping of the drainage system

** The possible responses for these indicators include “partially” or “under development”. In other words, there is an action favorable to resilience, but it is either partial or still in progress. In such cases, a score of 0.5 was assigned.

List of indicators for the Social Governance sub-index (GS):

#	Source	MUNIC code	Indicator (MUNIC survey question)
1	MUNIC 2019*	MART07	Existence of an intermunicipal consortium in environmental management
		MART02	Existence of an intermunicipal consortium in health
		MART11	Existence of an intermunicipal consortium in water resources management
		MART12	Existence of an intermunicipal consortium in solid waste management
		MART06	Existence of an intermunicipal consortium in housing
		MART10	Existence of an intermunicipal consortium in sanitation
		MART09	Existence of an intermunicipal consortium in urban development
2	MUNIC 2020	MHAB07	Does the Municipal Housing Plan exist?
3	MUNIC 2020	MHAB081	Regarding aspects of the Municipal Housing Plan: Does it promote the integration of housing policies with other urban and social policies in order to guarantee the right to housing as part of the right to the city?
4	MUNIC 2020	MHAB082	Regarding aspects of the Municipal Housing Plan: Does it aim to ensure the optimal use of existing infrastructure and buildings?
5	MUNIC 2020	MHAB083	Regarding aspects of the Municipal Housing Plan: Does it promote the urbanization and physical upgrading of informal settlements and precarious subdivisions, as well as the land regularization of these areas and the improvement of existing housing?
6	MUNIC 2020	MHAB084	Regarding aspects of the Municipal Housing Plan: Does it aim to ensure housing solutions for families who need to be relocated from risk areas or due to urban development works?
7	MUNIC 2020	MHAB085	Regarding aspects of the Municipal Housing Plan: Does it aim to prevent new housing settlements in areas unsuitable for this purpose?
8	MUNIC 2020	MHAB086	Regarding aspects of the Municipal Housing Plan: Does it include the development of new social housing units?
9	MUNIC 2020	MHAB088	Regarding aspects of the Municipal Housing Plan: Does it prioritize actions in risk-prone areas?
10	MUNIC 2020	MHAB10	Does the Municipal Housing Council exist?
11	MUNIC 2020	MHAB18	Regarding the interest of families in registering for housing programs: Is there a survey or registration of families interested in housing programs?

List of indicators for the Social Governance sub-index (GS) (continuation):

#	Source	MUNIC code	Indicator (MUNIC survey question)
12	MUNIC 2020	MHAB182	Regarding the interest of families in registering for housing programs: Is the registration system digitalized?
13	MUNIC 2020	MHAB183	Regarding the interest of families in registering for housing programs: Does the registration include the type of housing benefit sought by the families?
14	MUNIC 2020	MHAB193	Are there irregular and/or illegal subdivisions?
15	MUNIC 2020	MHAB201	With respect to housing programs or actions implemented by the municipal government in 2018 and/or 2019, was there: Construction of housing units?
16	MUNIC 2020	MHAB202	With respect to housing programs or actions implemented by the municipal government in 2018 and/or 2019, was there: Acquisition of housing units?
17	MUNIC 2020	MHAB203	With respect to housing programs or actions implemented by the municipal government in 2018 and/or 2019, was there: Improvement of housing units?
18	MUNIC 2020	MHAB205	With respect to housing programs or actions implemented by the municipal government in 2018 and/or 2019, was there: Provision of housing plots?
19	MUNIC 2020	MHAB206	With respect to housing programs or actions implemented by the municipal government in 2018 and/or 2019, was there: Land tenure regularization?
20	MUNIC 2020	MHAB207	With respect to housing programs or actions implemented by the municipal government in 2018 and/or 2019, was there: Urbanization of settlements?
21	MUNIC 2020	MHAB21	Does the municipal government have a program that provides social rental assistance?
22	MUNIC 2021*	MSAU451	Does the population have access to emergency services (24-hour life-threatening risk response)? Through a municipal public service;
		MSAU452	Does the population have access to emergency services (24-hour life-threatening risk response)? Through another public service;
		MSAU454	Does the population have access to emergency services (24-hour life-threatening risk response)? With transportation and/or referral to a public service in another municipality.
23	MUNIC 2021	MSAU17	Does a Municipal Health Fund exist?
24	MUNIC 2021	MSAU20	Does a Municipal Health Plan exist?
25	MUNIC 2021	MSAU47	In the municipality, within a public or SUS-affiliated health facility, are there: Neonatal intensive care unit (NICU) beds/cradles?
26	MUNIC 2021	MSAU48	In the municipality, within a public or SUS-affiliated health facility, are there: Intermediate care unit beds/cradles?
27	MUNIC 2021	MSAU541	Regarding health surveillance services provided by the municipal administration: Are sanitary surveillance services provided?
28	MUNIC 2021	MSAU542	Regarding health surveillance services provided by the municipal administration: Are epidemiological surveillance services provided?
29	MUNIC 2021	MSAU543	Regarding health surveillance services provided by the municipal administration: Are endemic disease control services provided?
30	MUNIC 2021	MLEG06	Is there legislation on zoning or land use and occupation?
31	MUNIC 2021	MLEG05	Is there legislation on land subdivision?
32	MUNIC 2021	MLEG19	Existence of land regularization legislation.
33	MUNIC 2023	MASS11	Existence of a Municipal Social Assistance Plan.
34	MUNIC 2023	MASS16	Existence of a Municipal Social Assistance Council.
35	MUNIC 2023	MASS251	Existence of a Social Assistance Reference Center (CRAS).
36	MUNIC 2023	MSAN05	Existence of a Municipal Food Security Council.
37	MUNIC 2023	MSAN15	Existence of a Food Security Plan.
38	MUNIC 2023	MDHU12	Existence of a Municipal Human Rights Council.
39	MUNIC 2023	MDHU561	Existence of a Human Rights Fund.
40	MUNIC 2023	MDHU081	Implementation of programs and actions for specific groups: Roma communities (ciganos);
41	MUNIC 2023	MDHU082	Implementation of programs and actions for specific groups: Children and adolescents;
42	MUNIC 2023	MDHU083	Implementation of programs and actions for specific groups: Women;
43	MUNIC 2023	MDHU084	Implementation of programs and actions for specific groups: Elderly people;
44	MUNIC 2023	MDHU085	Implementation of programs and actions for specific groups: Persons with disabilities;
45	MUNIC 2023	MDHU086	Implementation of programs and actions for specific groups: LGBTQIA+ individuals;
46	MUNIC 2023	MDHU087	Implementation of programs and actions for specific groups: Homeless population;

List of indicators for the Social Governance sub-index (GS) (continuation):

#	Source	MUNIC code	Indicator (MUNIC survey question)
47	MUNIC 2023	MDHU088	Implementation of programs and actions for specific groups: Black population;
48	MUNIC 2023	MDHU089	Implementation of programs and actions for specific groups: Indigenous peoples;
49	MUNIC 2023	MDHU0810	Implementation of programs and actions for specific groups: Quilombola communities;
50	MUNIC 2023	MDHU0811	Implementation of programs and actions for specific groups: Afro-Brazilian traditional religious communities (terreiro communities/African matrix religions);
51	MUNIC 2023	MDHU0812	Implementation of programs and actions for specific groups: Other traditional peoples and communities.
52	MUNIC 2023	SMAP116	Existence of environmental zoning or ecological-economic zoning legislation.
53	MUNIC 2023	SMAP111	Existence of a building code.
54	MUNIC 2023	SMAP114	Existence of legislation requiring a preliminary environmental impact assessment.

* The MUNIC survey questions were grouped into a single indicator. That is, if the municipality responded favorably to resilience (“yes”) in any of the questions, a score of 1.0 was assigned to that indicator. This is because not all the actions described in 41, 42, 43, and 55 are applicable to all municipalities. Thus, this approach was adopted to avoid penalizing those for whom the described actions would not be necessary.

