

Chapter 6

Partnerships and cooperation: lessons, challenges and perspectives of joint work

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Introduction

The *Millenium Development Goals Report* (MDG), published in 2015, showed the success achieved over 15 years to reach the goals set out in the *Millenium Declaration*, in 2000. Progress was so great and so widespread that it led the Secretary-General of the United Nations at the time, Mr. Ban Ki-Moon, to consider MDGs as “the most successful anti-poverty movement in history”¹. However, despite progress, much remains to be achieved. Brazil, for example, until the end of 2014, had not met all MDGs, with a deficit mainly on the targets related to socioeconomic development and human rights. Targets related to eradicating hunger, providing universal primary education, reducing child mortality, reducing HIV/AIDS incidence and developing partnerships and supporting actions with developing countries had already been fully achieved.

After MDGs, the UN defined 17 *Sustainable Development Goals* (SDG) as part of the *2030 Agenda*. In Brazil, the local office of the United Nations Development Programme (UNDP) strengthens territorial and private integration and supports SDG Brasil National Network, made up of representatives of governmental, non-governmental and civil society organizations. As part of this network, several Brazilian states have already created their state networks and incorporated SDG targets, as have many companies. These networks are a strong link to integrate common interests, decisions, plans, expertise, monitoring and implementation of actions and processes with great potential for success. In order to support all these initiatives, the Brazilian federal government, through the Government Secretariat (Segov), created the Comissão Nacional para os Objetivos de Desenvolvimento Sustentável (*Brazilian Commission for Sustainable Development Goals*) (Brasil, 2016) with the purposes of incorporating, disseminating and making the implementation of the 2030 Agenda in Brazil transparent.

¹ Available at: <<https://www.br.undp.org/content/brazil/pt/home/presscenter/articles/2015/07/06/quinze-anos-de-esfor-os-produziram-maior-movimento-antipobreza-da-hist-ria>>.

The Brazilian Agricultural Research Corporation (Embrapa), committed to the economic, social and environmental sustainability of Brazilian agriculture in the search for increasingly safe and efficient products, services and technologies, has brought SDGs to the heart of its discussions and institutional guidelines by aligning all of its Strategic Objectives with SDGs, particularly SDG 17, which promotes global partnerships. Embrapa contributions aligned with targets 17.6, 17.7, 17.8, 17.11, 17.16 and 17.17, as presented throughout the chapters of this book, go beyond advancing knowledge and producing technologies for Brazilian agriculture; they also positively impact the rural environment worldwide, especially in tropical countries, which Brazil maintains intense technical cooperation with.

Lessons

Establishing partnerships and working in cooperation are not new to Embrapa. Over 4 decades, if there is an indelible practice in the Company's institutional culture, this practice is certainly the setting up of national and international partnerships. In fact, the pulse of the Company, understood here as its human capacity for research, since its beginning in the 1970s, was shaped worldwide, in good universities abroad, where employees had the opportunity to advance their academic studies. From there, they brought not only their diplomas, but also professional networks and the ability to face challenges in collaboration, through partnerships. As subsequent generations followed the same path, many of these networks still remain and, having strengthened over time, produced various results, from joint projects to new researchers who come and go. This has been, for a long time, the strategy of Embrapa and certainly an important component of the achievements and successes so far.

Because Embrapa is institutionally prone to partnerships, various sort of cooperative work have been and continue to be established. [Chapter 5](#) presents several examples, that do not have to be repeated here. However, it must be highlighted that, regardless of the type of cooperation and from what side, at the outset or at first glance, the main beneficiary is, there are always many lessons and benefits for all partners.

From cooperation and partnership strategies that link Embrapa directly to the production sector or to dissemination and technology transfer agents, such as farmer associations and the network of state-owned technical assistance and rural extension companies, the gain for Embrapa is evident: the production sector adopts technologies, products or services that, when transformed into

innovation, have an impact on agriculture and the life of Brazilians, whether they are only a few, or several on a progressive scale. This is how Embrapa, by acting in cooperation with its partners, accomplishes its mission. Even in these cases when the main gain is evident, there are also other very relevant benefits. As a feedback to the research and development process, this set of pertinent information allows checking the compass and steering the course, so that Embrapa can sail precisely and keep meeting expectations. If it were not for these partners' collaborations, Embrapa's costs (in many senses) would be too high.

In the case of global partnerships, benefits for Embrapa are also great. In cooperation models such as the [Embrapa Virtual Laboratory Abroad Program](#) (Labex) and the joint calls, discussed in detail in [Chapter 5](#), gains for Embrapa are clear. Based on the mission to "promote and develop international scientific cooperation opportunities at the frontier of knowledge and monitor science, innovative technologies, and innovation in agriculture, whilst anticipating risks and opportunities"², Labex has been contributing for advancing the work of Embrapa in favor of Brazilian agriculture since 1998 in the United States and since 2002 in Europe. Over the years, the lines of research addressed in Labex have been very diverse and relevant, including topics such as genetic resources, animal health, precision farming and system modeling.

Gains are brought not only by institutionally formalized strategies. Embrapa participation in international multilateral organizations and fora also opens a path for collaboration opportunities for the Company. Several Embrapa employees worked in organizations such as the United Nations Food and Agriculture Organization (FAO), the World Bank, or the CGIAR centers, for example. During their stay in these agencies and after their return to Embrapa, they provided the Company with the opportunity to establish partnerships and develop cooperative work with institutions around the world, often involving significant financial resources to carry out the work. It is also important to keep in mind that, although Embrapa is affected by the current economic situation in Brazil, the participation of its specialists in multilateral global fora displays the capacity of Embrapa, and also creates a great opportunity for enhancing or establishing new networks that will eventually allow a new cooperative action to be undertaken.

Another source of benefits for Embrapa and, with it, for Brazilian agriculture, although less evident, but no less relevant, are technical cooperation actions. They include an intense exchange of knowledge among inhabitants of socioeconomic

² Available at: <https://www.embrapa.br/en/embrapa-labex>.

contexts that are often very distinct, but with similar agroecosystems that pose similar challenges (such as acid and nutrient deficient soils, long drought periods and enormous pressure of pests and diseases on the plantations, just to name a few). A simple unique attitude in facing these challenges represents valuable opportunities for the attentive researcher. Many technologies developed by Embrapa, after having been challenged in cooperation with partners, could be improved. In many actions that began as technical cooperation, the spark of scientific interest shone, ignited by unanswered questions which drive the advancement of knowledge. Although it is not possible, or rather not simple, to trace these events, mostly preserved only tacitly by individuals, many palpable solutions developed by Embrapa and nowadays commonly used in Brazilian agriculture come from partnerships with fellow citizens of the tropical world.

Challenges and perspectives

If yesterday the challenge of agriculture was to achieve production efficiency, today the challenge is not only to keep the efficiency levels achieved, but also to advance even more, in a sustainable way, with people and the environment as the first priority. These are new paradigms in a changing and ever complex world. The present already requires efficient, sustainable technologies that meet the demands for food, fiber, energy and other raw materials for green processing and chemical industries and that produce surplus for export. Thus, national food, technology and energy security and, at the same time, world progress are achieved. This is why technological development of agriculture strongly relies on identifying relevant signs of changes and producing information to support public and private sectors decision-making, thus enhancing its capacity to take opportunities and mitigate risks to agriculture. This is the challenge of Agropensa, Embrapa Strategic Intelligence System. Based on signals from its network of observatories, Agropensa monitors and detects trends and conducts studies to find relevant futures for agricultural research and development in Brazil and abroad (Embrapa, 2014).

The presence of Embrapa in national and international partnerships, whether in its effective implementation or simply in supporting it, brings challenges and reveals a successful institutional history enhanced by the positive perspectives for technological and scientific development which is increasingly faster and more widespread around the world. The projected scenario indicates that technology will play an increasingly important role in future agricultural production chains. The challenge is to outline strategies that consider different contexts, while

favoring the multiple (technical, economic, environmental and social) dimensions of sustainability. In this context, Embrapa [Ambitec-Agro](#), which assesses these parameters through a multidimensional approach to the impacts of each technology, emerges as an efficient impact assessment tool, distinct from other existing instruments.

Scientific communication and journalism, regardless of their media, are equally a challenge and a perspective. Their role in raising the population's awareness and their territorial coverage are uncontested and crucial for a truly sustainable future. Prosa Rural is a good example of this potential. It is a radio program produced by Embrapa and broadcasted by Brazilian community radio stations. Its purpose is to encourage ideas and spread knowledge to farmers, as well as to promote family engagement through guidelines and indications of good practices focused on maintaining the environmental, economic and social sustainability of family agribusiness, based on technologies assessed by Ambitec-Agro (Jesus et al., 2012). The intelligent use of natural resources in the agricultural production process is a collective responsibility, since agriculture is an activity that contributes a lot to environmental degradation when carried out improperly. Therefore, educommunication is important, as it provides citizens with information that makes them leaders of sustainable development, thus encouraging them to change their attitude towards the environment.

Despite the advances, the multiple dimensions of poverty and inequalities are still a great challenge in several regions of the planet. With [208.6 million inhabitants](#) and a population growth rate of 0.86% from 2016 to 2017, Brazil has 15.6% of its population living in rural areas, where family agriculture meets challenges of competitiveness in ever-growing market demands. It is imperative to produce efficiently and in harmony with the biomes, especially due to the challenges posed by the global climate change and the need to guarantee food security for the population. This is the case of the Brazilian Northeastern region, where almost half the Brazilian rural population lives and produces a significant amount of food, in an environment with many restrictions. In the Northeastern region, Embrapa and partners joined efforts to boost productivity while making rational use of the natural resources available in the region. Abundant sunlight in the region points to possible technological innovations based on using solar radiation, such as local generation of photovoltaic energy. To approach the water issue, efforts are focused on water collection and treatment. The proposal Socioeconomia Verde no Bioma Caatinga frente às Mudanças Climáticas (Green Socioeconomics in the Caatinga Biome against Climate Change), approved by CNPq/EditalNexus – 2017, emerges

as a catalyzing element of the new paradigm of socioeconomic development, a new perspective to face the challenge of transforming the secular framework of dependence and poverty of the Northeastern population.

Turning to the international environment, partnerships are opportunities for joint technological development and lead to common and continuous perspectives between countries, thus opening up opportunities for cooperation and commercial development, including low-income countries. Embrapa has always played an important role in running technical cooperation projects of the Brazilian State. Embrapa is nationally and internationally recognized as a center for knowledge and technology production, leveling and facilitating opportunities and independence. Several examples of cooperation are presented in this book in Chapters [3](#), [4](#) and [5](#).

Finally, addressing future perspectives call for taking the new generations into consideration. Efforts towards educating and training individuals, children and young people, who will be the future leaders in opinion making, political decisions and the workforce, is timely to support the achievement of SDGs. In this context, partnerships also play a major role. An example is the playful work with millions of students in the Brazilian public education system focusing previously on MDGs, now on SDGs, carried out by the Comitê de Entidades Públicas no Combate à Fome e pela Vida (Public Entities Committee Against Hunger and for Life – Coep) of the Rede Nacional de Mobilização Social (Social Mobilization National Network), in which the Embrapa Escola (Embrapa School) project is integrated. Besides developing specific skills, this initiative seeks to inspire the youth by contributing to prepare critical individuals, with adequate social skills to act for the benefit of all.

Lessons, challenges and perspectives: the former create opportunities for the latter to multiply, the latter allow the former to become more and more comprehensive. And they all impose a reality on us: the need not only to make room for national and international partnerships, but also to amplify them so that new partnerships can be established. If they bring so many benefits to cooperating partners, as seen throughout this book, there is no reason to back down, specially if everyone looks for a larger goal: sustainable actions to end hunger and poverty worldwide. This book has been written with the aim of contributing to this goal. By presenting a little of Embrapa's background on working in partnership, we intend to inspire other institutions and, thus, support efforts of all towards the 2030 Agenda.

Successfully following the agenda will depend on aligning suitable processes, tools and management to targets and goals at all levels. A country's developmental stage changes if it is able to significantly and sustainably change key indicators towards a desirable direction over long periods. In order to successfully follow a development agenda, we need to set clear targets and goals for different scenarios, to have discipline and a firm commitment to go along medium and long term paths.

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