

POLICY PAPER 2022

International Conference

3 Critical Issues for the

Third Leap in Food Production at the Global Level



International Conference Critical themes for the Third Leap in Global Food Production

Introduction

The International Seminar, entitled "**Critical themes for the Third Leap in Global Food Production**", was held together with the Institute Forum of the Future, the World Bank, the International Fund for Agricultural Development (IFAD) and the Federal University of Viçosa (UFV), through the Institute of Public Policy and Sustainable Development and the Aksaam Project (*Adapting Knowledge for Sustainable Agriculture and Access to Markets*). The event comes in a context of urgency to debate important, sensitive, and critical themes in the world.

It is clear that the Planet is facing a challenge in food sector that affects current and future generations. This situation must be seen as a challenge for the sector, especially to combat food and nutritional insecurity for the humankind. The presence of different national and/or international crises, the new global trends about food issues, people's lives and well-being in the post-Covid-19 pandemic, as well as environmental and climate issues, the debates about the Amazon and the discussion of a new bioeconomy are all examples that we must look at the causes and not just the consequences of the problems.

In this respect, the participation of different institutions, with plural perspectives and actions, is seen as an important step towards in order to create common agendas for a global food agreement. For that matter, the Seminar was based on the following objectives:

1. Share the role of the tropical bioeconomy in the debate on sustainable development models, including subjects affecting food security, social and technological inclusion of small and medium farmers in the global tropical zone;
2. Propose alternatives to environmental challenges (deforestation, land degradation, and loss of biodiversity) in order to achieve strategic solutions for the planet and for the well-being of society;
3. Promote the sharing of agendas by central participants in the promotion of sustainable development on strategic issues, particularly related to the release of the available technological

potential, not used by the productive sectors and whose value is not noticed by society.

The debates took place in three panels, composed of representatives not only from the Seminar's organizing institutions, but also from other institutions, such as Embrapa (Brazilian Agricultural Research Corporation). The first panel aimed to present the Demonstrative Hubs as a strategic tool for global food security and to avoid the regional food crisis in the Amazon, taking advantage of regional opportunities, while the second one sought to guide the construction of a space for debate about the patterns and the emerging forms of promoting development, especially in tropical biomes, focusing on the Amazon. The third panel, in turn, guided the discussion about the role of communication for the enhancement of science and agriculture as a tool for food supply and sustainable development.

Thereby, in addition to this Introduction section, this Policy Paper consists of four more sections. The next three refer to the explanations and debates of each of the three panels of the International Seminar, while the final considerations and policy recommendations are presented in section 5.

2 Global Food Agreement: social and technological inclusion of small and medium farmers and Food Security¹

Brazil has been going through countless situations that need to be debated and addressed. The country experiences problems such as unemployment, the concentration of income in the hands of a few, the persistence of regional inequalities, and the acceleration of the process of ecosystem degradation. Therefore, it is necessary for Brazil to go through a new cycle of economic and social expansion, and the project that proves to be most viable is the cycle of expanding food production.

There are conditions that favor this third leap in food production. Additionally, it is worth noting that the national agribusiness presents technological innovations capable of increasing food production without the need for deforestation, according to researches in the area. The studies also point out that, when it comes to climate and environmental issues, Brazil is capable of producing healthy,

¹ The panel was run by Leonardo Bichara, senior economist at the World Bank, and debated by Paulo Haddad, Brazil's former Minister of Finance, José Siqueira, specialist in Amazon development, and Rafael Zavala, representative of the *Food and Agriculture Organization* (FAO) in Brazil.

sustainable, and resistant foods, as well as being able to produce differentiated foods, and developing the productive chain of different products, such as guaraná and açai.

However, it is necessary to address different topics, such as the problem with the Amazon. As stated by panelist José Siqueira, "*The Amazon is the most dynamic area of land use change and the last global frontier for sustainable development.*" Despite this, it is in severe social vulnerability and severe food insecurity.

So, it is necessary to look at this region as a development alternative and not as an obstacle to it, bringing together natural capital and knowledge to establish a new productive and commercial agreement that is more inclusive, and that does not promote deforestation because it is necessary to create sustainable income alternatives. But how to generate income and distributed wealth concomitantly with forest preservation and diligent economic activities?

The solution is to think about a convergence of several economic activities that are promoted through education, science, technology, investments, infrastructure, and structured and suitable services to support these activities. Effective knowledge is therefore needed to reconcile the relationship between humans and nature in the promotion of development. One possible economic activity is the creation and strengthening of a new bioeconomy.

The new bioeconomy - a way of exploiting natural capital - turns to biodiversity and the services of flora, fauna, and microorganisms, which can be worked on and treated with knowledge, science, and technology. So, these components can provide value-added products, reaching out markets and attracting investments, for instance.

Food security is another important point for debate. Brazil has returned to the hunger map after years of progress towards a scenario of food and nutrition security. Previously, the country was recognized as an example to the world in the fight against hunger. In the meantime, the presence of global conflicts, the effect of inflation on food, the need for healthier, more nutritious products that do not come from deforested or illegal areas, and the health problems linked to malnutrition are examples of reasons that demand solutions for the food producing sectors.

Hunger is a complex issue that demands a comprehensive look. The problem involves not only food production but the entire production chain and environmental, climatic, social, political, technological issues. Thus, the social and technological inclusion of small and mid-sized producers is another matter to be addressed.

It is necessary to bring small and mid-sized producers closer to knowledge and sustainable technologies so that they do not remain on the margin of other producers, bringing them to the solution side, and not leaving them on the problem side. It is possible to have a production pattern in which the large and small producers can be made compatible, as seen in the production model known as the anchor-firm cluster, in which the production process is segmented, leaving the large producer at the end. In this scenario, more scale is required at the final stage, and in the earlier stage, small production can be used.

3 The challenge of democratizing tropical knowledge²

The democratization of knowledge of the tropical zone of the planet is an important subject. Brazil once had an excessive dependence on imports of products from the temperate zone, but, due to the consistent investment in science, research and innovation this dependence has been mitigated because of the strengthening of the agricultural sciences, as well as other areas, strengthening the country in tropical agriculture.

Note that, in this advance, the presence of the public sector in favor of the development of the agricultural sector in the 1970s stands out. However, expensive public policies, such as rural extension and rural credit, were weakened in later years by the national and international crises.

Therefore, we realize the importance of strengthening public institutions, as well as restructuring the public policies that have served as a cornerstone for the development of tropical knowledge, such as rural extension. In a promising scenario, rural extension in the current times could be configured by modern visions and would be with a greater participation with the agricultural *startups*, which have presented important solutions for the small producer.

In the scope of these solutions, the Demonstrative Hubs stand out as an activity developed by the Institute Forum of the Future so that the technology and innovation being produced by Embrapa and universities can be brought to the establishments. These Hubs contribute to overcome these public policy issues, since the farmer adopts a certain technology when, for example, he observes that his

² The panel was run by Raul Narciso Carvalho Guedes, Pro-Rector of Research and Graduate Studies at the Federal University of Viçosa, and debated by Evaldo Vilella, president of CNPq, Celso Moretti, president of Embrapa, and Márcia Dornelles, representative of the National Network of Territorial Collegiates.

neighbor has achieved improvements with new techniques. Thus, the convincing via demonstration is very important in agriculture.

However, the big question debated is that knowledge is not produced without funding. Financial resources are needed so that new knowledge and new technologies reach out establishments. This funding is supposed to come from public policies since it requires a continuous flow of resources. However, Brazil is an example of a nation whose government is often characterized by discontinuities: sometimes there are financial resources at a given moment, and sometimes there are none left. Situations like this hinder the proper transposition and flow of knowledge into the field.

It is observed that the democratization of knowledge in the tropical zone exists and has been moving forward, but those with greater economic power who have appropriated it, given the absence of consistent public policies and funding. For example, a farmer would probably not take a risk with a new technology or a new innovation without a financial resource from the public sector. Innovation, to take place in agribusiness, family farming, and low-income agriculture presents risk, and therefore should be seen, first of all, as an opportunity to move forward, as long as there is support in the face of risk.

It is emphasized that, within this democratization of knowledge, it is important to think of the bioeconomy in harmony with different points, such as valuing people, creating spaces to think and articulate public policies: a bioeconomy that involves the use of natural resources in a sustainable way, with technological innovation, and that makes it possible, above all, to promote sustainable development and ensure quality and quantity production. Therefore, it is necessary to think about a bioeconomy that enables family farming to use technologies in a correct way, without destroying nature, with the help of technical assistance and rural extension, which must take into account the knowledge of the local culture and the peculiarities of the regional biomes.

4 Communicating instead of informing: a risk factor in the Tropical Bioeconomy business³

It is necessary to discuss the role of communication in the valuation of science and agriculture as instruments for the provision of healthy food and sustainable development. However, the understanding of agribusiness by society is difficult and sometimes complex.

Agribusiness is witnessing a sort of image crisis, as if it were the only one responsible for the deforestation of the Amazon, for example. Due to different crises around the world, such as the war in Ukraine, which caused several multinational companies to leave Russia so as not to have their images negatively associated with that country, who can guarantee that the Brazilian agribusiness products will not be cancelled by movements of European consumers, since Brazil and Russia have good relations?

It is necessary to go beyond information transmission because when information is provided, few people are truly reached. Rather, it is important to have a dialog, since there is information, but not always socially well-coded content. Therefore, it is necessary to build a capital of trust, and it is in this scenario that dialog needs to reach young people, that is, reach those who formulate opinions in the urban area.

In this way, a dialog between science and society is necessary. It is noted that the tropical bioeconomy will only be possible in its full potential if there is some re-evaluation and revaluation of local knowledge, so as to center the role of local populations and producers as key players in the process of creating and expanding this bioeconomy. It is necessary that these populations are included in the whole decision-making process in a collaborative, fair and equal way, since the inclusion process helps to create this feeling of ownership and then put into practice what is going to be developed.

³ The panel was run by Julio Worman, program analyst and IFAD's South and Triangular cooperation focal point for Latin America, and debated by Fernando Barros, director of strategic communication at the Institute Forum of the Future, Evaldo Vilella, president of CNPq, and Eugênia Rodrigues, professor of Science, Technology and Innovation Studies at the University of Edinburgh in the UK.

5 Final considerations and recommendations

The International Seminar was a great opportunity to debate the sustainable development models of the tropical bioeconomy. It was debated, for example, the possibility of an innovative extractivism in the Amazon with a new bioeconomy, based on the exploitation of natural capital, in the presence of diverse productive chains, some already established and some that may expand, according to Embrapa studies.

The seminar also provided questions coming from the people who attended, which are presented as important points for reflection. Here are some examples: How to make this process (new expansion of agriculture) inclusive, involving small producers? How can we ensure that this food is healthy without pesticides, without slave labor? How can we contribute so that this food supply can reach those who really need to improve their food security?

Therefore, it is important to move forward because it is perceived that sustainable development has remained a topic at the rhetorical level. Thus, it is necessary to move forward with solutions. In this sense, here are some recommendations:

1. Building a vision based on the biomes: it is observed that the Amazon biome is always highlighted in debates, given the importance of the forest and its international visibility, which is very high. Furthermore, it is important to highlight the presence of challenges in other biomes, such as the Caatinga, the Cerrado, and the Pantanal, where there are points of vulnerability that deserve discussion within the context of a new bioeconomy;

2. Valuing traditional peoples and communities in the context of sustainable development: it is important to value traditional peoples and communities, such as quilombolas and indigenous peoples because our society cannot continue to live with extreme poverty of traditional peoples, since the persistence of traditional agricultural practices of low productivity and inconsistent government transfers is not sustainable.

3. Understanding and qualifying a new bioeconomy: the ancient bioeconomy, the "old bioeconomy", is extremely relevant and has managed to provide answers to food security needs. Nowadays, however, it is fundamental that we have a new bioeconomy that is based on the inclusion of traditional peoples and communities, on the valuation of their knowledge, and on the inclusion of women and the youth. Different alternatives were listed and discussed, such as extractive reserves, agroecological transition, sale of environmental services, carbon credit, and agroforestry systems,

which make the new bioeconomy need to be understood and better qualified;

4. Building an agenda with a multidisciplinary solution: it is important that the solution for a new bioeconomy does not come from a single science, a single area of knowledge, and not only from one group or institution. It will come from various players working together and acting together with the local community to generate protagonism;

5. Construction and intensification of a dialog between agribusiness, science and society: a problem is perceived in the relationship between society and Brazilian agribusiness, which needs to be solved. The bad images created by social media and press regarding agribusiness and its impacts on the environment and on the population's well-being are often baseless, blaming all agribusiness producers. However, there are many producers who seek to reduce the negative impacts of their production on the environment and, in this context, the support of science, for example, has been of great help in this search, showing that it acts not only to contribute to the increase of production, but also to mitigate the impacts on the environment. In this sense, the lack of dialog, or even a more constructive dialog contributes to narrowing the gap between agribusiness and society. It is necessary to build and intensify adequate, comprehensive, knowledge-building, and solid dialog between science, agribusiness and society, and this is an important and urgent task for Brazil to move forward as a nation and to advance in the strategy of a new leap in food production.