



Dialogues on the Sustainable Development Goals and the Challenges for Water and Sanitation Management in Brazil

Document presented at the 8th World Water Forum
Brasilia, March 18 to 23 2018

Image: Project Archive



Images: Eraldo Peres/ANA Archive



Dialogues on the Sustainable Development Goals and the Challenges for Water and Sanitation Management in Brazil

Ministry of Planning, Development and Management
Minister Dyogo Henrique de Oliveira

Ministry of the Environment
José Sarney Filho

ipea Instituto de Pesquisa Econômica Aplicada

Ipea is a public foundation linked to the Ministry of Planning, Development and Management that provides technical support to governmental actions, enabling the design of numerous public policies and programs focused on development in Brazil. Ipea also makes the research and studies conducted by its technical staff available to society.

President
Ernesto Lozardo

Director of Institutional Development
Rogério Boueri Miranda

Director of Studies and Policies of the State, Institutions and Democracy
Alexandre de Ávila Gomide

Director of Studies and Macroeconomic Policies
José Ronaldo de Castro Souza Júnior

Director of Studies and Regional, Urban and Environmental Policies
Alexandre Xavier Ywata de Carvalho

Director of Studies and Sectoral Innovation and Infrastructure Policies
Fabiano Mezadre Pompermayer
Director of Studies and Social Policies
Lenita Maria Turchi

Director of Studies and Economic Relations and International Policies
Ivan Tiago Machado Oliveira

Head Press and Communications Secretary
Regina Alvarez

Ombudsman's Office:
<http://www.ipea.gov.br/ouvidoria>
URL: <http://www.ipea.gov.br>



The National Water Agency (ANA) is a regulatory agency linked to the Ministry of the Environment (MMA) devoted to enforcing the objectives and guidelines set forth in Brazil's Water Law - No. 9,433, of 1997.

Director-President
Christianne Dias Ferreira

Directors Hydrology Department
Ney Maranhão

Management Department
Ricardo Andrade
Planning Department
Marcelo Cruz

Regulations Department
Oscar Cordeiro Netto

URL: <http://www.ana.gov.br/>



Empoderando vidas.
Fortalecendo nações.



The International Policy Centre for Inclusive Growth is a global forum for South-South dialogue on innovative development policies. It is the result of a partnership agreement between the Government of Brazil - represented by the Ministry of Planning, Development and Management (MP) and by the Institute of Applied Economic Research (Ipea) - and the United Nations Development Program (UNDP)

Acting Director
Niky Fabianic

Senior Research Coordinator
Diana Sawyer

URL: <http://www.ipc-undp.org/pt-br/>

Technical Team

IPEA General Coordination
Gesmar Rosa dos Santos

Author and Technical Reviewer
Gesmar Rosa dos Santos

IPC-IG Coordination
Daniela Nogueira Soares

Author and Technical Reviewer
Daniela Nogueira Soares
Júlio Issao Kuwajima

Authors
Ana Lizete Farias
Daniela Nogueira Soares
Diego Franca Freitas
Eveline Maria Vasquez Arroyo
Júlio Issao Kuwajima
Luiz Augusto Bronzatto
Maíra Simões Cucio
Valéria Maria Rodrigues Fachine

ANA Coordination
Bruno Pagnoccheschi
Marcelo Pires da Costa
Marco José Melo Neves

Authors and Technical Reviewers
Marcelo Pires da Costa
Marco José Melo Neves

Layout and desktop publishing
F4 Comunicação Ltda

The opinions expressed in this publication are the sole responsibility of the authors, and do not necessarily reflect the views of the Institute of Applied Economic Research or the Ministry of Planning, Development and Management, the National Water Agency or the International Policy Centre for Inclusive Growth.

This text and the data contained therein may be reproduced, provided the source is referenced. Reproduction for commercial purposes is forbidden.



List of Abbreviations

ABEMA - Brazilian Association of State Environment Entities
ABM - Brazilian Association of Municipalities
ABRINQ - Abrinq Foundation for the Rights of Children and Adolescents
AESBE - Brazilian Association of Sanitation Companies
ANA – National Water Agency
ANDIFES - National Association of Directors of Federal Higher Education Institutions
CASA CIVIL - Presidential Staff Office (“Civil House”)
CBH-Doce - Doce River Basin Committee
CERH - State Water Resources Council
CNI - National Confederation of Industry
CNM - National Confederation of Municipalities
CNODS - National Commission for the Sustainable Development Goals
CNRH - National Council for Water Resources
CNS - National Council of Extractivist Populations
COMPESA - Sanitation Company of the State of Pernambuco
CONAMA - National Environment Council
CGU - Federal Comptroller General’s Office
EESC / USP - São Carlos School of Engineering / University of São Paulo
EMBRAPA - Brazilian Agricultural Research Corporation
ETHOS - Ethos Institute
FNP - National Federation of Mayors
GDP - Gross Domestic Product
IBAMA - Brazilian Institute of Environment and Renewable Natural Resources
IBGE – Brazilian Institute of Geography and Statistics
IPC-IG - International Policy Centre for Inclusive Growth
IPEA - Institute of Applied Economic Research
MCid - Ministry of Cities
MDG - Millennium Development Goal
MDS - Ministry of Social Development
MMA - Ministry of the Environment
MP - Ministry of Planning, Development and Management
MPF - Federal Prosecution Office (“Public Ministry”)
MRE - Ministry of Foreign Affairs
NGO - Non-Governmental Organizations
OGU - General Budget of the Federal Government
PAHO - Pan American Health Organization
PCJ - Water Agency of the Piracicaba, Capivari, and Jundiaí River Basins
PLANSAB - National Basic Sanitation Plan
PNRH - National Water Resources Plan
SABESP - Basic Sanitation Company of the State of São Paulo
SBPC - Brazilian Society for the Advancement of Science
SDG - Sustainable Development Goals
SEGOV - Secretariat of Government of the Presidency of the Republic
SINGREH - National Water Resources Management System
SINISA - National Information System on Basic Sanitation
SISNAMA - National Environment System
SINIS - National Information System on Sanitation
SRHQ - Secretariat of Water Resources and Environmental Quality
TCU - Federal Court of Accounts
UGT - General Workers’ Union
UN - United Nations
UnB - University of Brasília
UNDP - United Nations Development Program
UNESCO - United Nations Educational, Scientific and Cultural Organization
Visão Mundial - Visão Mundial Non-Governmental Organization



The ANA / IPEA / PNUD / IPC-IG partnership project

In support of the work carried out by the National Commission for the Sustainable Development Goals on SDG 6 (water and sanitation), the four institutions participating in this project signed a partnership agreement to conduct studies on the challenges to water management in Brazil, as well as to propose an institutional framework strategy with general guidelines for implementing and monitoring this SDG vis-à-vis water and sanitation in the country.

The Project brings together a dozen senior researchers from IPEA and IPC-IG, and coordinators from ANA. It is expected to consolidate a research network

on the topic, bringing together consultants, academics, managers and other practitioners from field.

The studies are based on three pillars used to group topics together and delineate the methodologies for each stage of the studies. The starting point is a broad set of contributions from recent studies and debates on water and sanitation management in Brazil, in both the public and private sector and in academia. The project is also greatly interested in studying water management experiences in Brazil - both pilot projects and more structured initiatives.



Image: Rui Faquini/ANA Archive



Image: Zig Koch/ANA Archive

PILLAR 1

A description and analysis of the elements crucial to the success of (and the obstacles faced by) water management experiences in Brazil and abroad. This pillar will address the sectoral use of water as broken down by productive sector (sanitation, agriculture, industry, energy) and consider the challenges, gaps and technical / operational / institutional obstacles.

PILLAR 2

Formulation of proposals to improve actions (initiatives and policies) at the state level, based on water management and sanitation tools. This pillar includes strategic measures as a foundation for the actions needed to implement SDG 6 and disseminate good practices.

PILLAR 3

Formulation of a proposed framework to implement and monitor SDG 6, highlighting the political-institutional, financial and technical-operational components. This pillar will focus on adjusting the standards, policies and instruments used in intersectoral management in the context of integrated water, sanitation and environmental management.



Building a Strategy to Implement Sustainable Development Goal 6 (Water and Sanitation) in Brazil

Water scarcity has become one of the main challenges for humanity in the 21st Century. The largest metropolises are on the verge of an unprecedented water crisis, even harsher than what they faced in 2014 and 2015. This scenario has prompted United Nations entities and deliberative bodies to take a more active stance on the issue.

In terms of water volume, Brazil is a privileged country: according to statistics, the country holds about 12% of the planet's surface fresh water. Water availability, however, varies throughout the country - about 68% of the water is concentrated in the North Region, home to 7% of the Brazilian population, and only 13% of the water is in the Southeast, where 58% of Brazilians live. The water supply reflects the contrasts and asymmetries also associated with the national development process, as well as the resulting social and regional inequalities.

The country has been active and influential in international treaties on the environment and sustainability. Examples include the country's climate agreements and its ratification of the Millennium Development Goals (MDGs). This position was further solidified by the country's adherence to 2030 Agenda and its 17 Sustainable Development Goals (SDGs).

Throughout the implementation of the MDGs, Brazil was able to increase access to potable water. Certain gaps still remain, however - primarily in the collection and treatment of domestic sewage. Financing difficulties resulting from population growth and the urbanization process over the past 50 years are among the chief causes of this gap. About 90% of the urban population have access to drinking water and 50% have sewage collection, considering all the modalities of this service. Of particular note are challenges such as the high percentage of losses (about 40%) in water distribution systems and weak intersectoral integration in water and sanitation management.

Regarding water management and its connection to SDG 6 targets, it should be noted that conflicts between multiple uses of water and several technical-operational and institutional difficulties are compounded by climate change, which further aggravates the scenario and complicates management challenges. Challenges still persist in the state's and Federal Government performance (in regulation, financing, planning and execution of policies and programs in a more integrated fashion) and mediation of conflicts between water uses in agriculture, industry, tourism, energy, transport and sanitation, among others.

Image: Paulo Rovena Rosa/Agência Brasil





Weak integration across public policies can be reflected in several ways and may make it harder to contain the degradation of ecosystems, protection areas, slopes and springs, with a negative impact on the quantity and quality of water resources. Brazil's legislation contains several important structuring elements and instruments that enable a dialogue between integrated environmental management and water management. However, one of the issues this project intends to address is the need for progress in ensuring a coordinated implementation of environmental and water resources policies. In Brazil, these duties are incumbent upon the agencies in charge of policy execution, as well as collegiate bodies in the National Environment System (SISNAMA) and the National

Water Resources Management System (SINGREH), as well as the river basin committees (CBH).

Thus, adherence to 2030 Agenda - from the perspective of involving collegiate bodies in environmental and water resources, and sharing information, knowledge and technologies under a long-term horizon - is key to generating positive externalities on environmental assets, and is the driving force behind the partnership between ANA, IPEA, UNDP, and IPC-IG. The primary expected outcome is a set of proposed guidelines on possible forms, processes and responsibilities of each entity in implementing and monitoring actions that contribute to the achievement of SDG 6 and its targets related to water and sanitation management in Brazil.

Water and Sanitation Management in Brazil

The implementation of water resources management models in Brazil is far from recent, with provisions on the subject dating back to the 1930s. More recently, and especially after the enactment of the 1988 Federal Constitution and the United Nations Conference on Environment and Development (Rio 92), the socio-political climate enabled the creation of the National Water Resources Policy, in 1997, with a governance approach more suited to environmental resources, as well as widely-recognized advances in water resources management. Law 9.433, of January 8, 1997 (also known as the Water Law), recognizes that water resources are limited and belong to the public domain, and thus require decentralized and participative management.

It is the responsibility of the Secretariat of Water Resources and Environmental Quality, under the



Image: Eraldo Peres/ANA Archive

Ministry of the Environment (SRHQ / MMA), to formulate and inform the National Water Resources Policy, and provide input for the preparation of the General Budget of the Federal Government (OGU). ANA, created by Law 9,984 of July 17, 2000, is part of the National Water Resources Management System (SINGREH); its duties include executing the National Water Resources Policy, supervising the implementation of the National Water Resources Plan (PNRH), and granting and supervising the use of water resources at the federal level. The entities responsible for water resources at the state level, in turn, grant and supervise the use of state-owned water resources.

SINGREH² is composed of councils, committees, the National Water Agency, basin agencies and public entities at the federal, state, Federal District and municipal levels involved with water resources ma-

² Additional information about SINGREH can be found at the MMA website: <http://www.mma.gov.br/agua/recursos-hidricos/sistema-nacional-de-generenciamento-de-recursos-hidricos>



agement (Figure 2). The councils (CNHR, CERH) are tasked with informing the design of the Water Resources Policy, resolving conflicts regarding water bodies in their respective domains, and approving the National Water Resources Plan (CNRH) or the State Plans (CERH).

The National Council for Water Resources was formed in 1998; today, each of the 27 Brazilian states and the Federal District has its own Council. The basin committees approve the Water Resour-

ces Plans for the basins and deliberate on regional priorities and whether to charge water users in their regions. There are currently about 211 state basin committees in place. The committees are composed of representatives from the public and private sectors and civil society.

The river basin committees stand out within SINGREH's governance structure. They can be important mechanisms in the process of internalizing and implementing 2030 Agenda.

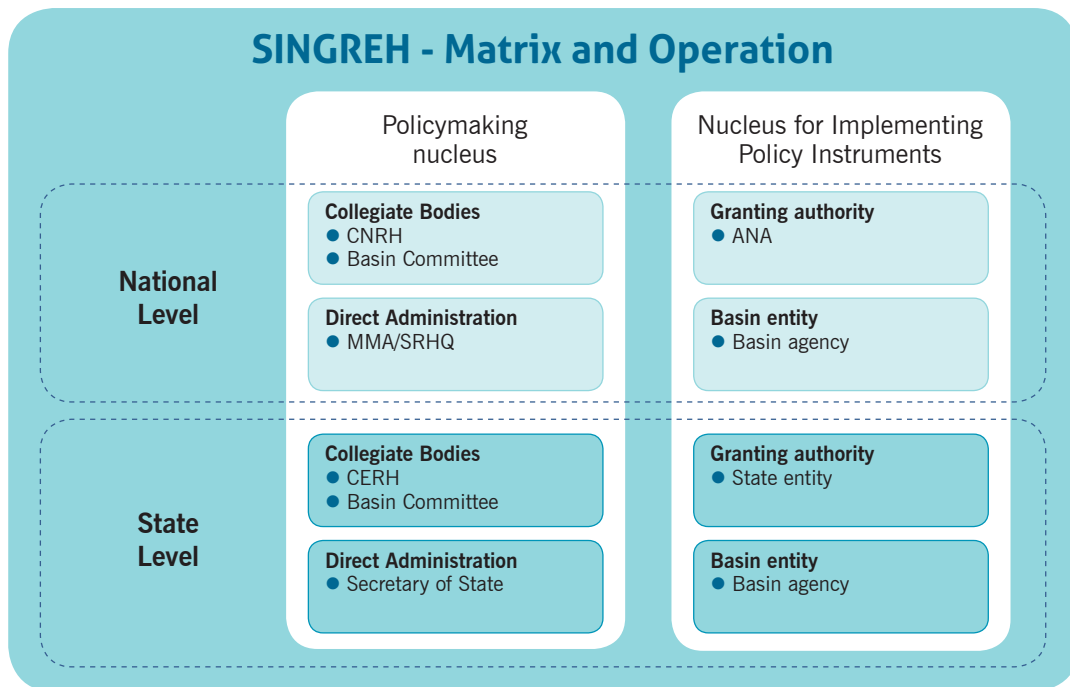


Figure 2 - National Water Resources Management System - SINGREH. Adapted from the Ministry of Environment (MMA) and the National Water Agency (ANA)

The main objective of the National Water Resources Plan is to set guidelines and public policies to improve the quantity and quality of the water supply, by managing water demands and regarding water as a structuring element for policy implementation, from the perspective of sustainable development and social inclusion. The PNRH is one of the plans defined by Law 9.433 of 1997; its first version was approved by the CNRH, in 2006, to fulfil the commitments in the Plan of Implementation of the World Summit on Sustainable Development in Johannesburg. Brazil was the first Latin American Country to approve a plan of this nature. The planning process undergoes periodic reviews every four years, and serves as guidance for the Federal, State and District Pluriannual Plans and their respective annual budgets. The first review occur-

red in 2011 (National Water Resources Plan: Priorities for 2012-2015); the second review (2016-2020) is in the final stages of preparation.

With regard to sanitation, Law 11455/2011 set national guidelines for Federal Policy on basic sanitation, and created the National Sanitation Plan, regulated by Decree No. 8,141 / 2013. After several preliminary versions (between 2008 and 2010), the National Basic Sanitation Plan (PLANSAB) was approved by Ordinance No. 171, dated April 9, 2014, which sets targets for access to water and sanitation by 2033. Amendments to the regulatory framework for sanitation are currently under discussion in Brazil, including the possibility of allowing a stronger presence of the private sector in water and sewage services.



2030 Agenda and the Challenges to Water Governance in Brazil

2030 Agenda is a chance to align federal, state and municipal programs and actions to promote and finance the achievement of SDG targets, in accordance with CNOBS. SDG 6 presented several challenges, such as the need to firmly embed the topic of water in the Brazil's strategic political agenda. Considering the country's size, effective nation-wide implementation requires the formation of networks for cooperation, coordination and mobilization of stakeholders at the various levels of government and in civil society.

In this sense, 2030 Agenda is yet another opportunity to strengthen the implementation of sustainable and integrated actions in the country - including the conservation of water resources. Initiatives are beginning to emerge that rely on integration to implement the SDGs.

2030 Agenda is also a chance to scale up integrated actions for water and sanitation management. To achieve this, proper coordination between the National Water Resources Plan and the National Basic Sanitation Plan, the National Solid Waste Plan, the National Irrigation Plan and the National Plan for Climate Change is essential. Such coordination can improve the monitoring of water quality and quantity, as well as sector-level consumption, which facilitates planning and fiscalization.

To this end, states and municipalities must strengthen their technical and operational capacity - particularly with respect to water and sanitation governance. As such, it is important to study the contributions of experiences such as Programa Progestão, under ANA, which supports the structuring of state management entities. Other initiatives also exist in the same vein - led by institutions such as the Ministry of the Environment, the Ministry of Health and the Ministry of Cities - to support municipalities and sanitation companies in improving their management, planning and fundraising activities. In this set of cases, the challenge lies in expanding financing methods so these (and other) initiatives may be replicated and scaled up. The "polluter pays" and "payment for environmental services" principles are some of the instruments envisaged in the legislation that could be applied in this sense, but these instruments are still awaiting consensus before they can be scaled up.



PROGESTÃO

Programa de Consolidação do Pacto Nacional pela Gestão das Águas

Fostering a culture of respect and appreciation for water requires awareness-raising initiatives to stimulate the notions of citizenship and responsible use. Cultural differences and cross-cutting issues must also be considered and respected. There are cases where water sources have been successfully recovered based on the principle of payment for environmental services, such as in ANA's Water Producer Program (Figure 3).

Figure 3 - Water Producer Program - Water Management and Payment for Environmental Services (PES).



Foto: Archive ANA





The SDG Agenda as a Chance to Leave no One Behind

The principle of social equity is one of the pillars of integrated water resources management. In the spirit of efforts to build a more inclusive management scheme - one that truly leaves no one behind, as stated in 2030 Agenda - a number of cross-cutting themes have emerged as necessary conditions for more effective and democratic management. These are topics such as gender, youth, traditional populations, integrity in water management, climate change and regional issues.

In the specific case of gender issues, Léo Heller, UN Special Rapporteur on the Human Right to Drinking Water and Sanitation, emphasizes the need for a “transformative approach as a prerequisite for attaining gender equality in the human rights to water and sanitation”. The specific needs of women and other vulnerable groups - such as children, in-

igenous people, the elderly and others - were also highlighted, as access to water and sanitation services also increases the adaptive capacity of these social groups. Initiatives in this regard cover both families and entire communities; they are strategic vectors of development meant to address the material and structural factors that perpetuate social inequalities.

The interface between SDG 5 - Gender Equality³ and SDG 6 - Water and Sanitation (Figure 4) is specified in Goal 6.2 - “By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations” -, which corroborates the evidence that problems in water access, quality and quantity have a far stronger effect on the vulnerable segments of society.

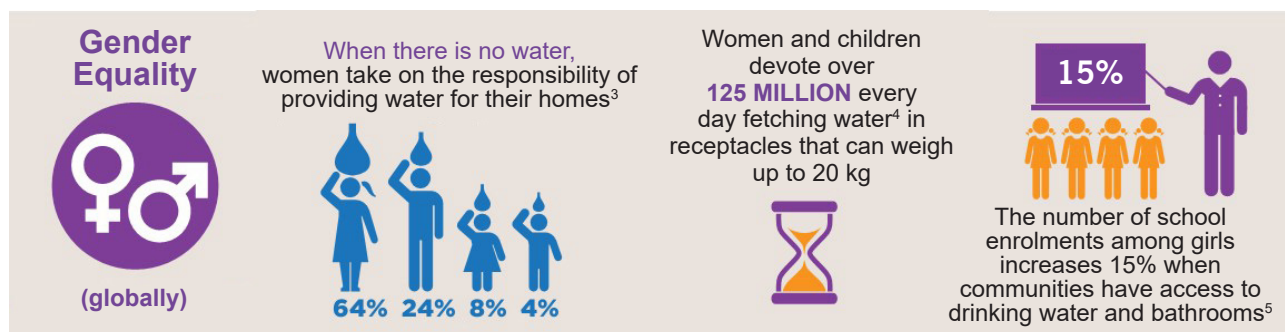


Figure 4 - The Interface between Water and Gender Source:(BID, 2016).

Setting the Path: Advances and Challenges of SDGs in Brazil

The editon of decree 8.892 / 2016, which created the National Commission for the Sustainable Development Goals (CNODS), was an important step towards structuring 2030 Agenda in the Country. The purpose of CNODS is to internalize, disseminate and afford greater transparency to the process of implementing 2030 Agenda. CNODS is part of the structure of the Secretariat of Government of the Presidency

of the Republic; it has an advisory mandate, and is responsible for coordination, mobilization and dialogue with federal entities and civil society.

Brazil was the first country in Latin America to set up an institutional framework that represents the government and civil society equally, and coordinates policies to advance the implementation of 2030 Agenda. On the government side, the Secretariat of

3. For more information visit: <https://publications.iadb.org/handle/11319/7700>



Government, the Presidential Staff Office (Casa Civil) and the Ministry of Foreign Affairs play leading roles. IPEA and IBGE (the Brazilian Institute of Geography and Statistics) provide technical advice to CNODS.

The first version of the Commission’s action plan focuses on governance for implementing the SDGs, outlining the institutional architecture needed for implementation. Actions have been planned to mobilize key players and carry out institutional and legal arrangements to enable strategic partnerships. The creation of thematic chambers was provided for in the

Decree that created the CNODS. These chambers are planned as spaces for discussion on various themes or objectives. Coordination of the chambers will be shared between public authorities and civil society. Which institutions will participate in each chamber is a matter still under discussion. The government has recently announced that it will be creating the first such chamber, on Partnerships and Means of Implementation.

Figure 5 illustrates the institutional framework of CNODS when it was first composed.

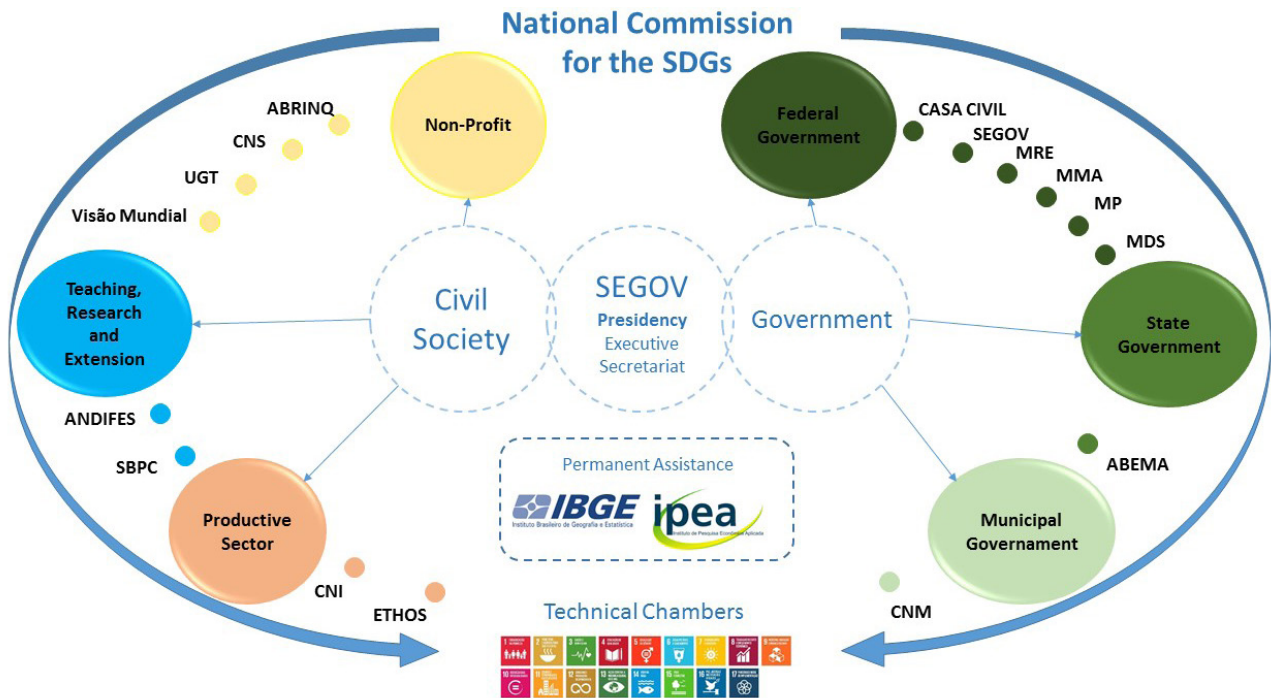


Figure 5 - CNODS Institutional Framework Source: National Commission for the SDGs (Brasil, 2017)

CNODS has the following mandate: I - prepare the action plan for implementing 2030 Agenda; II - propose strategies, instruments, actions and programs for implementing the SDGs; III - follow-up and monitor the development of SDGs and preparation of periodic reports; IV - inform the discussions on sustainable development at national and international forums; V - identify, systematize, and disseminate good practices and initiatives that contribute to achieving the SDGs; and VI - coordinate with the public agencies and

entities of the federative units to ensure the dissemination and implementation of SDGs at the state, district and municipal levels.

The fact that Brazil has created an institutional framework for achieving the SDGs - by means of a specific policy coordination instrument linked directly to the Presidency of the Republic - can be quite conducive to SDG implementation. However, there are many challenges involved in a government initiative of this scope, and several adjustments will be required along the way.

4 Additional information can be found at: <http://www4.planalto.gov.br/ods>



Signs of Institutional Adherence

Institutional adherence to the SDG platform has been on the rise in the Country. 2030 Agenda has been hailed by academics, the different levels of government and civil society organizations as a source of hope and possible commitments. The SDGs can provide important opportunities to planned actions, promote sustainability, motivate social participation and hold political decision-makers accountable (Figure 6). In this sense, we highlight the initiatives by entities linked, primarily, to municipal governments - such as the National Confederation of Municipalities (CNP), the Brazilian Association of Municipalities (ABM), the National Front of Mayors (FNP) and the National SDG Movement - We Can (MNODS).

The movement around SDG 6 is still in its ini-

tial stages within the entities in charge of water and sanitation in the Executive Branch. Of particular note are the initiatives by CNODS, the Ministry of the Environment (MMA), the Ministry of Health (MS), and the Ministry of Foreign Affairs (MRE), as well as their agencies and related institutions⁵. Control bodies - such as the Federal Court of Accounts Controller Bodies (TCU), the Federal Comptroller General's Office (CGU) and the Federal Prosecution Office (MPF) - also have SDG-related initiatives. Among the environmental agencies, the Brazilian Institute of Environment and Renewable Natural Resources (IBAMA) and ANA have launched an agenda with events and actions to promote and internalize the theme, which is in its initial stages.



Figure 6 - Action Plan 2017-2019 - CNODS

5 See initiatives such as the National Plan for SDGs (CNODS) at: <http://www4.planalto.gov.br/ods>.



First Steps of the Project: Inputs from the SDG 6 Workshop

Images: IPEA Archive

The Workshop “Sustainable Development Goals and the Challenges for Water Management and Sanitation in Brazil” was held in Brasília, on February 1, 2018, and brought together renowned specialists and representatives from academia, active representatives from the productive sector (agriculture, industry and sanitation), government agencies and civil society organizations - such as river basin committees - and Non-governmental Organizations (NGOs) active in the sector. The workshop was attended by around 160 participants and sought to gather input from key stakeholders involved in water and sanitation issues related to SDG 6 implementation.

By means of panels organized to address the eight SDG 6 targets grouped by thematic proximity, the workshop provided important input for the work as it moves forward. In the following report, we sought to gather the outputs from each panel, and highlight the challenges they have raised, important



experiences in view of SDG 6, existing gaps in public policies, measures suggested by the speakers and additional questions and suggestions for moving the studies forward⁶.



⁶ The statements were summarized by the technical staff; the recordings are available at: http://www.ipea.gov.br/portala/index.php?option=com_content&view=article&id=32345&Itemid=7



Panel 1

Access to Drinking Water and Sanitation (Targets 6.1 and 6.2)



Image: IPEA Archive

Marcelo de Paula Lellis. National Secretariat of Sanitation at the Ministry of Cities (MCid).

The work carried out by the Ministry of Cities on sanitation covers a wide scope, in accordance with the National Basic Sanitation Plan (PLANSAB). The Plan is dynamic and is currently under review. It addresses water supply, sewage collection, transportation and treatment, solid waste management and rainwater management. PLANSAB contains short (2018), medium (2023) and long-term (2033)⁷ targets. While these targets converge with SDG 6, they are not enough for full compliance - especially regarding sanitation conditions in urban and rural areas. One of the objectives of this plan is to ensure the financial sustainability of public sanitation service providers, in order to increase investments and the quality of services - including by means of tariff revisions.

According to the speaker, considering the great challenges of the sector, it is understood that the federal

government has no prospects of achieving the targets for universal basic sanitation by 2030, as set forth by SDG 6 (Table 1). The PLANSAB targets continue to be used as reference.

Suggestions:

- reduce regional discrepancies in water and sewage services, reducing shortages in rural areas and in the North and Northeast of the country;
- improve management and planning of the sanitation sector, with guidance from PLANSAB and input from the population about water and sanitation issues;
- continue to improve the National Information System on Sanitation (SNIS) and the National Information System on Basic Sanitation (SINISA).
- execute municipal sanitation plans, which requires proper qualification and technical and institutional structures at the municipal level.

⁷ For more information visit: <http://www.cidades.gov.br/saneamento-cidades/plansab/89-secretaria-nacional-de-saneamento/3297-6-metas-de-curto-medio-e-longo-prazos>



Table 1 - PLANSAB targets for water supply and sewage

Indicator (PLANSAB)	Scope	Status in (2010)	Medium-Term Target (2023)	Long-Term Target (2033)
Households by distribution network or by well or spring with internal piping	Urban and Rural	90%	95%	99%
	Urban	95%	100%	100%
	Rural	61%	71%	80%
Loss Rate in water distribution	Brazil	39%	34%	31%
Households served by a collection network or septic tank for excreta or sanitary sewage	Urban and Rural	67%	81%	92%
	Urban	75%	85%	93%
	Rural	17%	46%	69%
Treatment of Collected Wastewater	Brazil	53%	77%	93%

Source: Adapted from (Brasil, 2015). Elaborated by the project team

Édison Carlos - President of Instituto Trata Brasil.

According to the panelist, the official statistics are imprecise, as they are obtained from information provided by sanitation companies, which is not audited and does not include an assessment of the quality of treatment of domestic effluents. Half of the Brazilian population does not have access to swage collection services, and the sewage standard for residences served by septic tanks is quite low. There are bureaucratic barriers to making projects feasible and there are no guarantees about federal investments, long-term financial resources or even the continuity of funding. The inadequacy of the regulatory framework also poses financial obstacles. The approach in the sector needs to change, through an understanding between municipalities and the Federal Government. There has been little progress since the approval of the National Basic Sanitation Law, 10 years ago.

The Municipal Sanitation Plans also failed to advance much, as many municipalities do not even have them; and those that do, rarely or never carry out the periodic reviews. The number of municipalities that have effectively implemented their plans remains very low. This situation is prompted

by several factors, such as the lack of federal surveillance, the low technical capacity of the municipalities or even lack of financial resources. The regulatory framework must be reviewed if it is to bring about the adequate conditions for improving the sanitation sector. Services must be efficient, regardless of whether they are provided by public or private companies.

Suggestions:

- improve the SNIS as a data and information system on sanitation in the country, and collect more accurate and reliable information - the methodologies must be agreed upon;
- improve communication about water and sanitation, as people do not know much about the water/sanitation system;
- urge the municipalities that have not yet done so to prepare their Municipal Sanitation Plans and reward those who already have them. This should include a technical task force to support the smaller municipalities;
- be more stringent in encouraging the adoption of technologies and efficient management, regardless of who the concessionaire may be (municipalities or states).

“The Federal Government must find a technical solution to support the municipalities. If we look at the interior of Brazil, the mayors have no idea how to get out of the situation they find themselves in. State enterprises cannot handle 1,200 small towns with the funds they receive from capitals.”

Édison Carlos

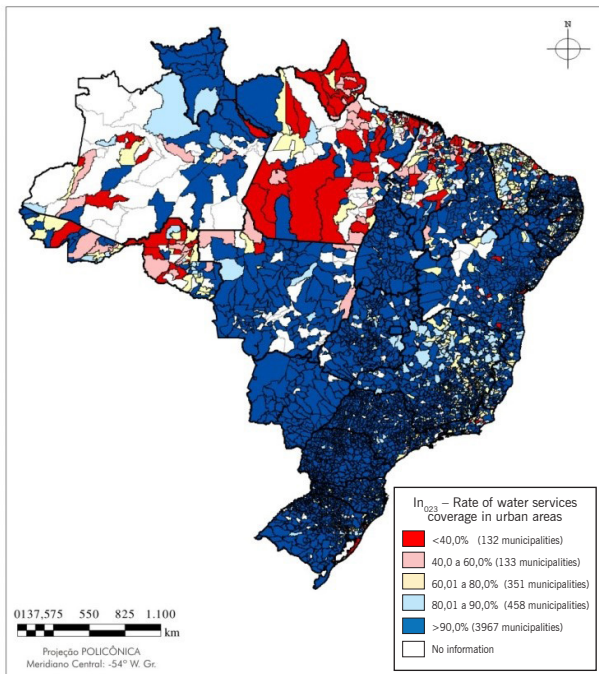


Figure 7 - Rate of urban coverage by water networks in the municipalities included in the SNIS in 2015, by percentage and by number of municipalities (MCId, 2017). (added by the project team)

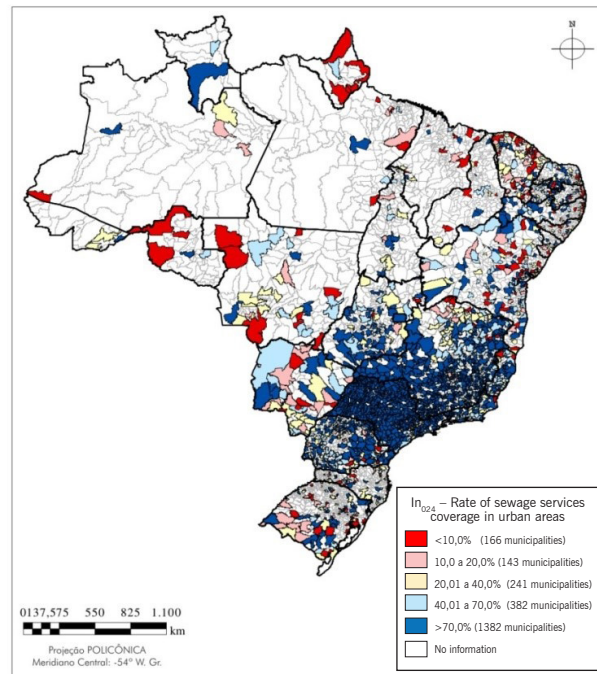


Figure 8 - Rate of urban coverage by sewage collection networks in the municipalities included in the SNIS in 2015, by percentage and by number of municipalities (MCId, 2017). (added by the project team)

Roberto Cavalcanti Tavares. President of the Brazilian Association of Sanitation Companies (AESBE) and President of COMPESA (Companhia Pernambucana de Saneamento).

Sanitation is the second most disorganized sector in the country, according to a study by the National Confederation of Industry (CNI), partly due to the underlying regulatory framework. Institutional improvements must be made to address sectoral problems, which are characterized primarily by a lack of knowledge of the dynamics and the real status of the sector. This ultimately generates challenges between regions and within metropolitan areas. The participation of the private sector should be discussed, but without prejudice to state companies.

The revision of the regulatory framework proposed by the government eliminates cross subdization and allows private companies to pick the most profitable regions to operate. This poses a threat to unattractive municipalities, and may escalate the fees charged for such services. There are regulatory agencies in excess in the sector, which generates legal uncertainty and unclear sanitation rules. This scenario produces

excessive bureaucracy - which, in turn, inhibits innovation. Planning and regulatory activities should be centralized in larger administrative units (at the basin or regional level). The fact that this sector is poorly structured generates a large discrepancy in technical qualification across municipalities, resulting in low-quality municipal sanitation plans - especially in the poorest municipalities and those most in need of improvement.

Additional recommendations:

- re-discuss and reorganize the whole sector - from the regulatory framework to the administrative units;
- discuss the environmental legislation and the need for sanitation licensing;
- study sanitation and its challenges throughout the entire production chain;
- manage and coordinate the water quality data monitoring systems more systematically;
- study/replicate the following examples in the study: in Pernambuco, Compesa; drainage system used as a sewage collection network. International: City of Porto - channeling via drainage networks; 3)



Bogotá - pollution control through payments; 4) New York - use of drainage network for sewage collection; 5) Santa Cruz do Capiberibe, where hydro-meteoro-

logical conditions enable use of the drainage network to drain wastewater as an alternative to the separate sewer system.

“ AESBE supports the proposed Provisional Decree (MP)⁸ which revises the Regulatory Framework for Sanitation, but is contrary to measures such as Article 10-A of the draft MP, which foster competition in services only in municipalities showing a surplus. Those with a deficit would be in the hands of the municipalities and states, thus de-structuring the sector. The private sector is welcome, but not if it is fragmented; participation of the private sector should be discussed, to avoid leaving unattractive municipalities unserved. Without the proper care, fees may escalate. ”

Roberto Cavalcanti Tavares

Teófilo Monteiro - Coordinator of the Regional Technical Team in Water and Sanitation, Pan American Health Organization (PAHO) / World Health Organization (WHO).

Member countries are making efforts to meet regional UN Goals, including improving access to and quality of services, as access to sanitation services is currently lacking in the regions where PAHO operates. There are approximately 18 million people without access to such services in the Americas - 4 million in Brazil alone. The rural population is not only the most deprived of services, it is also inadequately covered by data. Challenges in rural sanitation include overcoming the lack of data on water quality and the management of sewage and septic tanks sludge.

The scale of management and regulation (at the local, regional and national levels) poses an additional challenge to management; the lack of centralization in Brazil is understood to be the cause behind the lack of data. An alternative for the regions served by septic

tanks would be on-site monitoring and the adequate management of this technology. Brazil's water quality regulation system for urban areas and its monitoring system are considered a model in the context of Latin America. Adequate parameters, however, are still missing - such as microbiological and chemical indicators for water and the conditions under which the septic tank is considered a treatment system. As a result, Brazil appears without any data in reports from the World Health Organization (WHO) system.

The panelist mentioned the need for progress on the following topics:

- adjusting water quality monitoring in rural areas;
- adjusting the microbiological and chemical parameters of water quality;
- centralizing the available data to facilitate dissemination;
- improving and standardizing the definition of sewage treatment systems.

“ There are approximately 18 million people without access to such services in the Americas - 4 million in Brazil alone. The rural population is not only the most deprived of services, it is also inadequately covered by data. Challenges in rural sanitation include overcoming the lack of data ”

Teófilo Monteiro

⁸ Observation: Article 10-A of the proposed Provisional Decree obliges municipalities to hold a public tender when renewing contracts with state sanitation companies. By the current rules, municipal contracts with the state companies may be renewed automatically, without a public tender.



Panel 2

Water Quality, Ecosystem Protection and Restoration (Targets 6.3 and 6.6)

Images: IPEA Archive



Bráulio Ferreira de Souza Dias - Professor of the Department of Ecology at UnB

All distinct biomes (without exception) show weaknesses in terms of protection and effective measures capable of coping economic production with the dynamics of the different ecosystems, which suffer from continued deforestation. The ecosystem services around the hydrological cycle must be recognized in the processes involved in intercepting rainfall, recharging water tables and aquifers, maintaining perennial rivers, buffering against extreme events, reducing the erosion rate of the soil, in evapotranspiration and in reducing the risk of environmental disasters. Forest areas planted with adequate management may also provide ecosystem services.

The lack of intersectoral coordination and the absence of integrated water-environment management are critical factors, considering the fact that there is no inter-sectoral coordination across policies. 2030 Agenda presents a glimmer of hope in this scenario.

Proposals:

- Achieve effective intersectoral coordination in the implementation of SDGs;
- Create a national water resource protection and recovery program (similar to the Payment for Environmental Services program, but on a wider scale), with 10-year targets;
- Improve economic incentive instruments, with mechanisms to preserve forests in a way that is advantageous from an economic perspective;
- Support centers of academic excellence in modeling ecosystems and water resources, by integrating existing monitoring methods and using the basin as a reference;
- Leverage international experiences in developing and monitoring indicators and improving methodologies, as well as indicators for public policy assessment.



“Citizens do not know where their water comes from. The political system does not discuss issues related to water management and ecosystems. How do we convince politicians to take a different stance?”

Bráulio Dias

José Galízia Tundisi - Full Professor at EESC / USP, Secretary of Sustainability, Science and Technology of the city of São Carlos / SP

The increasing complexity of human activities has made water quality problems more intricate, shifting from “ordinary” eutrophication cases to problems such as radioactive pollution, hormones, chemicals, medicines, cosmetics. This degree of water body degradation causes severe damages to the health of humans and ecosystems alike. Few countries have technologies capable of detecting this set of pollutants and removing them from water, but their impacts are not completely and safely understood.

The absence of adequate sanitation systems is the main cause of the deterioration in water quality deterioration in South and Central America; climate change also affects the levels of agents that cause toxicological damage. The preservation of water sources is key; it costs two to three (BRL) to treat 1,000 m³ of water from preserved springs, and between 50 and 100 (BRL) to treat 1,000 m³ of water from

polluted springs, thus evidencing the cost of ecosystem damage. Quality of life should be the foundation of public policy, anchored in knowledge and in future generations.

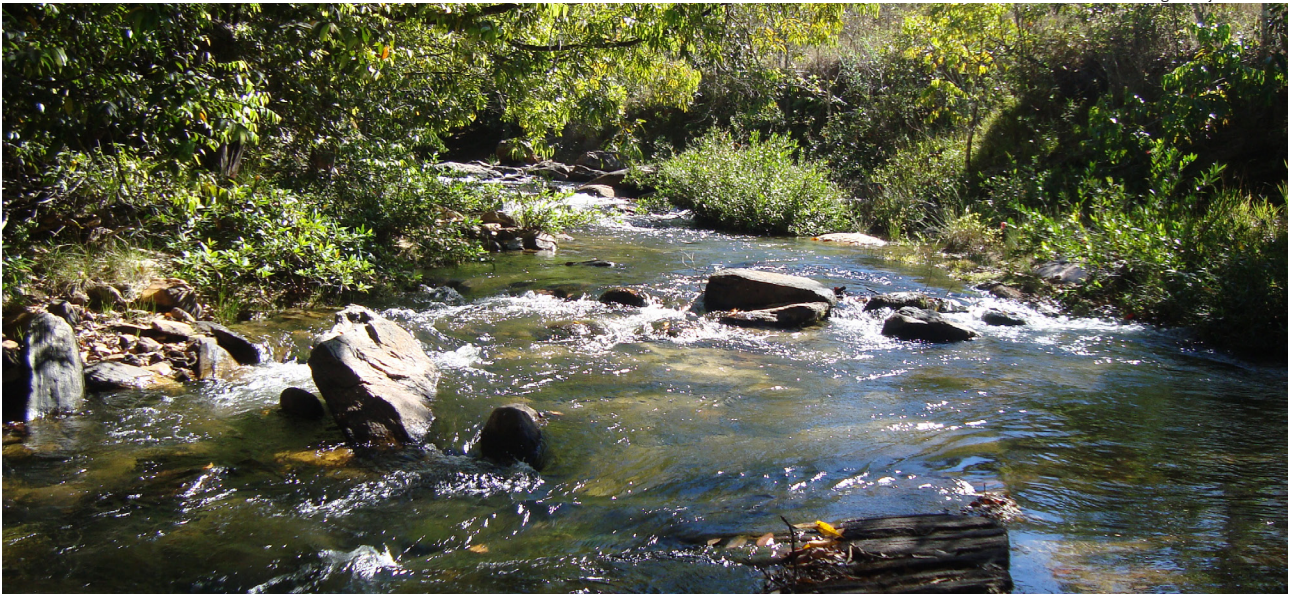
Proposals:

- Expand databases and promote robust water quality monitoring;
- Build research capacity in complex systems to deepen ecosystem studies and develop models involving water, ecosystems, economics and other areas;
- Create consistent vegetation mosaics of river basins to preserve water quality;
- Expand the integration between water quality monitoring and the monitoring of air quality and the transport of pollutants;
- Increase the measurement of water flows and quality;
- Ensure that information is easily and objectively accessible to the population and the education network;

Image: Project Archive



Environmental protection area - Chapada dos Veadeiros (state of Goiás)



Environmental protection area and tourism

Malu Ribeiro - Coordinator of the Rede das Águas project - NGO SOS Mata Atlântica

Despite all the mobilization and progress of the National Water Resources Policy, the changes made to the Brazilian Forest Code in 2012 proved to be a setback, by failing to acknowledge the role of water and forests in the ecosystems, to protect water sources and to reduce environmental risks. “Science has not really been heard”; there are plenty of “negative and very negative” experiences in the country.

The idea of making ANA a regulatory agency for sanitation is a mistake. It is a contradiction for an agency in charge of water management to regulate a service whose source it also monitors and manages. Sanitation is an environmental component, and not just an economic activity that generates revenue. Integrated management of waste, water and forests is a necessity, though it faces great resistance from the sanitation and agribusiness sectors.

Brazil lacks proper regulation for biodiversity valuation mechanisms. Legislative Bill 3,729 / 2004 (and its multiple attachments), which was set to become the General Law on Environmental Licensing,

provides for greater flexibility in environmental licensing, poses a threat to licensing and is a disservice to the country, as it threatens to reduce the number of cases requiring a concession. It also disfigures the guidelines for classifying water bodies. Lobbying efforts prevailed in the sanitation sector when classes 2 to 4 were created for framing purposes - “they are tearing up the Constitution” and the legislation on water and the environment is in “moving in reverse”. SDGs require transparency, more science and sharing, and greater commitment.

Proposals:

- apply the principles of “polluter pays”, “user-pays” and reverse logistics in the sanitation sector
- reduce investments in production that makes use of agrochemicals
- focus scientific efforts on researching the relationship between forests and water production, to generate input and scientific evidence in support of preservation policies.
- ensure the maintenance of ecosystem services associated with water production.

“ Focus scientific efforts on researching the relationship between forests and water production, to generate input and scientific evidence in support of preservation policies ”

Malu Ribeiro



Luciane Teixeira Martins - President of Rio Doce River Basin Committee (CBH-Doce)

CBH-Doce has been operating before the tragedy in the city of Mariana. It is an integration Committee that brings together 12 other committees from affluent rivers (in the states of Minas Gerais and Espírito Santo) that work in an integrated fashion to implement instruments under the PNRH, such as: the Basin Plan (with the target of reaching 100% of municipalities) and Charging for Water Use. By charging for the use of water, CBH-Doce raised enough funds to complete 156 of the 228 sanitation plans for the municipalities of the basin; eight more are currently underway. However, the municipalities cannot implement them because they lack technical staff. There are not enough resources to ensure the continuity of actions even at the transition of mandates, despite the fact that the plans are ready and have the support of the committee's basin agency. How to put the plans into action?

CBH-Doce implements a wide range of projects - including the Rio Vivo Program, with over 6,000 rural settlement in 54 rural municipalities - and actions to protect water springs and legal reserves and to control sediments, because "it is not enough to put up a fence around the water and leave". At CBH-Doce, affluent committees communicate directly with local govern-

ments and farmers, have local reach and promote important integration between the local and regional scales.

The tragedy caused by the failure of the dam operated by SAMARCO in the city of Mariana / MG caused severe water services related problems. The dam spillings generated a strong sense of distrust in the population vis-à-vis water quality, which further aggravated the supply challenges. The population will no longer accept the water, and there are complaints about water quality. University studies have shown evidence of contaminants on site.

The speaker mentioned that it has become a habit for SINGREH entities - such as the CBHs - to generate information that does not go beyond the boundaries of the System itself, and thus have little influence on the actions of different sectors and on other policies. Without integrated management, the question remains: "how to make the subject and the data accessible to the population?".

Challenges:

- address the discontinuity of projects and works caused by the poor technical and economic-financial capacity of municipalities;
- mobilize the efforts of basin committees and municipalities to address the increasing damage to water and the environment.

Image: Zig Koch/ANA Archive



Doce River mouth (State Espírito Santo) - After spillage of tailings from the Mariana dam (State of Minas Gerais)



Panel 3

Water-Use Efficiency (Target 6.4)

Image: Project Archive



Sérgio Brasil Abreu - Infrastructure Analyst at the National Secretariat of Environmental Sanitation, Ministry of Cities

The Ministry of Cities carries out a wide array of projects, with emphasis on “water reclaiming” and “loss control”. Financial issues are the primary bottleneck in project implementation. Regulations are inefficient in controlling water loss, and the amount of water lost is charged and redistributed to the rates paid by consumers. More actions are needed to enable the reuse of water; the Aquapolo Project is the main such example in Brazil, with potential to be replicated in other areas. Despite

this enormous potential, however, certain obstacles still prevent further expansion. Legislation constitutes another bottleneck to water reuse in Brazil - it should be improved and made clearer. There are now ways to limit funding to companies that show high levels of water losses.

A few questions arise in this regard:

- what should be the granting scheme for reclaimed water?
- will the government be making the financial investments?
- will the service provider “own” the water?



Filipi Augusto Barolo Lopes de Araújo - Sustainability Manager, AmBev

The speaker presented environmental and sustainability projects carried out by AmBev, and highlighted: i) the importance of water risk; water should be seen not as a “cost”, but as value; ii) that environment-oriented partnerships should be formed whenever possible, as they make projects more efficient and facilitate reuse projects; iii) that AmBev has

reduced its water demand by 40% in recent years; iv) training, capacity building, and the use of equipment and methods to avoid losses. He also mentioned the SAVEH (Water Efficiency Self-Assessment System) project, a free online platform that helps companies save water, with information about water efficiency. In the “Water AMA” project, 100% of the profit from the sale of water bottles will go to projects to promote access to drinking water in Brazil’s semi-arid region.



Imagens: Internet disclosure



Fernando Gomes da Silva - Director of Aquapolo, BRK / SABESP

The Aquapolo project produces reclaimed water from treated sewage from the Basic Sanitation Company of the State of São Paulo (Sabesp), for use at the Petrochemical Complex of the ABC Region in Greater São Paulo. A partnership between BRK Ambiental, holder of 51% of the shares, and Sabesp, with a 49% stake, it is the fifth largest effluent reuse project in the world. This is a great deal for the ABC Petrochemical Complex, as it maintains the quality and regularity of water supply even in periods of drought. However, since the reclaimed water is purchased by industries, there is an imbalance in competition with treated and potable water, which is cheaper than reclaimed water. Reclaimed water also needs to be regulated; after the project’s five successful years, there have been no other ventures in this area. Aquapolo has the technology knowlegde, knows the risks, costs

and characteristics of the sewage it receives, has consumers for reclaimed water and is physically close to the conglomerate of partner companies. Although companies can use reclaimed water to avoid the risk of running out of water- which may even add to their market value - the process requires authorization from the local government and a number of procedures that bring uncertainty to the market.

Suggestions:

- develop an indicator to quantify the amount of sewage treated and reused in Brazil as reclaimed water;
- develop financial mechanisms for the market to enable more initiatives in reclaiming and sewage treatment.
- improve regulation on reuse, to reduce cost competition with drinking water costs; make legislation clearer and less burdensome to investments.



Lineu Neiva Rodrigues - Researcher at Embrapa Cerrados

He highlighted the relationship between water and agriculture, as 12 of the 17 SDGs are tied to water and food security, which will require increased irrigation. The central challenge is increasing efficiency, currently at around 60%; this number may worsen due to the absence of regulations and sanctions on losses. For enterprises, decision-making is not just about efficiency, be it economic or environmental. As such, any licenses or concessions in agriculture must consider a set of variables that may differ from one situation to the other; intersectoral integration and an understanding of the entire system are, therefore, essential. Many isolated studies contribute to the development of research and technology, but in a fragmented fashion. In the São Marcos River basin (which encompasses the states of Goiás, Minas Gerais and the Federal District) there are conflicts between governments (the states involved, the Federal District, the Federal Government) and between different uses (energy vs. agriculture). The rule should be to analyze the vocation of the basin, which in this case is agricultural. To maintain such a vocation, the Batalha Hydroelectric Plant should

should be decommissioned; building it was a mistake. Shared management and the granting process must be improved through State (rather than government) policies. The legislation is adequate, but the system must be strengthened. The river basin committees should be the central players in defining water use priorities in each region.

Proposals:

- comply with Law 9,433/97 (which is quite apt for its purposes) - ANA should manage water, not sanitation.
- strengthen water supply by considering not only rivers, but river basins and groundwater as well. Soil conservation is essential to maintaining supply.
- improve the technologies currently used in irrigation, by considering diverse local realities, and investing in obtaining reliable data.
- integrate sectoral policies with sanitation policies and understand the difficulties of each sector, rather than setting general rules for all types of water use.
- implement shared water management in the most critical basins - these basins should be prioritized.

Foto: Valter Campanato/Agência Brasil



“The central challenge is increasing efficiency, currently at around 60%; this number may worsen due to the absence of regulations and sanctions on losses.”

Lineu Neiva Rodrigues

“The word is integration, but the problem is forecasting. The database is insufficient, there is not enough modelling is and forecasting capacity is low. For example, the financial sector system requires better forecasts when approving funding for water-constrained areas.”

Comment from professor J. Galizia Tundisi in this panel.



Panel 4

Integrated Water Resources Management and Participation of Society (Targets 6.5 and 6.b)

Image: IPEA Archive



Francisco Nunes Correia - Professor at the Instituto Superior Técnico of the University of Lisbon and former Minister of the Environment of Portugal.

Good governance and institutions are essential to the promotion of water resources management. However, one must reflect on how such institutions coordinate with society, how they develop good lines of communication to share knowledge as an input for decision making. Water is cross-cutting in nature, as it permeates the entire social and economic fabric, ranging from simple trade to large industries; from households to huge transboundary basins. As such, water resources management occurs on various scales and seeks to address the same problem, sometimes with different solutions.

In speaking of governance, one must emphasize the notion of participation, as this is a human right. To ensure greater effectiveness, there must be more channels for society to make its voice

heard. Participation in the management of water resources must prize transparency when addressing the different interests of the various stakeholders interacting in the system. These characteristics, when well addressed, can improve water resources management; open dialogue is essential for conflict management.

Many people are engaged with SINGREH in Brazil. There remains, however, an atmosphere of general distrust of public institutions. This must be combated, since government action and the aspirations of society must work hand-in-hand and complement each other if they are to bring positive effects to water resources management. The various decision-making levels of SINGREH must ensure that civil society, users and public entities are involved in the search for solutions, as representative democracy must be an extension of participatory democracy and vice-versa.



The European experience is based on water as a public good and on the concepts of subsidiarity and management based strongly on dialogue. He emphasized the importance of the so-called Water Framework Directive, approved by the European Community in 2000, which provides guidelines for the management of water resources, and sets several targets that the countries in the bloc must achieve by emphasizing each country's "know-how" and legal and conceptual frameworks for management and governance. The primary objective is to ensure future generations have access to the water in sufficient quantity and quality, something that must be guaranteed by attaching value to ecological quality, for example.

Recommendations for good management: water must be a strategic priority in the national political agenda.

- intersectoral integration must be pursued to strengthen water policies.
- priority must be given to strengthening of the financial capacity of the state institutions responsible for water resources management.
- experiences must be exchanged at all levels,

“ The National Water Resources Management System (SINGREH) tends to improve when the precepts of participation are put into practice; this also strengthens the democratic aspects of good management ”

Júlio Thadeu da Silva Kettelhut - General Coordinator of the National Water Resources Council / Department of Water Resources / Secretariat of Water Resources and Environmental Quality of the Ministry of Environment (SRHQ / MMA).

The integration of water resources management needs to be more robust, considering the scope and multiple views and perceptions around this theme - such as administrative, technical, instrumental and planning aspects, among others. The limits and mode of integration processes must be defined within SINGREH. The status of the SDGs varies wildly across the world, making these goals all the more complex to achieve. Examples include the river basins of the Danube and Prata rivers - the latter spanning Brazil, Uruguay, Paraguay, Argen-

including successful cases and challenges faced along the way.

- there must be continuous action to advance and improve the water resources policy.
- The National Water Agency must decentralize water resources management to overcome the challenges regarding dual ownership over water bodies, something unique to Brazil as a federative country.

Image: Marcelo Camargo/EBC



Francisco Nunes Correia

tina and Bolivia. He emphasized that one of the obstacles to achieving the UN Goals is the lack of financial resources.

- define and limit the concept of integrated water resources management: administrative integration of management across federal, state and municipal bodies? Technical integration? Integration of management tools, how to integrate different plans (basin plans, state plan and federal plan)?
- The integration of water resources across borders is a major challenge, chiefly due to the difficulties in obtaining and transferring data;
- One should also consider the difficulties South American countries face in accessing financial resources, which poses a major challenge to the management of transboundary water resources;



Ivens de Oliveira. Administrative and Financial Director at the Water Agency for the Piracicaba, Capivari, Jundiaí (PCJ) river basins.

The water basin of the Piracicaba, Capivari and Jundiaí (PCJ) rivers spans about 15,000 km², an area with approximately 6 million inhabitants. It generates 5% of the country's Gross Domestic Product (GDP). Water is used predominantly for public supply (about 50%), followed by industry (30%) and irrigated agriculture (18%). Part of the water in the basin is transposed into the so-called Cantareira system, which supplies water to a large portion of the population in the São Paulo metropolitan area.

Three basin committees operate in this territory in an integrated fashion, through joint deliberations in 12 technical chambers. About 700 people (representing 160 institutions) are involved in water resources management in the PCJ basin. Water use is charged; the basin also features a qualitative-quantitative monitoring network and a situation room.

Support to domestic sewage treatment projects in the PCJ basin have produced significantly better results: in 1989, only about 4% of all domestic sewage produced in the basin were treated; today it is 74%.

The coverage rate of treated water in urban areas in the PCJ region is 90%; sewage collection is also at 90%. Another example of good management with repercussions for all of society was the re-classification of the Jundiaí River, from quality class 4 to class 3.

Challenges for water resources management:

- measure the results of integrated water resources management and pass these advances on to ordinary citizens.
- encourage the participation of civil society in water resources management.
- advance the judicial / legal framework on the dual ownership of water.

Image: Zig Koch/ANA Archive



Rosana Garjulli. Sociologist and independent consultant

Increased social participation in the analysis and decision-making processes is a noteworthy advancement in water resources management. This result was facilitated by the fact that the National Water Resources Policy (PNRH) boasts a mature and well-defined concept that involves, among other

aspects, the deployment of SINGREH, which, in turn, ensures the existence of various institutions (collegiate bodies) with well-defined duties that emphasize the importance of participation in the decision-making processes. Advances in the legal framework during implementation of the PNRH have led to the creation of a set of water management tools.



Participation is learned and perfected through practice. An example of this prerogative is the experience of the State of Ceará, where the allocation of water is negotiated for each dam. This experience was incorporated into the state's water management scheme, under the supervision of the State Water Resources Council. A crucial aspect of participation processes are the pacts and their respective decisions, which must be respected and followed. A kind of non-possessive openness is necessary for this purpose; it requires social actors and participation spaces provided for in the PNRH to play a leading role - especially in the basin committees, which are composed of individuals who face these conflicts on a daily basis (principle of subsidiarity).

Participation in water resources management must be improved. This would enable a better definition of the strategic roles played by the different levels and collegiate bodies under SINGREH - especially in times of water crisis, like the one Brazil has experienced in recent years, especially in the semi-arid regions of the country.

The conflict over the use of water in the city of Correntina (in the State of Bahia) in 2017 is an example of strong social mobilization around water shortage. At the time, thousands of people took to the streets to point out the paradox in the fact the city was experiencing a water shortage and, at the same time, there were large-scale irrigated agriculture projects in the region. This example shows the importance of involving the population in water resources management; social participation must be democratic and authentic.

Recommendations:

- Undertake in-depth studies on social participation within SINGREH, including the current technical capacity of the Basin Committees and the infrastructure they have available to manage water resources.
- Gain a better understanding of regional specificities (especially in the North, Midwest and Northeast regions) and propose adjustments to the model used in water resources management to enhance citizen participation.

“This picture is worth more than a thousand words”

Rosana Garjulli

Correntina – BA (November 2017)

“When the government fails to act, the population takes action.”

Residents of Correntina took to the streets to protest the excessive use of river water in farms.

<http://www.redebrasilatual.com.br/cidadania/2017/11/defesa-da-agua-e-de-comunidades-tradicionais-reuniao-10-mil-em-correntina>



Key Challenges Highlighted by the Panels on Water Management and Sanitation

- i) implement integrated water and environmental management, with special attention to ecosystems;
- ii) improve databases on sanitation and water resources;
- iii) improve coordination and integration at the intersectoral, inter-agency and intergovernmental levels;
- iv) disseminate shared management methods for water and sanitation;
- v) increase investment in technology and regulations pertaining to efficient management, water reclaiming and combating losses in water supply systems, as well as in industry and agriculture;
- vi) promote the involvement of municipalities, including training and technical and financial support for water and sanitation management aimed at the neediest municipalities;
- vii) carry out educational and communication actions geared towards water and sanitation users.

Images: Project Archive



Image: Eraldo Peres/ANA Archive





Final Considerations

This document shows that Brazil has adequate legislation and instruments for water and sanitation management to enable 2030 Agenda to advance, including collegiate systems open to the participation of different stakeholders. In addition to discussing challenges and inputs to project development, the workshop showcased the country's broad technological knowledge about this field. In this context, the SDGs are an opportunity to advance and reduce disparities - e.g. in services provided in urban versus rural areas. It is also important that water basins be used as the units for land management within the National Water Resources Management System.

It should also be noted that the structure of water governance in Brazil presupposes institutional coordination between the Federal Government, the states, the Federal District and municipalities. The different levels of government can leverage the water resources councils and river basin committees as focal points for coordination. Their respective planning instruments have already been instituted, albeit at different levels of implementation.

Within the scope of government management, a crucial (and yet untaken) step is the establishment of a pact with an agenda consisting of prioritized targets within the National Water Resources Plan. This requires the National Council for Water Resources, the State Councils of Water Resources and their

respective state management bodies to play leading roles in internalizing and disseminating 2030 Agenda.

The 26 states, the Federal District and the 5,507 Brazilian municipalities now face the challenge of strengthening technical-operational capacity and governance, as well as integrating the National Water Resources Policy with sanitation, environment, energy, land use and agriculture policies. As such, the next steps in the project must include an assessment of whether the collegiate bodies under SINGREH require institutional or operational improvements to meet the challenges posed by water management. There is also a need to increase the pace of investments to expand water supply and sewage collection and treatment systems, as there are still clear gaps in coverage - particularly in rural and metropolitan areas, where it is most difficult to ensure universal service coverage.

In addition to stakeholder dialogue, events and government counselling, this project - which is set to continue throughout 2018 - includes the preparation of strategic materials for ANA / MMA and CNODS to support their SDG initiatives and find paths for a sustainable future in Brazil.

**To learn more about the project,
contact the technical team:**
ods6@ipea.gov.br or ods6@ipc-undp.org



References

- ANA. O que é o SINGREH? Site da ANA. [Online] Agência Nacional de Águas. [Citado em: 22 de Fevereiro de 2018.] <http://www3.ana.gov.br/porta/ANA/gestao-da-agua/sistema-de-gerenciamento-de-recursos-hidricos/o-que-e-o-singreh>.
- BID. 2016. América Latina e Caribe: Água e saneamento 2016. [ed.] Andrea Monje Silva e Dolores Subiza. Folheto. s.l. : Banco Interamericano de Desenvolvimento, Março de 2016.
- Brasil. 2015. 6. Metas de curto, médio e longo prazos. Site do Ministério das Cidades. [Online] Ministério das Cidades, 14 de Janeiro de 2015. [Citado em: 2018 de Fevereiro de 22.] <http://www.cidades.gov.br/saneamento-cidades/plansab/89-secretaria-nacional-de-saneamento/3297-6-metas-de-curto-medio-e-longo-prazos>.
- . 2017. Comissão Nacional ODS. [Online] Secretaria de Governo da Presidência, 29 de Junho de 2017. [Citado em: 2018 de Fevereiro de 26.] <http://www4.planalto.gov.br/ods/menu-de-relevancia/comissao-ods>.
- MCid. 2017. Sistema Nacional de Informações sobre o Saneamento - SNIS: Diagnóstico dos Serviços de Água e Esgotos - 2015. Secretaria Nacional de Saneamento Ambiental - SNSA, Ministério das Cidades. Brasília - Distrito Federal : SNSA/Mcidades, 2017. p. 212.
- MMA. Sistema Nacional de Gerenciamento de Recursos Hídricos. Site do Ministério do Meio Ambiente. [Online] Ministério do Meio Ambiente. [Citado em: 2018 de Fevereiro de 26.] <http://www.mma.gov.br/agua/recursos-hidricos/sistema-nacional-de-gerenciamento-de-recursos-hidricos>.



ipea Instituto de Pesquisa
Econômica Aplicada



*Empoderando vidas.
Fortalecendo nações.*

