

PEACE, JUSTICE AND STRONG INSTITUTIONS

CONTRIBUTIONS OF EMBRAPA

Fábio Homero Diniz
Julia Franco Stuchi
Petula Ponciano Nascimento
Marcos Flávio Silva Borba

Technical Editors



**Brazilian Agricultural Research Corporation
Ministry of Agriculture, Livestock and Food Supply**



Sustainable Development Goal 16

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*"True peace is not merely the absence of tension;
it is the presence of justice."*

Martin Luther King Jr., Nobel Peace Prize/1964

*"When we achieve human rights and human dignity for all
people - they will build a peaceful, sustainable and fair world".*

António Guterres, UN Secretary-General

Foreword

Launched by the United Nations (UN) in 2015, 2030 Agenda for Sustainable Development is powerful and mobilizing. Its 17 goals and 169 targets seek to identify problems and overcome challenges that affect every country in the world. The Sustainable Development Goals (SDG), for their interdependent and indivisible character, clearly reflect the steps towards sustainability.

Reflecting and acting on this agenda is an obligation and an opportunity for the Brazilian Agricultural Research Corporation (Embrapa). The incessant search for sustainable agriculture is at the core of this institution dedicated to agricultural research and innovation. Moreover, sustainable agriculture is one of the most crosscutting themes of the 17 goals. This collection of books, one for each SDG, helps society realize the importance of agriculture and food in five priority dimensions – people, planet, prosperity, peace and partnerships –, the so-called 5 Ps of 2030 Agenda.

This collection is part of the effort to disseminate 2030 Agenda at Embrapa while presenting to the global society some contributions by Embrapa and partners with potential to affect the realities expressed in the SDG. Knowledge, practices, technologies, models, processes, and services that are already available can be used and replicated in other contexts to support the achievement of goals and the advancement of 2030 Agenda indicators.

The content presented is a sample of the solutions generated by agricultural research at Embrapa, although nothing that has been compiled in these books is the result of the work of a single institution. Many other partners joined in – universities, research institutes, state agricultural research organizations, rural technical and extension agencies, the Legislative Power, the agricultural and industrial productive sector, research promotion agencies, in the federal, state and municipal ranges.

This collection of books is the result of collaborative work within the SDG Embrapa Network, which comprised, for 6 months, around 400 people, among editors, authors, reviewers and support group. The objective of this initial work was to demonstrate, according to Embrapa, how agricultural research could contribute to achieve SDGs.

It is an example of collective production and a manner of acting that should become increasingly present in the life of organizations, in the relationships

between public, private, and civil society. As such, this collection brings diverse views on the potential contributions to different objectives and their interfaces. This vision is not homogeneous; sometimes it can be conflicting, just as is society's vision about its problems and respective solutions, a wealth which is captured and reflected in the construction of 2030 Agenda.

These are only the first steps in the resolute trajectory that Embrapa and partner institutions draw towards the future we want.

Maurício Antônio Lopes
President of Embrapa

Preface

Historically, Brazil is internationally considered as a strategic country in issues involving actions to promote peace and justice and to strengthen institutions. UN's calls for Brazil to join conflict mediation and Brazil's active participation in international courts over time, ever since the Ruy Barbosa era, testify to that. As a recent democracy, Brazil has also been a model for other developing countries in creating and strengthening institutions. Among others, models for research and tropical development institutions based on the Brazilian Agricultural Research Corporation (Embrapa) stand out for achieving sustainable development. Based on the mission of "enabling research, development and innovation solutions for sustainable agriculture, for the benefit of Brazilian society"¹, Embrapa holds knowledge and creates technologies to directly or indirectly contribute to peace, justice and strong institutions, whether in Brazil or abroad.

In 2015, the United Nations has defined 17 Sustainable Development Goals (SDG) and 169 targets in 2030 Agenda. These SDGs evolved from the 8 Millennium Development Goals proposed in 2000 and from *Rio + 20*, held in 2012. Among SDGs, SDG 16 aims to promote peaceful and inclusive societies for sustainable development, to provide access to justice for everybody, and to build effective, responsible and inclusive institutions at all levels. Among 12 targets established to achieve this goal, Embrapa can directly or indirectly contribute to reach 6 of them, selected based on adherence to and alignment with the mission of Embrapa.

Therefore, this book is aimed at presenting the contributions of Embrapa to achieve SDG 16 – *Peace, Justice and Strong Institutions* – according to the following targets²: 16.a - strengthen relevant national institutions, including through international cooperation, for building capacity at all levels, particularly in developing countries, for preventing violence and combating terrorism and crime; 16.5 - substantially reduce corruption and bribery in all their forms; 16.6 - develop effective, accountable, and transparent institutions at all levels; 16.7 - ensure responsive, inclusive, participatory and representative decision-making at all levels; 16.8 - broaden and strengthen the participation of developing countries in the institutions of global governance; and 16.10 - ensure public access to information and protect fundamental freedoms in accordance with national laws and international agreements.

¹ Available at: <<https://www.embrapa.br/missao-visao-e-valores>>.

² Available at: <<https://sustainabledevelopment.un.org/post2015/transformingourworld>>.

This book is divided into eight chapters. The [first one](#) presents a context for the goal; the [second one](#) presents its problems. The main contributions of Embrapa to the six selected targets are addressed in the following chapters: International Cooperation and Strong Institutions, in [Chapter 3](#); Transparency and Institutional Compliance, in [Chapter 4](#); Governance and Institutional Accountability, in [Chapter 5](#); Global Governance, in [Chapter 6](#); and Transparency and Information Security, in [Chapter 7](#). [Chapter 8](#) summarizes the role of Embrapa before the main challenges of SDG 16 with prospects for 2030.

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Chapter 1

Contexts of peace, justice, and strong institutions

Julia Franco Stuchi
Igor Rosa Dias de Jesus
Fábio Homero Diniz

Introduction

In 1948, the Universal Declaration of Human Rights was declared by the United Nations (UN) to establish a common standard of justice, taking into account individual's and group's rights for all people of all nations. As the most translated document in the world, it is the basis for peaceful societies and long-lasting sustainable development. It also establishes equality and recognizes the dignity of all humanity, thus making governments responsible for ensuring that people can enjoy the rights and freedoms to which they are entitled. Based on these fundamental rights, UN adds that peace and access to justice are not only fundamental human aspirations, but also the cornerstones of sustainable development.

According to the United Nations Educational, Scientific and Cultural Organization (Unesco), the culture of peace respects all individual's and group's rights, ensures and sustains freedom of opinion and strives to avoid conflicts, such as exclusion, extreme poverty and environmental degradation on behalf of peace and security. The culture of peace also encompasses values such as equality, respect for human rights and cultural diversity, justice, freedom, tolerance, dialogue, solidarity, development, and social justice.

Taking into account the legacy of the Millennium Development Goals established in 2000, the UN set a new global sustainable development agenda in 2015 consisting of 17 Sustainable Development Goals (SDGs) and 169 associated targets to be achieved by 2030 (2030 Agenda). In order to strengthen universal peace for a more prosperous planet, SDGs seek to ensure human rights for everyone. The 193 UN member states, working in partnership, have been implementing this agenda in order to free the human race from the tyranny of poverty and deprivation (Figure 1) and to heal and protect our planet.

As a UN member country, Brazil has joined all intergovernmental negotiation sessions for establishing SDGs. In this sense, the Brazilian Federal Government,



Photo: Marcelino Carneiro Guedes

Figure 1. A riverside family living in precarious conditions, in the extreme north of the Brazilian Eastern Amazon, in the state of Amapá.

by means of its Government Secretariat, created the Comissão Nacional para os Objetivos de Desenvolvimento Sustentável (Brazilian Commission for Sustainable Development Goals) with the purposes of incorporating and disseminating these goals and making the 2030 Agenda implementation process in Brazil transparent. The commission gathers 32 incumbent and alternative representatives of civil society and governments.

Global context

According to the UN (United Nations, 2013), in order to achieve peace, countries' governments must address the problems which matter most to people, such as corruption and violence, especially against minorities and vulnerable groups, and the lack of transparency in public accounts. They should also ensure that the State provides basic services and rights, without discrimination, such as access to safety and justice, food, drinking water, and health services.

Throughout the world, there is a strong demand for better governance. Ethical leaders are called for to guarantee that the Universal Declaration of Human Rights embraces everyone. People need their voices to be heard and their demands to be addressed, and request transparent, agile, capable and responsible institutions. To do so, they need to join politics, to participate in decision-making using their right to freedom of expression and association, to peaceful protest and access to independent media and information. Responsibility works better in a participatory governance environment. In the [Millennium Declaration](#), freedom was singled out as one of the six fundamental values, which is best ensured through participatory governance.

Over the last 7 years, according to the Institute for Economics and Peace (IEP), based in Australia, the overall global peace index increased from 1.96 to 2.06, in other words, popular appeal increased, which indicates that the world is [less peaceful](#). However, despite being ill and unbalanced, and affected by violence of all sorts and features, the contemporary world presents a promising scenario for changes through ideas and direct and institutional actions led by national and local networks. It is, therefore, necessary to enhance education for non-violent conflict resolution and for multicultural and anti-racist development and education (Figure 2); to emphasize the value of human life and the culture of non-violence; to seek the truth and to teach the historical truth; to get to the root of problems; to value justice and to reject revenge and hatred; to fight fear; to combat ignorance and information manipulation; to insist on the importance of democracy and on the need for worldwide human rights; to appeal to countries governments on UN reorganization as a guarantee for international relations; to offer social development alternatives (Figure 3) and to share knowledge of social achievements; and to educate based on commitment and hope as values (Jares; Santana, 2007).

Brazilian context

With a permanent representative in Brazil since 1947, the UN seeks to promote peace and justice and focuses on the efficiency of institutions committed to guarantee the fundamental rights of citizens. To this end, the United Nations System is represented by [agencies](#), funds and programs with more than 26 organs associated to several institutions in the world, with offices in Brazil, addressing varied emergency issues. The main goal of this representative is to ensure that institutions provide a collective, consistent and integrated answer to national priorities and needs within the framework of SDGs and other international



Figure 2. Cameroon, Indian and Argentinean master students with Embrapa researcher joining the program of institutional collaboration between Embrapa Amapá and foreign universities.

commitments, jointly seeking solutions to overcome challenges and difficulties for equitable human development. UN agencies work in a coordinated way, running projects with federal, state and municipal governments, with private companies, with educational institutions, with non-governmental organizations (NGOs), and with civil society.



Photo: Anderson Schwamke

Figure 3. Students from Escola Família de Maracá (Family School of Maracá), in Amapá, and instructors from Embrapa Amapá on the way to practical classes of beekeeping course.

In addition to these efforts, Brazil has, for 15 years now, the world's fourth largest network created by private sector to promote human rights and sustainability: the Brazil Network of the UN Global Compact. It promotes ten universal principles derived from the Universal Declaration of Human Rights, the International Labor Organization's Declaration on Fundamental Principles and Rights at Work, the Rio Declaration on Environment and Development and the United Nations Convention Against Corruption. The Brazil Network gathers 756 companies for human rights, decent work, environmental responsibility and combating corruption.

Embrapa context

The Brazilian Agricultural Research Corporation (Embrapa), linked to the Ministry of Agriculture, Livestock and Food Supply (Mapa), in order to honor its commitment to meeting SDGs targets, identified that, out of all Brazilian government SDG commitments by 2030, Mapa can contribute to up to 50% of them and Embrapa can contribute to up to 40% of them.

Within the scope of SDG 16, of its 12 targets, Embrapa can potentially contribute to 6. These targets were selected based on adherence to and alignment with the mission of Embrapa and they will be addressed throughout the chapters. Here they are¹:

- 16.a - Strengthen relevant national institutions, including through international cooperation, for building capacity at all levels, particularly in developing countries, to prevent violence and combat terrorism and crime.
- 16.5 - Substantially reduce corruption and bribery in all their forms.
- 16.6 - Develop effective, accountable and transparent institutions at all levels.
- 16.7 - Ensure responsive, inclusive, participatory and representative decision-making at all levels.
- 16.8 - Broaden and strengthen the participation of developing countries in the institutions of global governance.
- 16.10 - Ensure public access to information and protect fundamental freedoms, in accordance with national legislation and international agreements.

Technical cooperation in agriculture (target 16a) is carried out by means of projects and activities which foster development by offering human and institutional training. Its core is to strengthen the partner country's capacity to locally develop and/or to adapt agricultural technologies for its own context. International Technical Cooperation programs and projects of Embrapa have been providing technologies, information and services to reduce peoples hunger and poverty in partner countries through a substantial increase in production, productivity and sustainability based on the wealth of local agriculture. It is believed that this is an effective and rational way of promoting peace and harmony, reducing conflicts and putting away violence, terrorism and crime inexorably.

Alternatives to improve ethical management (targets 16.5 and 16.6) in Embrapa have been built by sharing and incorporating responsibilities and combating and preventing any type of corruption and bribery, not only among people and public and private institutions, but also in scientific research, which is the Company's main focus. In this way, we intend to have an effective, responsible, ethical and

¹ Available at: <<https://sustainabledevelopment.un.org/post2015/transformingourworld>>.

transparent institution at all levels. As part of its management system, Embrapa has effective tools for incorporating concepts and guiding all employees. It includes Embrapa monitoring and verification systems operated by several departments, of which the following stand out: Internal Audit Services, Ethics Committee and Ombudsman's Office, Animal Ethics Committee and the Genetic Heritage Management Board.

To suit the highest standards for public service, resulting in greater institutional effectiveness, Embrapa has developed, improved and applied strategies and tools that make it more responsive, inclusive, participatory and representative, while revealing its efforts to address society's interests (target 16.7). Governance mechanisms used by Embrapa have sought to be responsive – by means of the Integrated Performance Management System (Integro), Strategic Intelligence System (Agropensa) and Social Report –; inclusive – by means of programs for Gender Equity and traditional peoples –; participatory – by Diálogos (Dialogues) program and tools such as Intranet and Virtual Communities –; and representative – the Citizen Assistance Service Center (SAC) and the [Technology Transfer Action Management System](#) (Sisgatt) are seriously and competently managed.

Embrapa actions for global policies (target 16.8) aim to monitor and manage institutional participation in international conventions, agreements, protocols, treaties, commissions, and forums. Embrapa also addresses public policies as an important partner of the Brazilian Ministry of Foreign Affairs regarding decision-making on national and global policies by offering all technical and scientific support for both the Ministry of Foreign Affairs and the Ministry of Agriculture, Livestock and Food Supply. Thus, Embrapa supports Brazilian delegations in meetings for convention, treaties and other agreements ratified by the Country as well as parties (parliamentary fronts and special commissions) involved in discussing new laws in Brazilian Congress.

Information security model (target 16.10) implemented at Embrapa is based on protecting public heritage, as a result of its main activity. The goal is to protect business-relevant information generated by Embrapa in order to ensure that its institutional purposes are accomplished, so that it can keep delivering efficient and cost-effective results to society. In order to ensure that information security principles are disseminated and applied by all employees, Embrapa has created the Information Security Management Committee (CGSI), a collective body which decides on procedures to be followed. Annually, a global planning is carried out to set the agenda for Embrapa Central and Decentralized Units to carry out

information security activities based on the following pillars: People, Documents, Infrastructure and Information Technology.

Final considerations

In the current context and taking SDG 16 – *Peace, Justice and Strong Institutions into consideration*, the expected targets will be achieved by expanding access to education (Figure 4) and improving its quality and by combating social problems by means of specific, individual and collective actions – mainly related to respecting others and fighting corruption – and by strengthening institutions, making them effective and efficient. Thus, reducing violence, corruption and crime, promoting the Rule of Law, transparency in institutions, and participatory decisions at all levels, providing access to information and obeying the law are means to achieve SDG 16, which states that there is no sustainable development without peace and no peace without sustainable development.

In sum, at the foundations of sustainable development are peace and justice and the effectiveness of institutions; these principles should lead the global

Photo: Julia Franco Stuchi



Figure 4. Expanding access to education through agroecologically-based theoretical-practical workshops hosted by Embrapa Amapá technicians.

development by 2030. Within this scenario, this book presents the main contributions of Embrapa to achieve the selected SDG 16 targets seeking its maximum efficiency, even in harsh contexts.

References

JARES, X.; SANTANA, E. de M. **Educar para a paz em tempos difíceis**. São Paulo: Palas Athena, 2007. 193 p.

UNITED NATIONS. **A new global partnership – no poverty and transform economies through sustainable development**: the report of the high-level panel of eminent persons on the post-2015 development agenda. 2013. Available at: <<http://www.post2015hlp.org/wp-content/uploads/2013/05/UN-Report.pdf>>. Accessed on: Mar 21, 2018.

Chapter 2

Limitations to establishing peace, justice and strong institutions

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Edmar Ramos de Siqueira

Julia Franco Stuchi

Fábio Homero Diniz

Introduction

Peace and justice are fundamental prerequisites for sustainable development. Conflicts can destroy, over a short period of time, years or even decades of social and economic progress, and directly impact the environment. Contemporary conflicts are defined by unclear boundaries, lack of front lines or battlefields, and continuous attacks on civilian populations. Violence, drugs, and weapons spread quickly across country borders. Security and justice are constantly mentioned as priorities by low-income people, who are the main victims of this situation. In 2015, over 50% of the population living in extreme poverty was affected by chronic conflict and violence. Among them, children are particularly vulnerable. In at least 13 countries, children are recruited into armed groups and forces, are killed, maimed, raped and suffer other forms of sexual violence, and are victims of terrorist attacks against schools and/or hospitals. Consequently, there is a global concern for stability and peace.

Physical insecurity, economic vulnerability and injustice result in violence, which conduct communities further into impoverishment. And this situation is aggravated when weak institutions are unable to absorb or reduce social tensions. Security and justice institutions are particularly important for poor and marginalized communities, but setting up and strengthening other institutions is critical in this context, given the crucial need for good governance and strong institutions.

So, we are at a time of huge challenges for sustainable development. To billions of citizens still living in poverty a decent life is denied. There are growing social inequalities within countries, and enormous gaps in opportunities, wealth, and power between countries, and gender inequality remains a key challenge. Global threats to health, more frequent and intense natural disasters, rising

conflicts, violent extremism, terrorism and humanitarian crises related to forced displacement of people can jeopardize much of the progress made in sustainable development over the last decades.

According to UN 2030 Agenda for Sustainable Development, the survival of many societies and of the planet's biological systems is at risk. This Agenda is a plan of action for people, the planet and posterity to end poverty and hunger everywhere; to combat inequalities within and between countries; to build peaceful, fair and inclusive societies; to protect human rights; to promote gender equality and women's and girls' empowerment; and to ensure a lasting protection of the planet and its natural resources. The Agenda also aims to create conditions for inclusive and cost-effective sustainable growth, shared prosperity and optimal work for everyone, in view of different development levels and national capacities.

Brazilian strategy

Based on the 2030 Agenda, a national development strategy focused on reducing social inequalities in the countryside and in the city are based on the following guiding principles:

- Human Right to Adequate Food (RtAF), which considers that food must be appropriate to social, economic, cultural and ecological dynamics (Figure 1) by taking into account individuals', families' and social and religious groups' nutritional and cultural diversity (Maluf; Reis, 2013), and that conditions of physical and economic access to suitable food (or suitable means to get it) must be continuously guaranteed for each person, keeping his/her dignity (Beuchelt; Virchow, 2012).
- Food Sovereignty, which refers to countries', peoples', communities' or individual's autonomy to decide about their strategies for food production, distribution and consumption (Beuchelt; Virchow, 2012), and to encouraging sustainable production models particularly those based on family agriculture (Figure 1), on short production and consumption circuits and on acknowledging varied eating habits (Construção..., 2009).
- Combination of public policies based on the principles of social participation and integration between sectors.

In order for these strategies to be efficient and effective, society relies on institutions, which seek ways to arrange, elaborate, adopt, and promote the implementation of local agrifood systems (managing soil, production, processing,



Photo: Julia Franco Stuchi

Figure 1. Learning unit of Embrapa Amapá, Macapá, for organic production of vegetables, fruits, spices, medicinal herbs and ornamental plants in a family farm.

marketing and consumption in short circuits) based on environmental balance principles as essential to human emancipation, so that income generation is one component, not the only aim, of socially, ecologically and economically appropriate enterprises.

Such profit-above-all rationale affects all realms of society and, as known, Brazil is going through a period of extreme political instability, which is due, in large part, to constantly revealed corruption scandals. World Bank estimates that businesses and individuals spend about US\$ 1.5 trillion on bribes every year, which is equivalent to 2% of the world's gross domestic product (GDP) or less than Brazil's GDP, which was US\$ 1.796 trillion in 2016. Transparency International, an organization which has been dedicated to studying and releasing data on corruption for over 20 years, estimates that over 80% of the world population lives in countries with serious corruption problems. According to its annual survey to measure corruption perception in countries, Brazil ranks 96th out of 180 countries (Figure 2).

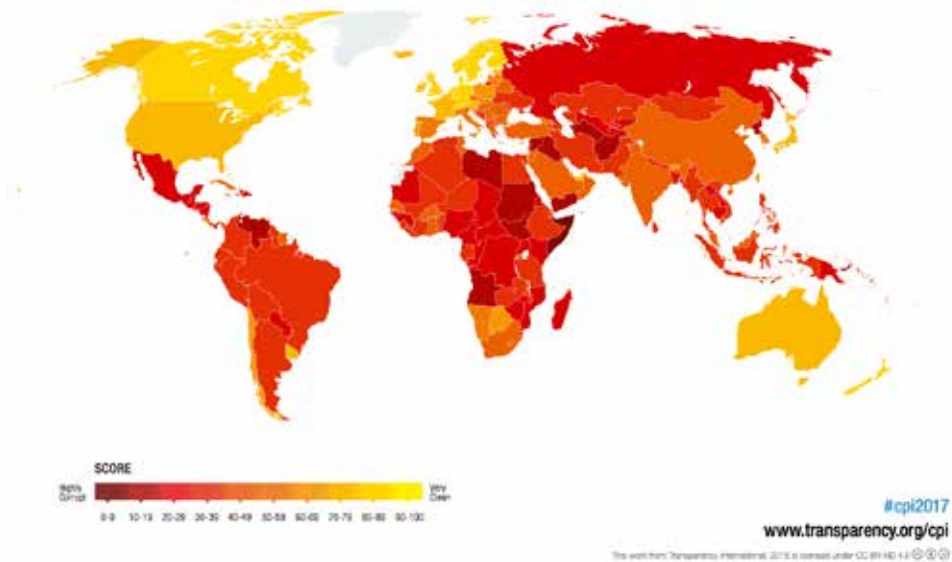


Figure 2. World corruption perception index in 2017.

Source: [Transparency International \(2018\)](https://www.transparency.org/cpi).

Embrapa in SDG 16

Specifically in the case of Embrapa and considering that the fundamental principles for SDGs are interdependent and universal, it is important to discuss with society about research, development and innovation (PD&I) directions.

This discussion is relevant because of two important issues. The first one relates to strengthened agrifood systems based on multinational companies control over the food chain. They have been expanding their range and including nutritional concerns as goals for genetic breeding, while an increasing number of farmers use their techniques and of consumers purchase their products, as part of an increasingly vertical production chain (Manos, 2017).

The second issue relates to institutional actions to strengthen developing and sharing solutions focused on elements such as agrobiodiversity protection, environmental sustainability, food sovereignty and access to RtAF and public policies aligned with agroecology (Maluf et al., 2015; Anderson, 2016). That is, historical experiences, knowledge from practice and peasant social and cultural relations are acknowledged as the bases for agroecology's meaning and structure and support the farmers resistance to modern agriculture ideology (Figure 3).

Strengthening local marketing and discussing food sovereignty, biodiversity (especially creole seeds) conservation, and food and nutritional security, among other themes (Curado; Tavares, 2017), are typical results of these actions.



Photo: Edilson Braga Rodrigues

Figure 3. Family farmer in Agroforestry System, based on which he supports his family, in Itauba do Pírim, state of Amapá.

In order for institutions to understand this new moment and act effectively, realizing this situation, which is even causing structural changes, based mainly on complex approach and process management perspectives is needed. Understanding that knowledge construction is a collective process and that we are in an age of connecting knowledge categories is a must. Similarly, realizing that this can only take place through an integrated collective intelligence, since an isolated mind, or even isolated institutions, cannot cope with such complex task, is crucial.

Concepts of Science as an ongoing process and Citizen Science are, therefore, unavoidable. Understanding depends on both scientists and social actors to

become aware of and assume that developing technological solutions demands inclusive, responsive, participatory and representative approaches. Technological solutions cannot be made available as a *fait accompli*, which cannot be contested (Callon et al., 2009).

To do so, symmetrically viewing and dealing with social and technical-scientific aspects (Nobre; Pedro, 2010) is necessary by incorporating, during research, knowledge and innovation development, the idea that Science is more effectively aligned with the society's interests and, above all, with those of parties affected by it when it is defined and carried out with the participation of amateurs, volunteers and solution development enthusiasts (Comandulli et al., 2016), i.e., the so-called non-scientists (Manos, 2017).

Thus, because of the importance of an organization such as Embrapa in a country like Brazil, technological development should point to ecological principles and to the rich heritage of traditional peoples' knowledge, and maintain social actors (non-scientists) interacting with those in charge of academic knowledge intrinsically related to designing and managing public policies (Figure 4).



Photo: Julia Franco Stuchi

Figure 4. Learning and autonomy for food sovereignty in a *quilombola* community in Brazilian Amazon region, in the state of Amapá.

Final considerations

It is true that SDG 16 is one of the foundations for other SDGs to be fully achieved. A society at war cannot prosper. We cannot consider poverty and hunger eradication, quality education or access to water and sanitation if all routine misappropriation of assets is not fought against. One cannot talk about decent work, economic growth, reduced inequalities and fight against climate change if governmental institutions are inefficient and often work for minorities to the detriment of common good.

In summary, for a truly fair, solidary and sustainable development – with peace and justice – conducted by effective institutions, one needs to understand that new realities point to a great challenge: recognizing the immense wealth of knowledge and agrobiodiversity, which are essential elements for autonomy and emancipation of peoples and processes in rural areas.

References

ANDERSON, M. D. Avançar em direção à monitorização do direito alimentar e à nutrição centrada nas pessoas. In: MANTER as sementes nas mãos dos povos. 8. ed. Heidelberg: Observatório do Direito Humano à Alimentação e à Nutrição, 2016. p. 14-17. Available at: <[http://www.righttofoodandnutrition.org/sites/www.righttofoodandnutrition.org/files/R t F a N Watch_2016_PORT_WEB.pdf](http://www.righttofoodandnutrition.org/sites/www.righttofoodandnutrition.org/files/R_t_F_a_N_Watch_2016_PORT_WEB.pdf)>. Accessed on: Feb 20, 2017.

BEUCHELT, T. D.; VIRCHOW, D. Food sovereignty or the human right to adequate food: which concept serves better as international development policy for global hunger and poverty reduction? **Agriculture and Human Values**, v. 29, n. 2, p. 259-273, June 2012. DOI: 10.1007/s10460-012-9355-0.

CALLON, M.; LASCOURMES, P.; BARTHE, Y. **Acting in an Uncertain World**: an essay on technical democracy. Cambridge: Massachusetts Institute of Technology, 2009. 301 p. Available at: <https://mitpress.mit.edu/sites/default/files/titles/content/9780262515962_sch_0001.pdf>. Accessed on: Nov 11, 2015.

COMANDULLI, C.; VITOS, M.; CONQUEST, G.; ALTENBUCHNER, J.; STEVENS, M.; JEROME, L. MUKI, H. Ciência cidadã extrema: uma nova abordagem. **Biodiversidade Brasileira**, v. 6, n. 1, p. 34-47, 2016. Available at: <<http://www.icmbio.gov.br/revistaeletronica/index.php/BioBR/article/view/529/453>>. Accessed on: Mar, 20 2017.

CONSTRUÇÃO do Sistema e da Política Nacional de Segurança Alimentar e Nutricional: a experiência brasileira. Brasília, DF: Conselho Nacional de Segurança Alimentar e Nutricional, 2009. p. 44. Available at: <[http://www.fao.org.br/download/Seguranca Alimentar Portugues.pdf](http://www.fao.org.br/download/Seguranca_Alimentar_Portugues.pdf)>. Accessed on: June 27, 2014.

CURADO, F. F.; TAVARES, E. D. Agroecologia: abordagens na busca da autonomia do campesinato brasileiro. **Ciência e Cultura**, v. 69, n. 2, p. 26-28, Apr/June 2017. Available at: <<http://cienciaecultura.bvs.br/pdf/cic/v69n2/v69n2a10.pdf>>. Accessed on: June 1, 2017.

MALUF, R. S.; BURLANDY, L.; SANTARELLI, M.; SCHOTTZ, V.; SPERANZA, J. S. Nutrition-sensitive agriculture and the promotion of food and nutrition sovereignty and security in Brazil. **Ciência & Saúde Coletiva**, v. 20, n. 8, p. 2303-2312, Aug 2015. DOI: [10.1590/1413-81232015208.14032014](https://doi.org/10.1590/1413-81232015208.14032014).

MALUF, R. S.; REIS, M. C. D. Conceitos e princípios de segurança alimentar e nutricional. In: ROCHA, C.; BURLANDY, L.; MAGALHÃES, R. **Segurança alimentar e nutricional: perspectivas, aprendizados e desafios para as políticas públicas**. Rio de Janeiro: Fiocruz, 2013. p. 15-42.

MANOS, M. G. L. **Controvérsias sociotécnicas sobre biofortificação de alimentos no Brasil: a tecnologia e suas (des)conexões com a política nacional de segurança alimentar e nutricional**. 2017. 262 f. Tese (Doutorado em Ciências Sociais) – Universidade Federal Rural do Rio de Janeiro, Rio de Janeiro.

NOBRE, J. C. de A.; PEDRO, R. M. L. R. Reflexões sobre possibilidades metodológicas da Teoria Ator-Rede. **Cadernos UniFOA**, ano 5, p. 47-56, dez. 2010. Available at: <<http://web.unifoa.edu.br/cadernos/edicao/14/47.pdf>>. Accessed on: Feb 10, 2016.

TRANSPARENCY INTERNATIONAL. Available at: <https://www.transparency.org/news/feature/corruption_perceptions_index_2017>. Accessed on: Apr 4, 2018.

Chapter 3

International cooperation and strong institutions

José Luiz Bellini Leite
Sérgio Rustichelli Teixeira

Introduction

This chapter addresses the contributions of Embrapa to achieve target 16.a - Strengthen relevant national institutions, including through international cooperation, for building capacity at all levels, in particular in developing countries, to prevent violence and combat terrorism and crime. Keywords for this target are “institutions” and “international cooperation”. To better understand the contributions of Embrapa to this SDG, concepts for these two terms must be discussed.

Human societies at any time were and are structured and supported by different institutions. Specially in modern, complex and contemporary societies, institutions have grown in importance. It can be stated that societies which do not have strong and well-structured institutions find it difficult to achieve simple and short-term goals as well as more complex and long-term ones.

According to Searle (2005), an institution is “any collectively accepted system of rules (procedures, practices) that enable us to create institutional facts”. Thus, institution is a social construction which refers to several structures for control or social order mechanisms, which are created only to facilitate human coexistence. While the idea of institution often refers to facilities, such as school, hospital and church, the concept of institution is much broader and also applies to social structures, such as family and marriage. The idea of social institution is one of the most important in human social history, because it transcends the individual himself and is broader than him. This refers back to immemorial time, when human beings began to live in community and needed some kind of law to allow coexistence.

Other important institutions, such as family, are, for example, government, whatever its form, religion, marriage, education, science, hospitals, justice, factories and other productive institutions, the army, the media, and varied social organizations.

International cooperation

In this book, education and research institutions that train people and develop science and technological solutions to improve life quality and create wealth for society are particularly relevant. Food and nutrition security necessarily involves food production, which directly depends on technologies, knowledge and information generated in research and education institutions. Peace, harmony and prosperity cannot be established if hunger still takes place in a society. Therefore, institutions which promote productivity, profitability and sustainability gains for agriculture by developing, adapting and transferring technologies to the production sector are particularly important. These institutions form a national agricultural research system, whose responsibility is to provide suitable technologies for food, fiber and energy production; this is why they are at the forefront of developing societies.

The national research system, according to Albuquerque (2006), is the “institutional arrangement involving several parties: companies, with its R&D laboratories and its cooperation networks; universities and research institutes; general educational institutions; financial systems to support innovative investments; legal systems; market and non-market selection mechanisms; governments; coordination mechanisms and *institutions*” (emphasis added; our translation). The author states that “innovation and development systems thus arranged are essential for developing nations, and that more developed countries have well-established systems” (our translation). He also mentions developing countries which have successfully established innovation systems and have realized a substantial increase in per capita income, thus revealing the importance of these systems. Innovation systems in agriculture offer the basic conditions for food and nutrition security for population, thus allowing peace, development and harmony to take place in society.

In addition to the term “institutions”, discussing the meaning of “international cooperation” and its importance is a must; in this chapter, focus is on international technical cooperation due to the nature of Embrapa. According to the [Brazilian Cooperation Agency](#) (ABC) of the Ministry of Foreign Affairs (MFA), international technical cooperation is an important development tool, by which one country helps other(s) to promote social and economic structural changes through institutional strengthening actions. Implemented programs allow transferring or sharing knowledge, experiences and good practices by means of developing human and institutional skills in order to reach a long-lasting qualitative level. Brazilian technical cooperation reaches all continents, as shown in Figure 1.



Figure 1. Brazilian scientific and technical cooperation projects.

Source: Agência Brasileira de Cooperação (2018).

In addition, according to ABC, Brazilian technical cooperation takes two paths: horizontal (or “South-South”) cooperation and received cooperation from foreign countries. Horizontal cooperation refers to technical cooperation provided to other developing countries through which experiences and knowledge available at Brazilian institutions are shared with institutions at interested countries. It strengthens their mutual relations in varied areas within the framework of solidarity-based foreign policy for cooperation to promote development. Thus, when Brazil is requested to provide cooperation in agriculture, Embrapa and other institutions of the Sistema Nacional de Pesquisa Agropecuária (National Agricultural Research Organization – SNPA), fine-tuned with research and development institutions of the partner country, work to achieve a previously discussed, approved and formatted goal as part of the international technical cooperation. According to the principles of so-called South-South cooperation, countries should not impose conditions on one another nor interfere with partner countries’ domestic affairs.

Technical cooperation initiatives in agriculture involve projects and activities to foster development by means of human and institutional training. Its main goal is to increase the partner country's capacity to locally develop and/or adapt agricultural technologies to its own reality. This guideline is followed in technical cooperation activities carried out by Embrapa, which are always led by the partner country's research institution, thus favoring their understanding of results.

Technical cooperation

The technical cooperation in Embrapa is performed with the following tools:

- [Structuring projects](#) – Structuring projects are development projects carried out by Embrapa in partnership with one country or a group of countries from Africa, Latin America or the Caribbean in order to strengthen their technological, institutional, and human resource bases for their agricultural sustainable development. Additional components for these projects include technology validation and transfer, strengthening of research institutions, and team training.
- Specific projects – Specific short-term or technical support projects focused mainly on tropical agriculture training, delivery of genetic material and variety validation, production systems and research methodologies.
- Agricultural Innovation Marketplace – An international initiative supported by different partners, whose goal is to gather Brazilian researchers with African, Latin American and Caribbean scientists in joint research studies. ABC is usually involved in these projects.

Structuring projects

In Africa, Embrapa has implemented Programa Embrapa_ABC Moçambique (Embrapa_ABC Mozambique Program), made up of three structuring projects:

- Projeto de Segurança Alimentar e Nutricional (Food and Nutrition Security Project – PSAL) – Trilateral cooperation among Brazil (Embrapa), Mozambique (Instituto de Investigação Agrária de Moçambique – Mozambique Institute of Agricultural Research (IIAM)), and United States (Michigan State University (MSU) and University of Florida (UF)), which has created the first research horticulture team and has benefited extension

agents and more than 5,500 small vegetable farmers from Moamba, Boane, Matola and the Green Belt of Maputo City.

- Projeto Plataforma ([Platform Project](#)) – Creation and participation in managing the Agrarian Research and Technological Innovation Platform to strengthen the Sistema de Inovação Agropecuária de Moçambique (Mozambique System of Agricultural Innovation), IIAM in particular, by implementing and improving the system with institutional tools for planning, performance, and technical, economic and social analyses of technological innovation activities and results.
- [ProSavana](#) – Project to improve research and technology transfer capacities for agricultural development in Nacala Corridor, North of Mozambique. Its purpose was to lay technological foundations to increase production, productivity and regional agricultural sustainability based on Embrapa's experience in the development of Brazilian savannas and an institutional platform designed by a Trilateral Technical Cooperation among Brazil, Mozambique, and Japan.

This initiative strengthened the Technological Research and Innovation System in priority and strategic areas for Mozambique's agricultural development and improved food security conditions (Figures 2, 3, and 4).

In West Africa, Embrapa carries out a cotton project called Cotton 4 (Benin, Burkina Faso, Chad, and Mali + Togo) in order to strengthen these countries research systems for cotton production. Due to its success, this project has been extended to Southern Africa to strengthen the cotton sector in Lower Shire Valley and Zambezi Basins in Malawi and Mozambique, respectively. In Angola, Embrapa joins the Food and Agriculture Organization (FAO) and the Angolan Ministry of Agriculture and Rural Development for strengthening agronomic research institutes and veterinary research institutes. The goal is to broaden the institutes' research and innovation capacity and, thus, contribute to food security, nutrition and Angolan agricultural development.

In South America, Embrapa is a signatory party to the trilateral Brazil-FAO South-South Cooperation program. It supports the implementation of two country-projects with the Ministry of Agriculture and Irrigation of Peru (Minagri) and with the Ministry of Agriculture and Livestock of Paraguay (MAG); a project with Colombia and Argentina is currently under discussion. Structuring projects in South America aim to contribute to strengthening signatory countries cotton production through institutional development, training plans, technology transfer and value chain improvement within the South-South Cooperation framework.

Photo: José Luiz Bellini Leite



Figure 2. Food and Nutrition Security Project (PSAL): trilateral project - Walter Bowel (University of Florida), Carvalho Ecolé (Mozambique Institute of Agricultural Research), and José Luiz Bellini Leite (Embrapa).

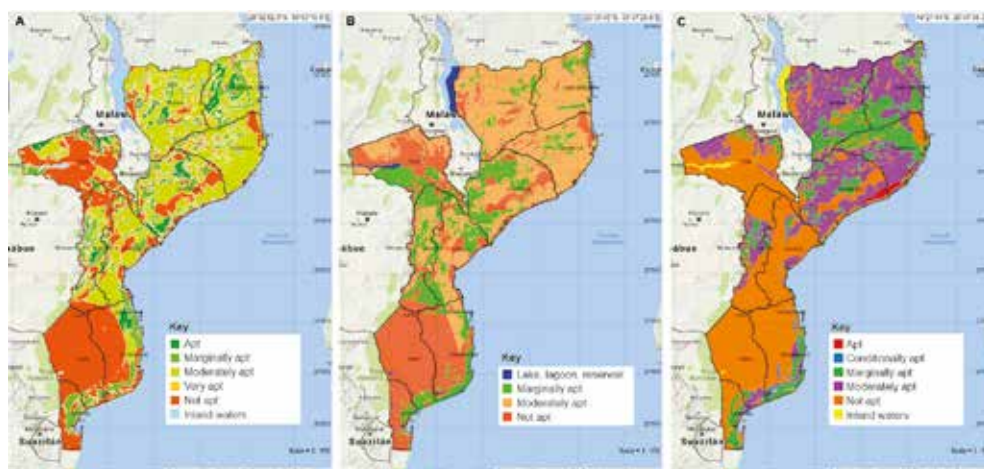


Figure 3. Platform Project: one of the results of the bilateral team (Embrapa and Mozambique Institute of Agricultural Research) work regarding the suitability of the Mozambican lands for: soybean (A); corn (B); and cassava (C).

Source: WebGIS Moçambique (2018).

Specific projects

[Specific short-term or technical support projects](#), carried out by Embrapa, in large numbers and under ABC coordination, are mainly focused on tropical agriculture training, delivery of genetic material and validation of varieties and research methodologies. One example is Burkina Faso Dairy Farming Development Project, based on three pillars: reproduction, sanitation, and forage-growing. This is a structuring project because it involves institutions, team building in both countries, training courses and structures set up in Burkina Faso. Actions focused on training of specialists from Burkina Faso in Brazil and assembling observation (OU) and demonstration (DU) units at Experimental Stations of Loumbila (EEL) and Samandení (EES). Forage-growing was considered the main activity to support reproduction and sanitation. Based on the South-South cooperation concept, experiences were exchanged focusing on solutions for Burkina Faso dairy sector arrived at by Burkinabé specialists (Figures 5, 6, and 7).

Agricultural Innovation Marketplace

Agricultural Innovation Marketplace is an initiative supported by several national and international partners aimed at integrating Brazilian, African, Latin American

Photos: José Luiz Bellini Leite



Figure 4. ProSavana Project: development of production technology (Embrapa and Mozambique Institute of Agricultural Research).



Photo: Sérgio Rustichelli Teixeira

Figure 5. Burkina Faso Dairy Farming Project in Burkina Faso: introduction of *Opuntia stricta* for feeding cattle during drought.

and Caribbean institutions and specialists to jointly develop applied research projects to solve problems concerning partner country's interests. More than 226 technologies were developed, products and services were offered, 4,744 specialists were trained, 1,119 germplasm samples were exchanged, and 142 technical events were held and 145 publications were released. The most successful *Marketplace projects* are selected, continued and expanded within the *M-Boss* project, which is part of the same initiative, and supported by several international partners that have invested over US\$ 32.9 million in the project. It is a successful international technological innovation for agriculture system.

Final considerations

International technical cooperation programs and projects conducted by Embrapa, as it can be seen, are aimed to make agricultural research and development specialists and institutions of partner countries skilled in materials, research and management methods, so that they can locally provide necessary and efficient technologies, information and services to drastically reduce their people's hunger and poverty by means of a substantial increase in production,



Figure 6. Burkina Faso Dairy Farming Project: training course to use *Opuntia stricta* to prepare food for cattle during drought.



Photo: Sérgio Rustichelli Teixeira

Figure 7. Burkina Faso Dairy Farming Project: training course to identify cattle brucellosis and tuberculosis.

productivity, sustainability, and local agriculture wealth. It is believed that this is an effective and rational way of promoting peace and harmony, putting away violence, terrorism and crime inexorably. It seems to be highly recommended to carry out structuring projects to strengthen research and innovation systems in developing countries by means of international technical cooperation, which has been provided by Brazil through Embrapa and its partners in response to this sustainable development goal.

References

AGÊNCIA BRASILEIRA DE COOPERAÇÃO. Available at: <<http://www.abc.gov.br/>>. Accessed on: Apr 6, 2018.

ALBUQUERQUE, E. da M. e. Sistemas nacionais de inovação e desenvolvimento. **Diversa**: revista da Universidade Federal de Minas Gerais, ano 5, n. 10, out. 2006. Available at: <<https://www.ufmg.br/diversa/10/artigo4.html>>. Accessed on: Nov 17, 2017.

SEARLE, J. R. What is an institution? **Journal of Institutional Economics**, v. 1, n. 1, p. 1-22, June 2005. DOI: 10.1017/S1744137405000020.

WEBGIS MOÇAMBIQUE. Available at: <<http://mapas.cnpm.embrapa.br/mocambique/mapa.html>>. Accessed on: Apr 18, 2018.

Chapter 4

Transparency and institutional compliance

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Introduction

Debating corruption and bribery is always a challenge which affects all social classes and public and private sectors. For this reason, Embrapa seeks to be jointly integrated with Brazilian standards to combat bribery and corruption, seeking to be an ethical, effective and transparent institution. For this, its action is based on:

- Dialogue, prevention, and inquiry – organized in its managerial structure by means of its [Ombudsman's Office](#) and [Ethics Committee \(CEE\)](#).
- Inquiry and combat – by means of its Internal [Audit Services](#) (AUD) and specific Investigation Commissions.
- Animal testing ethics – followed by its [Animal Ethics Committee](#) (Ceua).
- Management and access to genetic heritage – internally managed in committees based on the Conselho de Gestão do Patrimônio Genético (Brazilian [Genetic Heritage Management Board – CGen](#)).

Taking a proactive and organized approach to these subjects, Embrapa holds a permanent dialogue with its employees, organizes procedures and incorporates responsibility concepts. These actions are implemented through working groups (WGs), Ethics Committees and Internal Boards, under guidance of partners, such as the Agência Brasileira de Inteligência (Brazilian Intelligence Agency – Abin); they permanently call attention to how the sensitive information we produce (research results, texts, technology transfer, information security, among others) must be dealt with. When required, due inquiry is carried out by establishing Investigation Commissions, which conduct interested parties hearings and guarantee their rights, record facts and monitor the internal proceedings progress in order to guide procedures for corrections.

Permanent evolution of human knowledge, particularly on biology, human and animal medicines, and use of animal resources to meet basic human needs, such

as nutrition, work and clothing, reflect on how animal tests are carried out, which is why we advocate ethical attitudes regarding the different stages for conducting animal studies.

Another aspect, within plant research, is the interaction with traditional peoples. It is necessary to respect and acknowledge popular knowledge, to seek genetic heritage preservation, protection and regularization and access to it, and to ensure that benefits of Brazilian biodiversity conservation and sustainable use are fairly shared.

Available solutions

Dialogue and prevention

Embrapa holds an Ethics Committee (CEE) and Ombudsman's Office, duly represented in all its Central and Decentralized Units. They fulfill the important role of guiding and dialoguing, thus contributing to prevent and reduce wrongdoings; they also conduct inquiries.

CEE guides employees on following the Code of Ethics of Embrapa – regulated by a specific norm – and the Federal Administration Code of Conduct, so that they adhere to, among others, the constitutional principles of legality and morality understood as “the best and fairer habits and acts without distinction or discrimination of any kind”.

At admission, every employee should be informed of the need to read the [Code of Ethics of Embrapa](#). Other responsibilities of this Committee include: to investigate facts, pointing out and proposing corrective solutions; to apply ethical censorship penalty, giving the censored employee plenty of opportunities for disagreement and defense; to recommend, when appropriate, the establishment of an Investigation Committee to inspect violations to the Company's norms.

The Ombudsman's Office, regulated by a specific norm – Customer service by ombudsman –, is the mediator of individual or collective interests and expectations. The ombudsman is appointed by the president of Embrapa and approved by the Administrative Council of Embrapa (Consad). The Ombudsman's Office can be contacted by those who feel that their rights have been harmed or threatened by acts of public administration. The Ombudsman's Office is also an important source of suggestions for Embrapa's management, with guaranteed

anonymity; and receives suggestions, compliments, requests, complaints and accusations. On the last two items, the person may give evidence of irregularity, improbity or violation of an Embrapa norm, procedure, product or process. After his/her assessment, the Ombudsman may make recommendations and/or suggestions and forward them to the Internal Audit Service, which will launch a formal investigation of facts.

Inquiry and combat

The Internal Audit Service (AUD) of Embrapa is a Central Unit under Consad and subject to the normative guidance and technical supervision of the Internal Control System of the Federal Executive Authority. It advises the Board of Directors (ED) and Consad about compliance with legal provisions and adoption of internal administrative and control procedures.

Regarding its competencies, AUD checks compliance with legal provisions of budgetary, accounting, financial, assets and human resource internal administrative procedures, and must, among its main goals, work as an internal agent to control Central and Decentralized Units, institutions controlled by Embrapa and partner institutions, by collecting reliable and timely administrative and managerial information in order to provide elements enough to the Company's senior management to make decisions aimed at obtaining and/or maintaining the efficiency, effectiveness, ethics and administrative probity in the management of Company's resources. AUD is also aimed at: maintaining a connection with Embrapa Fiscal Council (Confis), Ministry of Agriculture, Livestock and Food Supply (Mapa), Internal Control System of the Federal Executive Authority and Federal Court of Accounts and provide them the information necessary for their control tasks; and focusing on preventive and guiding audit services, becoming an instrument to support the decision-making process.

Once auditors' fieldwork has been completed, an Audit Report is produced, and a copy of each step is submitted to the Company's senior management for information and for necessary actions to be taken.

Recommendations implementation is continuously monitored by AUD, and results are presented to the senior management for monitoring, control and possible action.

The Investigation Commission (CSI) is regulated by a specific norm, and operates in close institutional partnership with AUD; these are the effective actions to

investigate and to reduce corruption and bribery within Embrapa. CSI complies with Article 37 of the Federal Constitution and it is in line with legal requirements of the Federal Court of Accounts and the Controladoria-Geral da União (Comptroller-General Office of Brazil), which require information from investigation committees in Embrapa annual reports. In addition, it is CSI duty to establish within Embrapa “procedures for reimbursement to the public treasury arising from damages caused to Embrapa”. Among CSI goals is to investigate signs of irregularities in order to clear facts, circumstances and authors. Once investigations have been completed, CSI prepares a detailed, conclusive, impartial and objective report and submits it to the appointing authority for consideration. The appointing authority, before issuing the decision on report, shall forward investigation records to AUD to evaluate their compliance with its internal rules. In turn, AUD monitors the investigation, guides members in conducting it, evaluates final investigation results and forwards them to Embrapa Board of Directors.

Animal testing ethics

The main objective of the Animal Ethics Committee (Ceua), created by Embrapa, is to monitor and to enforce Law No. 11,794, of 2008, and its regulations, which provides guidelines for compliance with standards established by the Conselho Nacional de Controle de Experimentação Animal (National Council for Animal Experimentation Control – Concea) regarding the ethical use of animals for scientific or educational purposes; it is Ceuas duty to follow the principles there defined. Ceua operations is based on analyzing investigation and research proposals and on monitoring the use of animals for scientific or educational purposes. Actions should be based on the incorporation of the 3Rs principle by research institution: replacement, reduction, and refinement.

As a research institution that uses animal testing models, Embrapa has created Ceua to evaluate research projects focusing on ethical implications of using livestock, such as cattle, sheep, goats, and buffaloes, among others, in tests. This is expected to preserve and to acknowledge the value of animals in advancing scientific knowledge.

Currently, scientific research involving animals is conducted and guided by principles based on several factors, among which are: justification for using animals; importance of research for human beings; valuation of species and their differences; assurance of humane treatment for animals; and evaluation by an Ethics Committee.

Management and access to genetic heritage

The Conselho de Gestão do Patrimônio Genético (Brazilian Genetic Heritage Management Board – CGen), jointly created by different authorities and institutions of Brazil's Federal Public Administration in 2001 by Interim Measure (MP) no. 2,186-16, is responsible for managing access to genetic heritage and sharing benefits in Brazil. This MP was an important milestone in fighting biopiracy in Brazil.

In 2015, when Law no. 13,123/2015 (Brasil, 2015), which replaced MP no. 2,186-16/2001, came into force, a number of demands from civil society sectors, including representatives of business and academic sectors, indigenous populations, traditional communities and traditional farmers in CGen, were met.

Law no. 13,123/2015 regulates: access to genetic heritage; protection and access to associated traditional knowledge; and sharing of benefits for conservation and sustainable use of biodiversity. This law is intended to become a strategy for Brazil's economic, social, cultural, and environmental development, thus promoting biodiversity conservation.

Among CGen competences are: a) to coordinate the implementation of policies for managing Genetic Heritage; b) to establish criteria for accessing Genetic Heritage, c) to grant authorizations for shipping a sample of genetic heritage component and accessing related traditional knowledge upon holders' previous consent.

In 2016, Embrapa has created commissions in its Research Units to identify activities which require regularization and/or adaptation to Law no. 13,123/2015, in order to make Research and Development (P&D) and Technology Transfer (TT) activities comply with CGen regulations, by means of an online system (SisGen), in which records and authorization requests are entered.

In addition to locating projects to be regularized and/or adapted in Embrapa, this action also helps to promote and disseminate the new law and to create, within Embrapa, a culture of concern with recording in SisGen activities involving access to genetic heritage and/or its associated traditional knowledge, submission and shipping of samples and sharing of benefits, so that this procedure becomes part of P&D and TT processes.

Final considerations

All Embrapa sectors are strongly committed to sharing and incorporating responsibilities and to combating and preventing any kind of corruption and bribery. There is a concern to develop an effective, responsible, ethical and transparent institution at all levels, not only in the relationship between individuals and public and private institutions, but also in scientific research, which is the main focus of Embrapa. It is true that prevention is the best solution and, in order for it to be effective, dialogue is the best way.

Guided by Brazilian State and organized by internal norms, Embrapa has, in its management system, effective mechanisms for incorporating concepts and guiding all its employees. It has effective monitoring and verification systems operated through several sectors, among which the following stand out: Internal Audit Services of Embrapa (AUD), Ethics Committee of Embrapa (CEE) and Ombudsman's Office, Animal Ethics Committee (Ceua) and Genetic Heritage Management Board (CGen).

Combating bribery and corruption to build a fairer and more effective society must be constantly improved, and the best way is prevention. This is why we routinely promote prevention through dialogue, efficient management, effective response to civil society, employee and scientific community demands, conduction of ethical research projects involving husbandry and/or use of animals, and management of Brazilian biodiversity genetic heritage, thus contributing to achieve Sustainable Development Goal 16.

Reference

BRASIL. Lei nº 13.123, de 20 de maio de 2015. Regulamenta o inciso II do § 1º e o § 4º do art. 225 da Constituição Federal, o Artigo 1, a alínea j do Artigo 8, a alínea c do Artigo 10, o Artigo 15 e os §§ 3º e 4º do Artigo 16 da Convenção sobre Diversidade Biológica, promulgada pelo Decreto no 2.519, de 16 de março de 1998; dispõe sobre o acesso ao patrimônio genético, sobre a proteção e o acesso ao conhecimento tradicional associado e sobre a repartição de benefícios para conservação e uso sustentável da biodiversidade; revoga a Medida Provisória no 2.186-16, de 23 de agosto de 2001; e dá outras providências. **Diário Oficial da União**, 14 maio 2015. Available at: <http://www.planalto.gov.br/ccivil_03/ato2015-2018/2015/lei/l13123.htm>. Accessed on: Mar 28, 2018.

Chapter 5

Governance and institutional accountability

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Edmar Ramos de Siqueira

Selma Cavalcanti Cruz de Holanda Tavares

Igor Rosa Dias de Jesus

Introduction

This chapter addresses ongoing contributions of Embrapa to achieve UN 2030 Agenda Sustainable Development Goals (SDGs) regarding target 16.7 - Governance and institutional accountability: ensure responsive, inclusive, participatory, and representative decision-making at all levels.

Institutional accountability can also be understood as a complex concept which comprises many senses, especially notions of accountability, responsiveness and account (Cruz, 2015). However, our analysis is based on the concept of accountability concerning the public administration theoretical model called “New Public Service” – which, according to Rocha (2010, p.1), is based on “public agent responsiveness, in which issues related to responsible performance, ethical behavior, defense of public interest and action committed to democratic principles stand out” (our translation). That is, an approach related to duties of public institutions which includes, but is not limited to, financial performance and transparency, targets and results and control of administrative processes (Rocha, 2010) – elements currently considered insufficient indicators to evaluate public service effectiveness.

Therefore, this chapter is based on the perspective that public institutions, among which is Embrapa, in an increasingly complex society, are always subject to crisis of trust and, therefore, they constantly need to develop and implement strategies to legitimize themselves, so that their results are increasingly aligned with society’s interests and, therefore, are more responsive.

In this sense, it is crucial to understand that, to achieve such goal, responses offered by institutions, such as the technological solutions developed by Embrapa, must intrinsically receive input from social participation mechanisms, based on inclusion and representativeness at all decision-making levels.

Strategies adopted by Embrapa

Embrapa has been developing, improving and adopting strategies and tools to become more responsive, while simultaneously revealing its efforts to become increasingly aligned with public interests.

Consolidating the Strategic Intelligence System (Agropensa) is the most recent effort to prospect, organize and analyze society demands regarding problems with Brazilian agriculture. Within Agropensa, the Intelligence and Strategic Affairs Division of Embrapa (Sire) coordinates the knowledge network that gathers external (national and international) partners and employees at Decentralized Units throughout Brazil, in addition to the four Embrapa Virtual Laboratories Abroad (Labex), and three Embrapa Regional Offices.

This [knowledge network](#) develops studies and formulates strategic proposals which continuously contribute to the research agenda focused on Brazilian agriculture mainly based on “signals” detected by its studies and trends observatory, thus continuously putting up propositions for creating or aligning scientific research studies and public policies for Brazil (Figure 1).

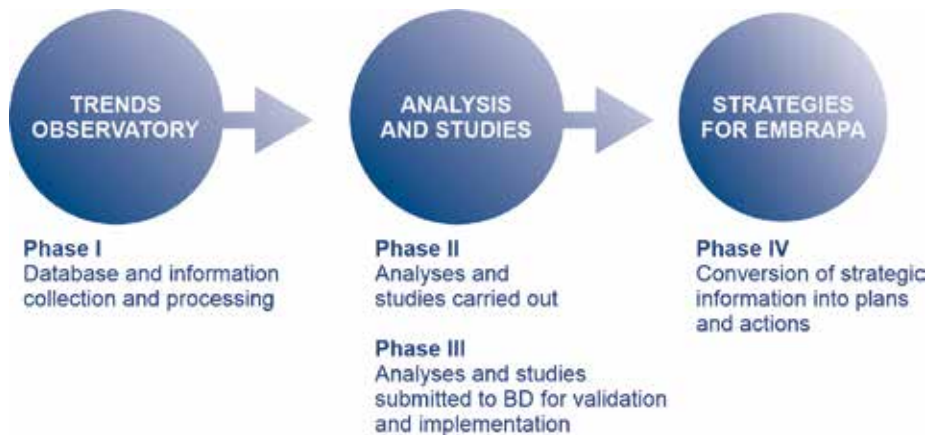


Figure 1. Components of the Strategic Intelligence System of Embrapa (Agropensa).

BD = Board of Directors.

In 2014, Embrapa released *Vision 2014-2034 - The future of technological development for Brazilian agriculture* (Embrapa, 2014). As a result of Agropensa, this document was based on signals and trends collected, which were arranged into eight macro-themes, according to production chain concepts, and three

cross-cutting themes aligned with the mission of Embrapa. Technological challenges were related to these subjects in order to promote more objective actions and increase their positive impact on society, according to pillars defined by Embrapa: Ethics Committee of Embrapa, contributions to public policies; employment and reduced poverty; and placement at the frontier of knowledge.

Research projects at Embrapa are gathered under the same category according to their value chain perspective and, based on their direct or cross-cutting relations, are organized into portfolios and arrangements. Research project activities and results are managed by two systems: 1) Ideare, for managing plans at Embrapa. It is available on internet and allows flexible and agile management of project portfolios of Embrapa; 2) Sisgp, which is the project portfolio management system. In addition, activities planned for these research projects and managerial actions for all employees are managed through the Integrated Performance Management System (Integro). Integro is inputted with information from those systems and, as it encourages team interaction to achieve results, scheduled individual activities become more transparent and collaborative.

In addition to Agropensa, other means are used by Embrapa researchers and analysts in order to keep them close to the reality experienced by farmers, especially family farmers and peasants. Thus, Embrapa has been joining processes for identifying and systematizing practical experiences in agroecological transition led by agroecology networks – a basis for knowledge construction – which reveal results of the interaction between rural communities and scientific-academic universe.

As part of this process, Embrapa carries out, together with farmers and their organizations, research projects which involve their participation – from diagnosis to implementation and discussion of results and proposals for new actions (Figure 2). This approach reveals foundations which are obstacles for effective community participation in local development programs, thus formulating strategies to overcome them. An example is the Marco Referencial em Agroecologia (Reference Framework in Agroecology) (Sambuich et al., 2017), prepared by Embrapa in 2006 with participation of society organizations, which was part of the process for designing the Política Nacional de Agroecologia e Produção Orgânica (National Policy for Agroecology and Organic Production – Pnapo) in 2012.

In the same vein, Embrapa joins Territorial Committees, [State and Municipal Boards for Sustainable Rural Development](#) and Productive Networks, as ways for



Figure 2. Community participation for collectively creating agroecological technologies in Araguari River Valley, Porto Grande, state of Amapá.

making inclusive, participatory and representative decisions to set up rural spaces based on public interest and democratic principles.

Contributions of Embrapa

Results obtained by Embrapa through designed and offered technologies are estimated and presented annually, since 1998, in its *Social Responsibility Report* – a publicly available and important management tool which allows all interested parties to follow-up and monitor Embrapa actions.

Since 2000, all research units of Embrapa adopted a methodology to assess the impact of its technologies based on three dimensions: economic, social and environmental. This multidimensional approach to designed technologies has become a trademark of the [Social Responsibility Report of Embrapa](#) and the main feature which makes it stand out from other existing impact assessment tools (Ávila et al., 2008).

Thus, successful and relevant technologies for Brazilian agriculture – which can be potentially adapted to different countries worldwide – can be found in

this document, which covers issues ranging from the strengthening of family agriculture to environmental education. On its last edition, the *Social Responsibility Report* of Embrapa shows that each BRL 1 invested in the Company returns BRL 11.37 to society (Embrapa, 2017).

Final considerations

The search for achieving the target “ensuring responsive, inclusive, participatory and representative decision-making at all levels” must be a benchmark for institutions, especially public ones, in order to enhance their governance strategies and institutional accountability. Thus, it is crucial that, in each assessment and strategy realignment cycle, people who are part of Embrapa can use SDG principles as inspiration and guideline what is written in the document *Transforming our world: the 2030 Agenda for sustainable development*.

References

- ÁVILA, A. F. D.; RODRIGUES, G. S.; VEDOVOTO, G. L. (Ed.). **Avaliação dos impactos de tecnologias geradas pela Embrapa**: metodologia de referência. Brasília, DF: Embrapa Informação Tecnológica, 2008. 189 p.
- CRUZ, M. M. de A. **Accountability das Nações Unidas**: discursos e práticas (2007 - 2011). 2015. 112 p. Dissertação (Mestrado) – Programa de Pós Graduação em Ciência Política, Universidade Federal do Paraná, Curitiba. Available at: <<http://acervodigital.ufpr.br/bitstream/handle/1884/38991/R%20-%20D%20-%20MARIANA%20MATTOS%20DE%20ALMEIDA%20CRUZ.pdf?sequence=2>>. Accessed on: Oct 10, 2017.
- EMBRAPA. Secretaria de Comunicação. Secretaria de Gestão e Desenvolvimento Institucional. **Balanco social Embrapa 2016**. Brasília, DF, 2017. 47 p. Available at: <<http://ainfo.cnptia.embrapa.br/digital/bitstream/item/161865/1/balancosocialeembrapa2016print.pdf>>. Accessed on: Oct 20, 2017.
- EMBRAPA. **Visão 2014-2034**: o futuro do desenvolvimento tecnológico da agricultura brasileira. Brasília, DF, 2014. 194 p. Available at: <<https://ainfo.cnptia.embrapa.br/digital/bitstream/item/108955/1/Documento-Visao-versao-completa.pdf>>. Accessed on: June 22, 2015.
- ROCHA, A. C. *Accountability*: três modelos teóricos, três abordagens. In: ENCONTRO NACIONAL DA ANPAD, 34., 2010, Rio de Janeiro. **Resumos...** Rio de Janeiro: Associação Nacional dos Programas de Pós-Graduação em Administração, 2010. p. 1-15. Available at: <<http://www.anpad.org.br/admin/pdf/apb857.pdf>>. Accessed on: Oct 25, 2017.
- SAMBUICH, R. H. R.; SPÍNOLA, P. A. C.; MATTOS, L. M. de; ÁVILA, M. L. de; MOURA, I. F. de; SILVA, A. P. M. da. **Análise da construção da Política Nacional de Agroecologia e Produção Orgânica no Brasil**. Rio de Janeiro: Instituto de Pesquisa e Economia Aplicada, 2017. 63 p. (IPEA. Text for discussion, 2305). Available at: <<https://ainfo.cnptia.embrapa.br/digital/bitstream/item/161371/1/td-2305.pdf>>. Accessed on: Oct 20, 2017.

Chapter 6

Global governance

Otávio Valentim Balsadi

Petula Ponciano Nascimento

Introduction

Regarding target 16.8 – Broaden and strengthen the participation of developing countries in the institutions of global governance – of 16th Sustainable Development Goal (SDG 16), it is almost inevitable asking ourselves “What for? How? When? Where?” Obviously, it is not enough to say that this spreading and strengthening are to achieve the Sustainable Development Goals, because it would be an unnecessary tautologism.

If the United Nations system member states recognize that “eradicating poverty in all its forms and dimensions, including extreme poverty, is the greatest global challenge and an indispensable requirement for sustainable development,” this could be a broad field for joint action. It seems clear that when talking about broadening participation, it is assumed that there are gaps in the structures of institutions of global governance. When talking about strengthening, we search a more effective and efficient participation of all involved.

New UN 2030 Agenda has replaced the [Millennium Development Goals](#) (MDG), and the success of SDGs depends on a new global citizen diplomacy that, in addition to governmental parties, assumes the greater participation of developing countries with direct involvement of private sector and organized civil society.

It is worth mentioning that, in line with target 16.8, it is important that developing countries play a major role in objectively proposing solutions for the institutions leading efforts to follow the 2030 Agenda.

To play this role, first, they should be effectively committed to the targets set out in the goals, which must be clearly reflected in the main public policies and in several forms of strategic alliances with civil society and its (non-governmental and private) organizations.

Second, they should be (and have) an active voice in several formal spaces already available in global governance institutions, particularly in the UN system, effectively becoming part of solutions to global problems.

And, third, they should search for necessary and sufficient conditions for exchanging good practices and experiences to enable the improvement of living, work, health, housing, education, food, and water access conditions for needy people, as well as for developing resilient, integrated and sustainable systems for agricultural, forestry and fisheries production.

As a great mobilizing utopia, 2030 Agenda is very important. However, with 12 years remaining for its full implementation, it is still possible to see that many indicators are beyond where they should already be. And implementing them in real life is not trivial. The world is increasingly complex, with serious issues which go beyond country borders, each with its own political system, ethical, cultural and institutional foundations which must be considered and respected.

For this reason, target 16.8 is greatly relevant and meaningful in its two-way call: on the one hand, decision-making bodies of UN and other global governance institutions to open more and make themselves more democratic by welcoming the participation of developing countries; on the other hand, this participation to be leading, proactive and bearer of virtuous paths and solutions for a peaceful, sustainable and fair world.

Global governance: importance of STI institutions

With a permanent representative since 1947, we could certainly say that Brazil is one of the countries where the UN system is very well represented. As already described in the [introductory chapter](#), among specialized agencies, funds, and programs, [26 institutions are in Brazil](#). Obviously, how the United Nations System supports Brazil changes from one agency to another, since they perform, in our country, the tasks indicated by their respective mandates and work in specific areas.

During the *First Annual Multi-stakeholder Forum on Science, Technology and Innovation for the Sustainable Development Goals*, which took place at UN headquarters in 2016, the United Nations Educational, Scientific and Cultural Organization (Unesco) organized a side event which addressed the importance of different science, technology and innovation (STI) components necessary to ensure that these areas really reach their potential as facilitators for achieving SDGs and 2030 Agenda.

Discussions were moderated by Unesco Assistant Director-General for Natural Sciences, Flavia Schlegel, were integrated with key issues of STI Forum,

and resulted in a brief strategic summary with factual recommendations on the forum topic: Realize the potential of science, technology and innovation for all to achieve sustainable development goals. In her opening speech, the assistant director-general stressed the needs and requirements of science and research, technology and innovation, public policies and international scientific cooperation to design and improve STI systems so that they provide solutions to challenges concerning sustainable development and benefit the most vulnerable and marginalized persons, not leaving anyone behind.

Contributions of Embrapa

Due to its widespread reach, skills and national and international recognition, the Brazilian Agricultural Research Corporation (Embrapa) has historically played a leading role on global governance institutions, especially some UN specialized agencies. Complying with its mission and its link to the Brazilian State through the Ministry of Agriculture, Livestock and Food Supply (Mapa), Embrapa directly and indirectly takes part in Brazilian participation in international forums. This is due to a wide portfolio of technological solutions developed over 45 years in a country whose vast rural area is occupied with heterogeneous agriculture on at least five different biomes.

In Brazil, the international technical and scientific cooperation policy follows the guidelines from the Ministry of Foreign Affairs (MFA), for which

[...] international cooperation should be understood as a development tool guided by respect for the well-being of Brazilian people and aimed at providing universities, research institutions and private companies with the sophistication, specialization and competitiveness required by the new global economy. (MFA cited by Embrapa, 2009, our translation).

In this sense, the concept of innovation diplomacy is aimed at strengthening international negotiations in order to facilitate technology dissemination and implementation, promote new management learning and make new products, services and knowledge available to society.

Embrapa approach to global policy aims to monitor and manage institutional positions in worldwide conventions, agreements, protocols, treaties, commissions and forums. Embrapa also deals with public policies, as an important partner of Itamaraty regarding decision-making on national and global policies,

thus providing technical and scientific support for both MFA and Mapa. Thus, Embrapa supports not only Brazilian delegations in conventions, treaties and other agreements ratified by our country, but also parties involved in discussing new laws in Brazilian Congress, along with parliamentary fronts and special commissions.

Thus, Brazil, represented by Embrapa, takes part in the international agricultural arena, either as a member or as a contracting party. International conventions, treaties and agreements and commissions intertwine at national and international levels, thus creating a network of technical and political instances, a context in which Embrapa needs to know how to navigate and spot bottlenecks to support the Brazilian government in its best negotiation strategy (Embrapa, 2009).

This set of agreements, treaties and guidelines of Brazilian government needs to be taken into account when Embrapa supports global public policies design and improvement by offering its scientific and technological knowledge in order to guarantee biomes and native ecosystems sustainability and human adaptation to a climate change and water scarcity scenario.

Embrapa, as a public organization, can continue to play a leading role in strengthening developing countries for greater participation in global governance. By revealing how its work is in line with the international commitment with SDGs, Embrapa is held accountable by society and shows how it is possible to end poverty in all its forms in Brazil by offering alternatives which can also be adopted in several countries worldwide.

As food and agriculture are linked to practically all SDGs, Embrapa has carried out a comprehensive evaluation concerning its agricultural research and innovation activities and mapped interfaces and synergies with SDG and its targets. The work was based on mapping Impact Axis and 12 Strategic Goals mentioned in the [VI Master Plan](#) of Embrapa related to the 17 SDGs (Embrapa, 2015).

When looking at the relationship between SDG targets and Embrapa actions with the Plano Plurianual 2016-2019 (2016-2019 Multi-Annual Plan – MAP) of the federal government – focusing on SDG 16 and target 16.8, on broadening and strengthening the participation of developing countries in global governance institutions – two MAP goals and four budget targets stand out. These goals and targets address the production of scientific and technological knowledge and the improvement of partnerships, processes, human resources and infrastructure for developing agricultural innovations, in order to strengthen institutions, produce

knowledge to support public policy design, preserve Brazilian and planetary biodiversity, and cement international alliances through representatives in decision-making institutions by means of international cooperation projects and partnerships.

Embrapa is designing a mechanism to monitor SDGs and its targets, and, for its new Master Plan revision, there is a proposal for greater alignment with SDGs, since, according to the UN, the 2030 Agenda is not restricted to proposing SDGs, but equally addresses the means to implement these goals and their targets. This discussion involves systemic issues, such as funding for development, transfer and exchange of knowledge and technologies, technical training and international trade, which will require innovative and active arrangements. These mechanisms should help countries and their institutions to disseminate their achievements and identify their challenges, so that they can devise strategies and advance their commitments to the sustainable development of the planet.

Final considerations

From a historical perspective, it is important to note that global challenges change and, as a rule, become more complex as society evolves. Obviously, this movement requires that local, national and global institutions also change over time in order to remain leading actors in solving serious problems which affect the population, especially segments that are more fragile and vulnerable to the uneven development countless regions of the planet.

And so it has been. Since the creation of UN in 1945 and Bretton Woods institutions in 1944, countries have sought ways to deal with transnational and cross-border issues by creating and strengthening global governance institutions. And more than 70 years since the establishment of these pioneering institutions, despite tremendous economic and social advances and progress, the 2030 Agenda persists in showing humanity that many challenges are yet to be faced. Many of them were thought to have been overcome, such as great universal scourges.

In this sense, SDGs and 2030 Agenda are actual, challenging and important for moving towards a more fair, worthy and sustainable world. Of course, this path is neither easy nor trivial, given its comprehensiveness and complexity. Therefore, the challenge is for everyone, and it could not fail to be for a large-sized and historically important institution like Embrapa. In a complex, unequal and troubled

21st century world , strengthened and democratic global governance institutions jointly acting in synergy will certainly be crucial.

References

EMBRAPA. Assessoria de Relações Internacionais. **Guia de relações internacionais da Embrapa**. Brasília, DF, 2009. 58 p. Available at: <<https://www.bdpa.cnptia.embrapa.br/consulta/busca?b=ad&id=105252&biblioteca=vazio&busca=guia%20de%20rela%C3%A7%C3%B5es%20internacionais%20da%20embrapa&qFacets=guia%20de%20rela%C3%A7%C3%B5es%20internacionais%20da%20embrapa&sort=&paginacao=t&paginaAtual=1>>. Accessed on: Sept 30, 2016.

EMBRAPA. Secretaria de Gestão e Desenvolvimento Institucional. **VI Plano Diretor da Embrapa 2014-2034**. Brasília, DF, 2015. 24 p. Available at: <<http://ainfo.cnptia.embrapa.br/digital/bitstream/item/130562/1/Plano-Diretor-da-Embrapa-2014-2034.pdf>>. Accessed on: Sept 30, 2016.

Chapter 7

Transparency and information security

Zenilton de Jesus Gayoso Miranda Brasil

Introduction

This chapter addresses aspects related to target 16.10 – Ensure public access to information and protect fundamental freedoms, in accordance with national legislation and international agreements – considering the contributions and actions of Embrapa to make it more effective in terms of transparency and information security.

Our society, dependent on information technologies and knowledge input, which is known as information society, because of its rapid exchange of information assets and immediate access to them, enables dealing with increasing volumes of information in progressively less time, which encourages continuous (and often radical) changes. In this context, citizens tend to demand greater participation and control over State action.

This recent context is very relevant to public administration, as it simultaneously challenges and creates opportunities for innovation in continuously changing areas. Rationalizing processes to achieve organizational goals and enabling greater transparency, participation and control by citizens place a responsibility on public administration, whose targets must, therefore, be redirected.

The responsibility of a public institution is not limited to carrying on its public mission, but includes acting to keep social network and good tradition of public service for the benefit and protection of common good. Public Administration or administration of common good requires coordinated effort and trust bonds between citizens and public authorities, which are strengthened in contexts where multiple parties are involved in decision-making about the purposes, means and mechanisms according to which public authorities provide social well-being.

It is worth noting that, because it allows citizen control, information access strengthens democracies, which pervades combating corruption, conflict of interests, nepotism, misappropriation of public assets, etc. These factors, aligned with a perceived sense of greater justice and balance in the management of public organizations, in addition to ethical principles and clear norms for public agents

professional behavior, strengthen the institution and encourage society to keep trust bonds with public authorities.

In this context, the right to information is relevant because, besides ensuring transparency of public administrative acts, it helps to consolidate the principle of social participation, according to which public administration, understood as a service, should meet citizens-users' needs, so that they can understand the workings, controls and responsibilities of public agents in keeping and valuing common good.

Despite the fact that inner environment of each public institution is multifold and diversified, all public institutions are directly related to the socio-cultural context in which they carry out their activities, which is why they simultaneously impact and are impacted by values, beliefs and attitudes which emerge from society. This impact is positive or negative as society keeps trust bonds with institutions, and these can only be forged or strengthened as people perceive their public missions being carried out.

Transparency

In its field of activity, the Brazilian Agricultural Research Corporation (Embrapa) is committed with transparency and guides its purposes towards serving public interest, as stated in its Master Plan (EMP). Since 1972, as devised in the public agricultural research system reformulation based on which Embrapa was established, until now, as devised in its management models, Embrapa focuses on providing Brazilian agribusiness with conditions to face continuous challenges, so that, in designing its plans, it strives to anticipate which sustainability challenges the world transformations will pose to Brazil and its agriculture.

In the Fourth Master Plan of Embrapa, there is a fair reflection: "the dynamic world in which we live requires making the effort to anticipate possible futures, and the strategic plan itself, into systematic and continuous processes." (our translation). This idea would not evolve without mentioning the values which support it: commitment, cooperation, equity, ethics, excellence, socio-environmental responsibility, flexibility, and transparency.

Indeed, designing future scenarios or reshaping itself with flexibility as contexts constantly change, is not possible without multiple views. Thus, while taking on an important commitment on social participation, Embrapa, as part of designing its planning and following up its Strategic Agenda, calls society to join by

means of its advisory body – National Advisory Board (NAB), currently joining 37 institutions –, which advises on analyzing public policies and institutional arrangements necessary to broaden the potential of technological innovation in Brazilian agriculture.

Regarding transparency, prior to the publication of Law no. 12,527/2011 (Brasil, 2011) – known as Law of Access to Information (LAI), Embrapa, one of the first institutions to create an [institutional transparency portal](#), made public its commitment to the transparency of its administrative acts. As of 2011, pursuant to LAI, the actively transparent information dissemination took place when the [information access web page was launched](#), to disseminate relevant public interest information, in addition to the [Citizen Services Note](#), which informs on public services provided by Embrapa.

Information security

The information security model implemented at Embrapa, along with the transparency of its acts, is based on protecting public heritage resulting from its final activity. Because it operates under a system of competition, therefore, complying with article 173 of the Federal Constitution, it is important that the protection of business-relevant information ensures that its mission is carried out to accomplish its institutional purposes, so that it can keep delivering efficient and cost-effective results to society. In order to ensure that information security principles are disseminated and applied by all employees, Embrapa has created the Information Security Management Committee (CGSI), a collective body which decides on procedures to be followed. Annually, a global planning is carried out to set the agenda for Embrapa Central and Decentralized Units to carry out information security activities based on People, Documents, Infrastructure and Information Technology.

This planning is intended to ensure that both research activities and sensitive information are protected in safe environments that simultaneously encourage protection and achievement of institutional goals. This purpose is aligned with the Programa Nacional de Proteção do Conhecimento Sensível (National Program for Protecting Sensitive Knowledge), developed by the Agência Brasileira de Inteligência (Brazilian Intelligence Agency – Abin), a preventive instrument for protecting and safeguarding sensitive knowledge for society's and Brazilian state's interest.

A mature democratic regime is largely based on the following principles: maximum disclosure of its acts; obligation of public authorities to publish essential information so that society can control and contribute with improvements to State activities; governmental openness as a requirement to social participation, with limited scope of exceptions to access to information in order to protect public interest; speedy response to requests made to the State, allowing independent examination in case of appeals, reduced operating costs in any public request or access to public services; organization of meetings open to multiple parties; early disclosure of information as a fundamental tool to control possible damages to society arising from State activities or decisions; protection to whistleblowers of wrongdoings against public interest, etc.

In the recent history of public administration, there is renewed orientation of public action by the State towards citizen's interests, whose general principles were formulated in 1980s and published in the document *Administration as Service, the Public as Client* by the Organisation for Economic Co-operation and Development (OECD). This document was widely discussed among participating countries. However, changes in the orientation of public administration, focusing on citizens, were consolidated in the second half of 1980s and, particularly in Brazil and the United States, in 1990s. According to Mendel (2009), in 1990, there was a predominant view of the right to information as a measure of administrative governance; nowadays, this right is increasingly considered as a fundamental human right.

To make it clear, the reorientation of public administration towards the citizen is more than a conceptual change; above all, it requires changing values, attitudes and beliefs that must be reconciled with principles of the administration itself. According to Coutinho (2000), if, on the one hand, this reorientation is a powerful instrument for transforming the administrative model, on the other hand, this model will only take place after a great cultural change. Therefore, democratic values, such as prevalence of public interest, become clear as citizens understand that the sustainability of public administration relies on serving society's interests; therefore, public administration decisions must be based on transparent acts, so that its activities can be controlled by the population.

Of course, such changes do not take place immediately. However, in contrast with the world scenario, signs of this change – from “focus on citizen” to “citizen's focus” – in Brazilian public administration have been noted since 1982, when the document *Atendimento novo, vida nova!* [New service, new life!] was released, and

1988, with statements from the Federal Constitution¹ (item XXXIII of article 5), which subsumed the right to information under fundamental rights, as a public interest relevant issue, and made explicit the liabilities of public administration as the main party interested in disseminating information it creates and guards.

Opportunities for social participation in Brazil, indeed, date back, in some cases, to the 16th century; however, it is worth mentioning, as new ways of social participation² emerge based on the citizen's focus and his participation in public administration, that these varied mechanisms allow numerous social actors to join decisions on public policies, and that this helps to improve administration due to positive results of incorporating participatory processes in governmental activity and, by extension, in its policy management.

As an important milestone in terms of transparency and social participation principles, LAI has granted some relevant rights to citizens. First, the assumption of publicity of public administration acts as a rule and secrecy as an exception. Second, the challenge of unmotivated responding to requests for information access, a considerably important fact for democratic process, which demanded public administration to give close attention to complying with prevalence of public interest (in addition to efforts to keep its information stocks and collections, and to commit to procedural standardization).

As LAI requires that information should preferably be provided in an open format, a third aspect yet to be assessed related to citizen participation and public administration, after 6 years of publication of LAI, is the positive impact of using

¹ Subsection XXXIII of art. 5: Everyone is entitled to receive information of their particular, or collective or general interest, from public authorities, which shall be provided within the term fixed by the law, under penalty of responsibility, except those whose secrecy is essential to the security of society and the State. Subsection II of paragraph 3 of art. 37: users' access to administrative records and information on governmental acts, in compliance with provisions of art. 05, X and XXXIII. paragraph 02 of art. 216: The public administration, in accordance with the law, is responsible for managing governmental documentation and arrangements for franking its consultation (our translation).

² LAW No. 12,527, DATED NOVEMBER 18, 2011. It regulates the access to information provided in item XXXIII of art. 5, item II of paragraph 3 of art. 37 and in paragraph 2 of art. 216 of the Federal Constitution; it amends Law No. 8,112 of December 11, 1990; it revokes Law No. 11,111, of May 5, 2005, and provisions of Law No. 8,159, of January 8th, 1991; among other provisions (our translation). DECREE No. 8,243, DATED MAY 23th, 2014. It establishes the Política Nacional de Participação Social (National Policy for Social Participation – PNPS) and the Sistema Nacional de Participação Social (National System for Social Participation – SNPS), among other provisions (our translation). LAW No. 13,460, DATED JUNE 26th, 2017. It regulates participation, protection and defense of rights of public administration service users (our translation). DECREE No. 9,094, DATED JULY 17th, 2017 It regulates simplification of service provided to public service users, ratifies the waiver of signature recognition and authentication in documents issued in Brazil and establishes the User Services Note (our translation).

public information to encourage the opening of the State. Another relevant aspect is information entrepreneurship, based on reusing public information; in doing so, citizens can contribute to improving public services, and provide and offer (paid or free) services of interest to public authorities or the private sector.

This not only involves participation for control purposes, but also interferes with and helps to consolidate the principle of citizen participation, since public quality information helps in improving public services. According to Coutinho (2000, our translation), there are three basic assumptions of the public administration towards the citizen:

Firstly, service quality is measured by citizen-user satisfaction. Secondly, resources of an organization must be driven by an innovative action, able to find solutions that enable the improvement in the public service. And thirdly, citizen service must always pursue a quality standard, adopting a culture of service provision and a set of strategies for changes to enable the citizens' power of choice.

Final considerations

In line with the principle of effectiveness, the principle of transparency is directed towards and integrated with rectifying public acts based on citizen's participation and attentive look. As a rule, popular participation, encouraged by information access, benefits institutions with constant input of suggestions that favor strategies for continuous improvement, which, ultimately, benefit the citizen.

Therefore, citizens' call for improved public services should aim and be based on qualified information provided by Public Administration. This information can foster both public authorities and society to develop innovative strategies for reusing public information. From this perspective, publicizing information funded with public resources is mandatory in terms of both social justice and humanity.

References

BRASIL. Lei nº 12.527, de 18 de novembro de 2011. Regula o acesso a informações previsto no inciso XXXIII do art. 5º, no inciso II do § 3º do art. 37 e no § 2º do art. 216 da Constituição Federal; altera a Lei nº 8.112, de 11 de dezembro de 1990; revoga a Lei nº 11.111, de 5 de maio de 2005, e dispositivos da Lei nº 8.159, de 8 de janeiro de 1991; e dá outras providências. **Diário Oficial da**

União, 18 nov. 2011. Edição extra. Available at: <http://www.planalto.gov.br/ccivil_03/_ato2011-2014/2011/lei/l12527.htm>. Access: Mar 28, 2018.

COUTINHO, M. J. V. Administração pública voltada para o cidadão: quadro teórico-conceitual. **Revista do Serviço Público**, v. 51, n. 3, p. 40-73, 2000.

MENDEL, T. **Liberdade de informação**: um estudo de direito comparado. 2. ed. Brasília, DF: Unesco, 2009.

Chapter 8

Challenges for Embrapa

Fábio Homero Diniz
Julia Franco Stuchi

Introduction

Peace-keeping, efficient justice and respect for human rights, based on the Rule of Law and effective governance of institutions, are fundamental to achieve sustainable development. These are the principles of the 16th Sustainable Development Goal (SDG 16) presented in this book. Among 12 targets of this goal, Embrapa has been contributing directly or indirectly to 6.

For this chapter, we sought, firstly, to briefly recover a collection of actions already being conducted by Embrapa to contribute to reach each target. Secondly, based on the 2016-2019 actions in the Multi-Annual Plan of Embrapa (MAP) and the federal government which are aligned with SDG 16 for a program planned until 2042, we present the efforts made to reach these targets. Our commitment is based on concrete actions (Figure 1) which result in a better world we have the duty to build and the right to enjoy.



Photo: Julia Franco Stuchi

Figure 1. Riverside inhabitant crossing Araguari River, in Porto Grande, state of Amapá, in the mist, to bring participants for the workshop promoted by Embrapa Amapá.

Contributions of Embrapa

Target 16.a – Strengthen relevant national institutions, including through international cooperation, for building capacity at all levels, in particular in developing countries, to prevent violence and combat terrorism and crime – covers issues related to the programs and projects that Embrapa has been conducting in international technical cooperation. These programs and projects lead to institutional improvement through governance and inclusion of local parties in the sustainable development process. For a long-term reach, Embrapa has been strengthening new partnership models based on creating or consolidating Laboratórios Multiusuário (Multi-user Laboratories – MultiLab), whose infrastructure is shared with national or international public or private organizations, and Unidades Mistas de Pesquisa (Mixed Research Units – Umips), equipped with laboratory facilities installed through institutional partnerships; Embrapa has also been reinforcing the new public-private partnerships models by creating or consolidating Núcleos Territoriais de Inovação e Referência Tecnológica (Territorial Nuclei for Innovation and Technological Reference – Nutir), to work with integrated sustainable production systems. Thus, these crosscutting actions are effective and rational means to provide peace and harmony, and to put away violence, terrorism and crime, keeping what was proposed in SDG.

Because of similar principles and solutions available by Embrapa, targets 16.5 – Substantially reduce corruption and bribery in all their forms – and 16.6 – Develop effective, accountable and transparent institutions at all levels – were analyzed in the same chapter. Solutions that the Embrapa adopts and makes available to society in order to hold a dialogue and prevent corruption and bribery (among which its Ethics Committee and Ombudsman's Office stand out) were addressed. Its Internal Audit Services and Investigation Commission act to identify and combat actions harmful to the Company and to society. In order to promote institutional accountability and transparency, Embrapa has established Animal Ethics Committees, which assess research projects on the use of animals in research, based on several ethical principles. At the same time, in order to preserve the Brazilian genetic heritage, in its varied forms, Embrapa created structures in order to comply with pertinent norms and, thus, to contribute to combat biopiracy. For the future, Embrapa is strengthening partnerships with universities, institutes, state organizations and other public and private institutions within the coordination of the National Agricultural Research Organization (SNPA), and searching cooperation with national partners (ministries, S System services, cooperative companies, organizations and social movements) for agricultural

innovations, focusing on the role of local or regional networks. Developing innovative production systems for increasing Brazilian sustainable agricultural, forestry and aquaculture productivity is also among Embrapa priorities.

Issues related to governance and institutional accountability were addressed under target 16.7 – Ensure responsive, inclusive, participatory and representative decision-making at all levels. In this sense, responsiveness and accountability of Embrapa are revealed by several mechanisms linked to the Strategic Intelligence System, in which Embrapa records demands from several sectors of society to support its decision-making. For long-term reach, an Integrated Management System is being implemented at Embrapa, including tools for managing human resources and assets; efforts are also focused on instructing employees of Embrapa and State Agricultural Research Organizations (Oepas) by means of long- and short-term training courses on strategic technical-scientific knowledge, including those for higher administrative efficiency. It also seeks the integration of research and technical assistance and rural extension through solutions, training of agents and participation in governing bodies of the Agência Nacional de Assistência Técnica e Extensão Rural (National Agency for Technical Assistance and Rural Extension – Anater).

Embrapa has greatly contributed to achieve target 16.8 – Broaden and strengthen the participation of developing countries in institutions of global governance – through its active participation in several discussion forums on Science, Technology and Innovation (ST&I) and the establishment of partnerships with several institutions which promote reduced conflicts provoked by lack of food and precarious agricultural production in several countries worldwide. In addition, Embrapa has aligned its institutional agenda in order to further meet sustainable development goals proposed by UN and committed to by the Brazilian government. As it expects to further contribute to meet this target, Embrapa aims to consolidate a network of international alliances through representatives, units, actions, partnerships and projects on scientific cooperation, technical cooperation, business deals or participation in forums.

Finally, issues related to transparency and information security, related to target 16.10 – Ensure public access to information and protect fundamental freedoms, in accordance with national legislation and international agreements – address citizenship in the sense of having the right to access information generated by a public institution. In turn, there is also concern for protecting public assets resulting from the final activities of Embrapa, i.e., the results of agricultural research. In this sense, Embrapa develops and implements mechanisms

compliant to the existing legal framework while encourages public service user participation and protection and defense of their rights. For the future, Embrapa aims to consolidate the Strategic Intelligence System of Embrapa (Agropensa) by providing information, scenarios and studies to support decision-making, strategy and public policy improvement. Concerning access to information, we aim to increase the production of scientific and technological knowledge, in order to:

- Improve the management and sustainable use of Brazilian biomes and their natural resources.
- Increase the resistance of native ecosystems and production systems, and increase the adaptability of Brazilian agriculture to climate change and water scarcity.
- Support public policy design and improvement.

Final considerations

Considering that, in a preliminary analysis, it is difficult to define which solutions from Embrapa could contribute to achieve SDG 16, several actions were mentioned in this chapter and many mechanisms that directly or indirectly meet the targets established in this goal were highlighted.

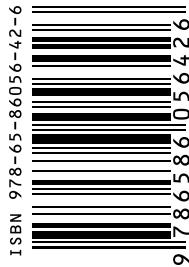
Obviously, these mechanisms need constant improvement, but, in general, Embrapa contributes to promoting peaceful and inclusive societies for sustainable development, in Brazil and in other developing countries. It also provides access to information and, through its actions, support effective, accountable and inclusive institutions at all levels for peace and global justice.



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