UNDERSTANDING RESILIENCE IN FOOD SYSTEMS FOR FOOD SECURITY AND NUTRITION IN LATIN AMERICA AND THE CARIBBEAN

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Blanca Cecilia Gonzalez

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ABSTRACT

Latin America and the Caribbean (LAC) makes a significant contribution to global food security. However, many millions of people, including farmers, experience food insecurity, malnutrition, and poverty in the region. The COVID-19 pandemic exacerbated their situation and tested the capacity of food systems to bounce back. It also provided opportunities to learn and reevaluate food system priorities. A regional Independent Dialogue, that was part of the 2021 UN Food Systems Summit, was convened to discuss the effects of the pandemic, how the food system responded, lessons that were learned, and solutions toward food system resilience and transformation in LAC. The Dialogue followed the Summit's guidelines and principles of engagement, prioritizing diversity and inclusion, with a focus on transforming food systems to achieve food security, affordable healthy diets, and sustainability. Fifty-eight people from throughout the Americas representing diverse stakeholder groups and sectors participated in the Dialogue that took place virtually in June 2021. Main themes that emerged included: disrupted food distribution networks threatened rural livelihoods and food security; producers and stakeholders adapted and innovated creating space for new food system actors; small-scale farmers lacked access to needed technology, training, and financial resources, and were not well-linked within the food system; transformation towards a more resilient, diverse, and sustainable food system requires a change of policies, models, and practices that prioritize small-scale farmers, and the health of people and the planet. We all have a role to play in this transformation within our respective spheres of influence and should do so in ways that are inclusive of small-scale farmers, ensure sustainability, and build resilience.

BIOGRAPHICAL SKETCH

Blanca Cecilia Gonzalez is a native of Quito, Ecuador. She obtained her bachelor's degree in Food Science from the University of Arkansas, Fayetteville. Cecilia has worked for over a decade in international development, focusing on linkages between food, agriculture, nutrition, and health. She is currently a Research Assistant with the Global Diet Quality Project. Her dream is to serve with a multi-lateral agency such as FAO or WFP towards creating sustainable food systems that nourish the world.

Dedicated to God, the love of my life, whose purposes I seek.

To my parents who I long to see in Heaven.

To my love, my husband, who has been of great support all these years.

To my brother and best friend.

To my family and friends who make life meaningful and joyful.

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Finishing my master's program was a long road and a struggle for me for several reasons, including my father's illness and passing when I was first a student. I could not have finished without the continued support from the staff of the College of Agriculture and Life Sciences (CALS), particularly from the Food Science Department and the Professional Programs Office. Special thanks to Erin Atkins, Graduate Program Coordinator, for her kind support this time around, and to Jannette Robbins and Dr. Martin Wiedmann, who had previously provided much support and encouragement.

I will not mention everyone by name, but I am grateful to the many Cornell faculty, staff, and fellow Cornellians that I have interacted with. I had a rich learning experience as I pursued interdisciplinary work and traversed several departments throughout CALS as a student. Learning from the brilliant and diverse people that Cornell attracts was life-transforming and resulted in many lifelong friendships.

Last, but not least, I want to thank my husband, Nathan Tarter, for accompanying me and helping me through this journey. To my family and friends for believing in me and encouraging me to pursue my dreams and calling. And to God, whose continued love, grace, strength, guidance, peace, calling, and provision carry me through and compel me to be, act, and serve with love.

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1. INTRODUCTION

1.1 Background

Latin America and the Caribbean (LAC) is a region of contrasts. It has great beauty, diversity, and a wealth of resources. Home to important civilizations, including the Aztecs, the Mayans, and the Incas, the region boasts a great diversity of people groups. It possesses about one-third of the world's forests (Blackman et al., 2014, as cited in Ardila et al., 2021), which provide a number of ecosystem services to the region and to the world, for example, by removing carbon dioxide from the atmosphere or through mangroves serving as nurseries for fisheries (Ardila et al., 2021). The region is of great importance for global food security as it produces 14 percent of the world's food (FAO, 2021).

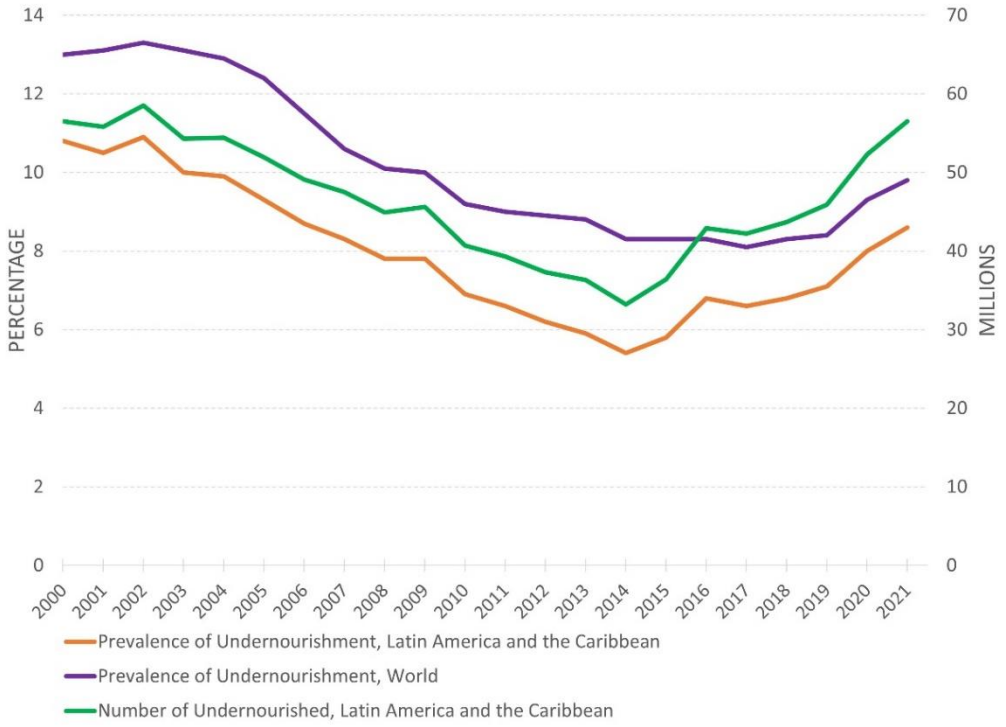
While LAC makes important contributions of food, feed, fiber, and fuel to the region and the world (Morris et al., 2020), much of it comes at the cost of depletion of our natural resources, with many people in the region still experiencing hunger, food insecurity, poverty, inequality, and lack of opportunity. In the past two decades, LAC had been making good progress in addressing some of these disparities. The number of people living in poverty was reduced by close to half and income inequality decreased (World Bank, 2021).

However, in the later part of the 2010s the progress slowed down or was reversed in some areas due to economic growth faltering, socio-political crises, natural disasters, changing climate patterns, and migration happening throughout the region. Furthermore, the Coronavirus Disease (COVID-19) pandemic has had significant health, economic, social, and political impacts in the region in the last two years. As of May 2022, LAC reported about 1.7 million COVID-19 deaths, representing more than 27% of deaths globally (Congressional Research Service, 2022). During the pandemic, the number of people living in poverty and extreme poverty increased to levels not

seen since more than a decade ago, and it is estimated that between 2020 and 2021, 5 million more people lived in extreme poverty in the region (a total of 86 million people or 13% of the population) (Economic Commission for Latin America and the Caribbean (ECLAC), 2022).

A similar trend is true for hunger and food insecurity. The latest publication of *The State of Food Security and Nutrition in the World* estimates that the number of undernourished people in the region was 56.5 million in 2021, 8.6% of the population. Nine million more people experienced hunger in Latin America and the Caribbean between 2019 and 2020, and 4 million more people between 2020 and 2021 (FAO et al., 2022). The latest numbers show that hunger in LAC is back to levels not seen since the early 2000s.

Figure 1. Prevalence of Undernourishment in Latin America and the Caribbean



Note. Prevalence of Undernourishment (*left axis*). Number of Undernourished (*right axis*). Values for 2020 and 2021 are projections (FAO et al., 2022). Adapted from *Latin America and the Caribbean – Regional Overview of Food Security and Nutrition 2021: Statistics and trends*. FAO et al. (2021, p. 3). CC BY-NC-SA 4.0.

Food insecurity in LAC also increased due to the pandemic. In 2021, 40.6 percent of the population, roughly 268 million people, experienced moderate or severe food insecurity. Since 2019, this is an increase of 30 million more people experiencing severe food insecurity (FAO et al., 2022).

During the pandemic, the region's agri-food systems have continued to produce food, feed, fiber and fuel, employ about 50% of its population, and make an important contribution to global food security. Moreover, the region's agriculture exports increased, and imports decreased during the pandemic (FAO, 2021). Even though our agri-food systems have shown resilience and increased production during the COVID-19 crisis, at the same time, many more millions experienced hunger, food insecurity, and poverty. This shows a disconnect between production and food reaching people.

Beyond food production and distribution, we are also at a crossroads in terms of the sustainability of our planet. LAC contributes about 10% of the greenhouse gas emissions with food and agriculture production as a main contributor alongside land use change, which is the conversion of forests to agricultural land (Wellenstein & Hickey, 2021). Climate-related disasters have also intensified, including hurricanes, floods, and droughts that inflict heavy losses on the population, including on food and agriculture production, increasing the vulnerability of those already experiencing hunger, food insecurity, and poverty (Wellenstein & Hickey, 2021).

As mentioned above, we see a region of contrasts, and even contradictions. While food and agriculture production make significant contributions to the world, millions of our own people go hungry. There is need to transform our food systems to be more resilient, sustainable, and consistent with the shared goals to end poverty and achieve zero hunger by 2030 (United Nations, 2022).

1.2 Justification

While it is important to understand the facts and statistics, the reports paint a bleak picture for LAC. However, we know there are facts beyond what is reported. Reports are good at capturing large numbers and how they change, but not as good at sharing specifics about individuals, groups, and communities. There could be potential for change and resilience in people and places not captured by the reports. There are also goals that may be overlooked, not reported, or intertwined and therefore, hard to describe, such as wanting a resilient system that provides for people in the region and the world in more equitable and sustainable ways, even during crises.

Though crises come with significant consequences, they also provide us with opportunities to reassess our systems, to identify weak points as well as areas that provide stability and resilience. Resilience is the capacity to bounce back after adversity, and the COVID-19 crisis has been testing this capacity at all levels: individual, collective, and in the systems that provide for our basic needs, such as food, health, education, and employment.

This project sought to provide insights into what contributed to LAC food systems recovery and the resilient areas we can build upon. Through a regional Independent Dialogue, part of the UN Food Systems Summit 2021, we convened food system stakeholders to discuss lessons learned during the COVID-19 pandemic—what worked well, what failed—and propose solutions to build resilient food systems that improve the food security and nutrition of the population, particularly the most vulnerable.

A synthesis of the outcomes of the dialogue were reported to the Summit through the UN official feedback form. This project paper contains a more detailed report that includes some

literature review, lessons learned through organizing the Dialogue, and reflections on how we can accomplish some of the solutions presented.

1.3 Key Concepts

It is important to begin with understanding concepts and frameworks for food systems and resilience to facilitate analysis of where the lessons learned, crisis responses, or solutions proposed for building resilience would fall within the food system.

Sustainable Food Systems

Food systems are diverse, including a diversity of growers, markets (e.g., local, regional, national, global), commodities, and areas of production (e.g., rural, urban). A commonly used definition of food systems comes from FAO's publication *Sustainable food systems: Concept and framework* (2018):

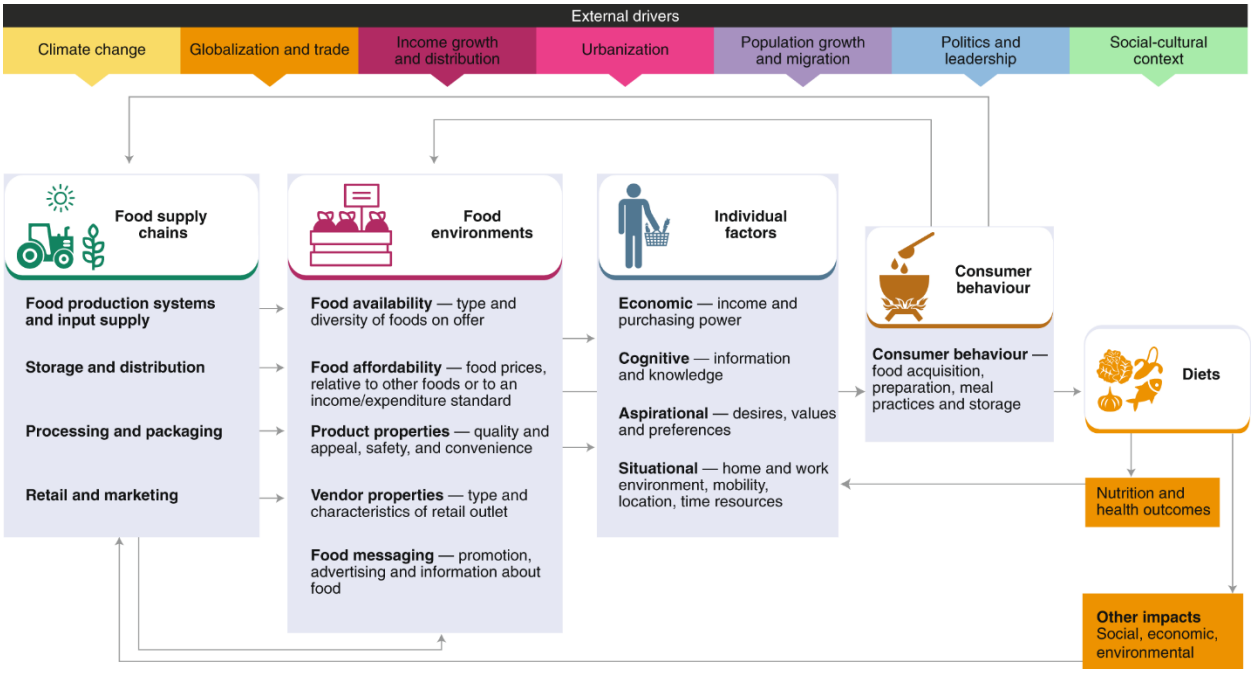
> Food systems encompass the entire range of actors and their interlinked value-adding activities involved in the production, aggregation, processing, distribution, consumption and disposal of food products that originate from agriculture, forestry or fisheries, and parts of the broader economic, societal and natural environments in which they are embedded. (p. 1)

Sustainable food systems "deliver food security and nutrition for all in such a way that the economic, social, and environmental bases to generate food security and nutrition for future generations are not compromised" (FAO, 2018, p. 1). It is important to note that the term "sustainable" means that food systems are transforming to include greater levels of sustainability rather than referring to sustainability in absolute terms. Even the best and most sustainable food systems could not alone ensure food security and nutrition for all because these are dependent on

other factors, such as clean water, hygiene, childcare practices, and diseases (von Braun et al., 2021).

The High-Level Panel of Experts of the Committee on World Food Security developed a conceptual framework of food systems for diets and nutrition that helps us understand food systems components, drivers, outcomes, and impacts (HLPE, 2017). Adapted by the Food Systems Dashboard (www.foodsystemsdashboard.org), Figure 2 illustrates the framework.

Figure 2. Food Systems Framework



Note. Food systems components, external drivers, outcomes, and impacts. From *The Food Systems Dashboard is a new tool to inform better food policy* (Fanzo et al., 2020, p. 243). Nature Food. ISSN 2662-1355 (online at https://www.nature.com/articles/s43016-020-0077-y/figures/1). Reproduced with permission.

Food system components include food supply chains, food environments, individual factors, and consumer behavior, which are influenced by other systems and external drivers including health, environment, technology, economy, politics, socio-cultural situations, and

demographics. These in turn, influence outcomes in diets that affect nutrition and health, and have environmental, economic, and social impacts on our societies (Food Systems Dashboard, 2021). All of these things interact and impact the food system, so must be a consideration when talking about sustainability. Sustainability then has an impact on a food system's resilience.

Food System Resilience

In their article *Food system resilience: Defining the concept*, Tendall et at. (2015) define food system resilience as the "capacity over time of a food system and its units at multiple levels, to provide sufficient, appropriate and accessible food to all, in the face of various and unforeseen disturbances" (p. 19).

Food Security

Resilience and sustainability are both tied to food security. Over the years, the definition of food security has evolved and expanded to include to six dimensions: agency, stability, sustainability, access, availability, and utilization. Thus, food security is "a situation that exists when all people (*agency*), at all times (*stability, sustainability*), have physical, social, and economic access (*access*) to sufficient (*availability*), safe, and nutritious food that meets their dietary needs (*utilization*) and food preferences (*agency*) for an active and healthy life" (HLPE, 2020, p. 10).

Food Systems Transformation

The concept of food systems transformation is part of the 2030 Agenda for Sustainable Development that links to the changes needed in food systems towards achieving the Sustainable Development Goals (SDGs) (von Braun et al., 2021)., including SDGs 1) No poverty, 2) Zero hunger, and 3) Good health and well-being (United Nations, 2022). In this context, the Scientific Group for the UN Food Systems Summit (von Braun et al., 2021) reminds us that food systems

transformation towards sustainable development will require "a profound and intentional departure from business as usual" (United Nations, 2019, p. XX) that prioritizes people and planet with food and nutrition security for all. The UN Dialogue convened and reported as part of this paper provided additional insights to both the challenges and possible benefits that could result from transforming food systems from being primarily profit driven to prioritizing the health of people and the planet.

2. CONVENING A FOOD SYSTEMS SUMMIT DIALOGUE

2.1 UN Food Systems Summit 2021

The UN Secretary-General, António Guterres, convened a Food Systems Summit, which took place as part of the 76th Session of the UN General Assembly (UNGA 76) in New York City on September 14-30, 2021. The UN Food Systems Summit included a number of activities before, during, and after the UNGA 76, geared towards actions for food systems transformation towards achieving the Sustainable Development Goals (SDGs) by 2030 (United Nations, 2021a).

The UN Food Systems Summit strived to be a "people's summit" by bringing together a diversity of stakeholders, representing farmers, food processors, scientists, policy makers, environmental activists, indigenous people, youth, and consumers (United Nations, 2021a). The Summit's purpose was to bring attention to the fact that we all have a role to play in food systems transformation and promote the participation of key food system actors in proposing solutions (United Nations, 2021a).

One of the ways to accomplish this was through the Food Systems Dialogues (https://summitdialogues.org/). The Independent Dialogues particularly, provided an opportunity for interested parties from diverse backgrounds and networks to come together, provide ideas, and propose solutions, which in turn would inform the Summit's outcomes (United Nations,

2021c). To guide the process and actions, the Summit established five Action Tracks aligned with the objectives (United Nations, 2021b):

1) Ensure access to safe and nutritious food for all
2) Shift sustainable consumption patterns
3) Boost nature-positive production
4) Advance equitable livelihoods
5) Build resilience to vulnerabilities, shocks, and stress

These Action Tracks do not work in isolation but are designed to help identify trade-offs within the food systems and propose transformative solutions for global benefit (United Nations, 2021b). The theme of this paper and the independent dialogue that was convened falls within Action Track 5 (*Build resilience to vulnerabilities, shocks, and stress*) in connection to Action Track 1 (*Ensure access to safe and nutritious food for all*) with a focus in Latin America and the Caribbean.

The Summit also established principles of engagement towards accomplishing the vision for equitable and healthy food systems and to guide the dialogues (United Nations, 2021d). The principles of engagement were:

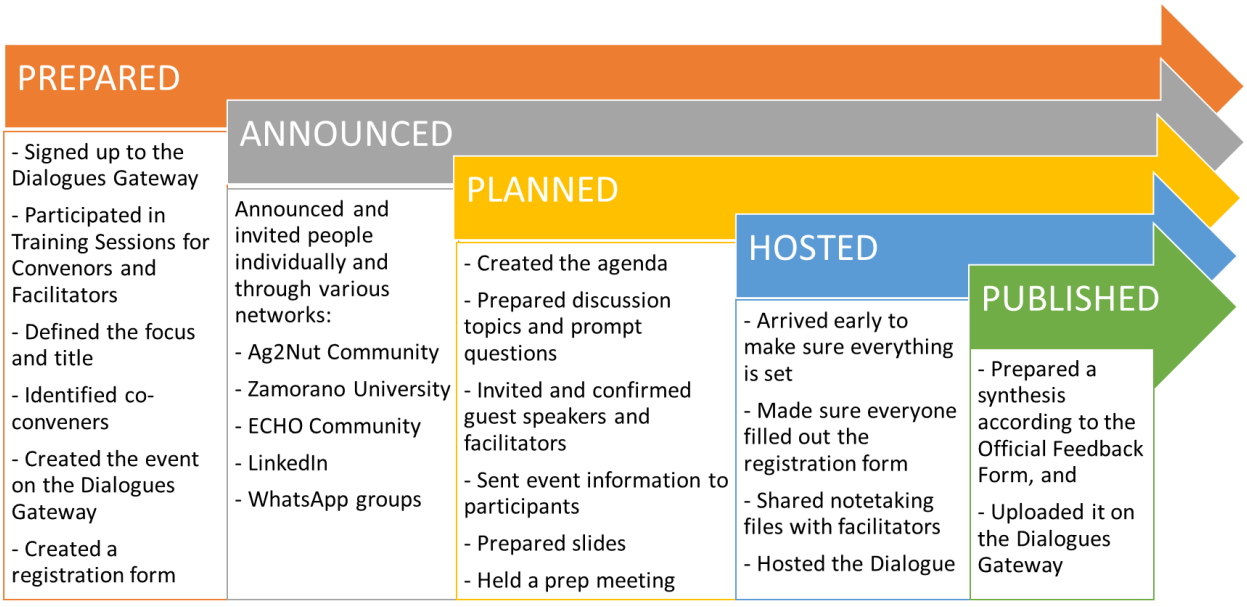
1) Act with urgency
2) Commit to the Summit
3) Be respectful
4) Recognize complexity
5) Embrace multi-stakeholder inclusivity
6) Complement the work of others
7) Build trust

2.2 Organizing and Convening the Dialogue

The UN Food Systems Summit provided a Dialogues Gateway platform, training, and materials for conveners, facilitators, and participants, all of which can be found at https://summitdialogues.org/.

Figure 3 below illustrates the stages outlined by the *Reference Manual for Convenors of Food Systems Summit Dialogues* (4SD & United Nations, 2021) and a summary of the steps taken to organize and convene the Dialogue.

Figure 3. Stages and Steps for Convening a UN Food Systems Dialogue



The Dialogue took place on June 30, 2021, via Zoom from 2:30-5:00 pm US Eastern Time, a time chosen to be inclusive of the different time zones represented to maximize participation. Given it was regional dialogue for Latin America, the language of the Dialogue was Spanish.

Diversity, Inclusion, and Principles of Engagement

The organization and structure of this dialogue followed the methodology recommended as much as possible, including putting in practice the principles of engagement and prioritizing

diversity and inclusion of participants. The UN Food Systems Summit guidelines made it critical that diversity and inclusion be a priority when recruiting co-conveners, presenters, facilitators, and participants, and to integrate the principles of engagement in the organization and execution of the Dialogue.

To the extent possible, we tried to ***include the greatest diversity of representatives*** from various stakeholder groups and sectors. Because it was a regional dialogue for Latin America and the Caribbean, geographical diversity and subregional representation was also important. The Dialogue had diversity and inclusion in participation at various levels.

First, the group of co-conveners came from Ecuador, Guatemala, and the United States, representing South, Central, and North American businesses, local non-profits, and international development stakeholder groups from the agriculture and nutrition sectors. The co-conveners brought with them connections throughout the Americas and were able to recruit speakers, facilitators, and participants that would also represent various subregions, stakeholder groups, and sectors.

Figure 4. Dialogue Co-Conveners

The co-conveners of the Dialogue included:

- Cecilia Gonzalez, a co-leader of the Agriculture-Nutrition Community of Practice (a.k.a. Ag2Nut), was the main organizer. The Ag2Nut Community is a global network that brings

a diversity of professionals together with a focus on Agriculture-Nutrition linkages. She organized the Dialogue as part of her capstone project for her Master of Professional Studies (MPS) degree, of which this paper is also part.

- Javier Villacis, Founder and CEO of AgroPaís Ecuador, a company that provides agriculture inputs, and technical and financial services to Ecuadorian farmers with a focus on corn production.
- Andrea Guzman, Co-Founder of the Culinary, Agriculture, and Nutrition "CAN Project," an organization that seeks to provide informational and training resources to people working in these areas in Guatemala.

Guest speakers came from Honduras, Ecuador, and Puerto Rico, representing Central America, South America, and the Caribbean from academia, business, and local non-profit stakeholder groups from the education, agriculture, nutrition, and environmental and ecology sectors. The guest speakers framed the discussion in a way that helped participants understand the need to ***act with urgency*** and ***recognize complexity*** as they spoke on topics including food and nutrition security, the role of the private sector in times of crisis, and how to build more diverse and sustainable food systems.

Figure 5. Dialogue Guest Speakers

The guest speakers were:

- Dr. Adriana Hernandez, Nutrition and Food Safety Professor, Zamorano University, Honduras. Dr. Hernandez has over 20 years of experience in nutrition and public health, and has worked with agencies, including UNICEF, the Pan-American Health Organization, and the Institute of Nutrition of Central America and Panama (INCAP). She has a Ph.D. in Public Health.
- Ms. Sandra Cañizares, Corporate Brand and Sustainability Manager, Anheuser-Busch InBev. She was responsible for the creation of the *Siembra* (Planting) Program, a National Brewery Contract, and the *Nuestra Siembra* (Our Planting) brand in Ecuador. She is an economist and marketer, with a specialization in Strategic Marketing.
- Mr. Salvador Coleman, Agroecology Coordinator, *Para La Naturaleza* (For Nature). He has a passion for building sustainable food systems in Puerto Rico, and has worked in the public sector, civil society, and private sector in the promotion of sustainable agriculture and conservation of natural resources. Mr. Coleman has a Juris Doctorate and a master's degree in Agroecology.

The small group facilitators were also a diverse group, with people from Honduras, Nicaragua, Guatemala, Ecuador, and Chile working in areas including, agribusiness, agroecology, nutrition, natural resource management, and journalism. Once a diverse group was selected, organization was prioritized to ensure a successful dialogue occurred. We met in advance with co-conveners, guest speakers, and facilitators to prepare for the dialogue and to make sure the small group discussions were facilitated with the engagement principles in mind.

The framing, discussion topics, and structure of the dialogue were also designed to include the principles of engagement. People were reminded of the diversity of participants in anticipation of a rich and ***respectful*** debate. The small group discussions included a time for

introductions to help ***build trust*** and understanding of each other's work to increase potential for ***complementing the work of others***. The prompt questions included the aspect of personal and organizational ***commitments to the Summit's goals*** for food systems transformation.

To maximize diversity of participants, invitations went to various regional networks such as communities of practice, professional groups, and agriculture universities via email, text message, or social media posts, as well as personal invitations. As a result, there were participants from all around the Americas from a diversity of sectors and stakeholder groups.

Introduction Session

During the introduction, the Zoom instructions and agenda were shared by Cecilia Gonzalez. A summary of the dialogue objectives and the focus on food systems was presented by Javier Villacis, who also introduced the guest speakers. The agenda included an introduction with guest speakers to frame the themes, small group discussion with facilitators for each group, a time for reporting back to the larger group, and synthesis of the discussion all together.

Table 1. Dialogue Agenda

Duration	**Component**
30 min	Introduction and Topics Framing
30 min	1st Group Session: **Discussion Topic #1:** "Lessons Learned During Times of Crises"
10 min	*Break*
30 min	2nd Group Session: **Discussion Topic #2:** "Robust, Equitable and Sustainable Food Systems" ***or*** **Discussion Topic #3:** "Transformation Towards Diverse and Sustainable Food Systems"
25 min	Report back: key points
25 min	Synthesis and closing

Small Group Discussion

Andrea Guzman shared the UN Food Systems Summit principles of engagement and introduced the discussion topics for the small group discussions. There were two discussion sessions of thirty minutes each for the small groups. All groups discussed topic number one during the first session, and half of the groups discussed either topic number two or three during the second session. Each small group had a facilitator with the participants assigned at random to each group. Facilitators took notes and requested support for notetaking from one of the participants.

Report Back and Synthesis

The facilitators were in charge of sharing the main points of the discussion in each of their small groups. Cecilia Gonzalez facilitated the report back session and synthesis of the main points shared, including lessons learned, proposed solutions, and commitments made.

Official Feedback Form

As the convener and main organizer of the Dialogue, Cecilia Gonzalez prepared and submitted the Official Feedback Form which contained a summary of participation, a reflection on how the principles of engagement were implemented in the organization and convening of the Dialogue, whether the recommended methodology was followed, and a short synthesis of the outcomes, including discussion topics, main findings, and areas of divergence.

Given the Dialogue was conducted in Spanish, the Feedback form was also written in Spanish, and submitted to the Dialogues Gateway. It can be found at https://summitdialogues.org/es/dialogue/22968/.

2.3 Discussion Topics and Questions

The main theme and title of the dialogue was *Building Resilience in Latin American Food Systems: Lessons Learned during Crises and Solutions towards Sustainable Food Security and Nutrition*. It links primarily with the Summit's Action Tracks 5 and 1:

- Action Track 5: Build resilience to vulnerabilities, shocks and stress
- Action Track 1: Ensure access to safe and nutritious food for all

The discussion topics were ambitious future statements about how we envision food systems functioning in ten years from now, and the prompt questions helped facilitate the discussion and focus on what can be achieved within the context of the participants (4SD & United Nations, 2021). Below are the discussion topics and question prompts of the Dialogue:

1. **Lessons Learned During Times of Crises:** *Recent crises have tested the resilience of our food systems, showing us weak areas that need investment and transformation, strong areas that need protection and growth, and how the various actors in the system can join forces and work towards the reactivation, resilience, food security and nutrition of all populations.*
    a. In which areas of the food system did we observe weaknesses and/or strengths during the recent crises?
    b. What responses were put into practice that worked, or did not work, for the reactivation of the system and the provision of food?
    c. What have we learned from the crises and what future actions can we take?
2. **Robust, Equitable and Sustainable Food Systems:** *We all have a role and do our part to create robust, equitable and sustainable food systems that provide fair income for*

farmers and workers in the system, and ensure food and nutritional security for all, with special attention to the most vulnerable populations.

a. What areas of the system need more attention in this topic?
b. What is our role and that of the entities to which we belong?
c. What solutions do we propose and what actions do we commit to implement, both in the short and long term?

3. **Transformation Towards Diverse and Sustainable Food Systems:** *Transformed food systems make possible a more diverse and sustainable production, which regenerates our natural resource base and protects our biodiversity, and at the same time provides a diverse diet that meets the nutritional needs of our present and future populations.*

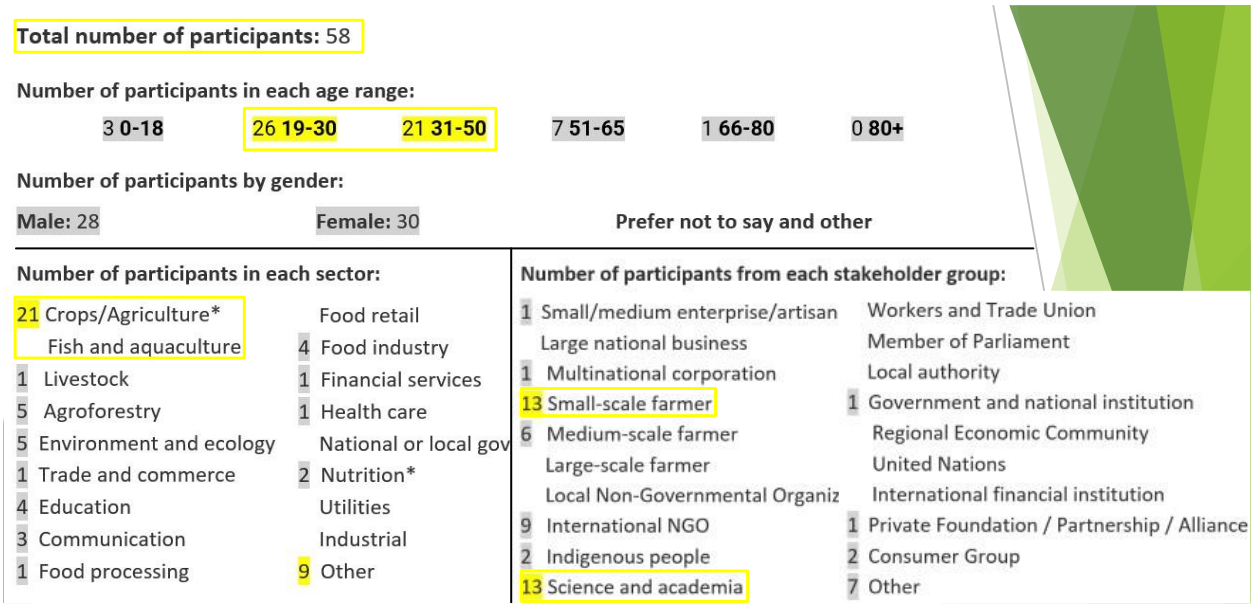
a. What areas of the food system need transformation towards sustainability?
b. How can we protect and regenerate our natural resource base and biodiversity?
c. What solutions do we propose and what actions do we commit to putting into practice, in the short and long term?

3. DIALOGUE OUTCOMES

3.1 Participation

Fifty-eight people participated from countries throughout the Americas, from Argentina to the United States from a diversity of sectors and stakeholder groups, including agriculturalists, nutritionists, business owners, university professors, students, and others.

Figure 6. Dialogue Participation



Note: Dialogue participation numbers reported as part of the Official Feedback Form (Gonzalez, 2021)

The majority of participants were between the ages of 19 to 50 years old with an almost equal number women and men, 30 to 28, respectively. Thirty six percent of participants were from the agriculture sector, while the rest represented several other sectors, such as environment, food industry, and education. Thirty three percent were involved in small and medium scale farming, and twenty two percent were in scientific research or academia, while the rest came from stakeholder groups such as non-profit, government, and business.

The majority of participants came from the agriculture sector and although many were involved in small-scale farming, not many farmers participated. While organizing the Dialogue, people were encouraged to invite farmers they were connected to, but since it was a virtual dialogue, the lack of access to technology was a barrier to participation. There was access to regional networks for participation, but these networks need to be strengthened to be inclusive of farmers, particularly smallholders.

3.2 Framing of Topics

During the introduction of the Dialogue, Javier Villacis, dialogue co-convener from AgroPaís Ecuador, alongside guest speakers Adriana Hernandez from Zamorano University, Sandra Cañizares from AB InBev, and Salvador Coleman from Para La Naturaleza provided remarks to help frame the conversation in preparation for the small group discussion. An abridged text of their remarks can be found in Appendix 1.

The main areas and points brought up during the framing of topics included providing context, effects of the pandemic, the need for an equitable and sustainable food system, how supply chain disruptions revealed food system weaknesses, and how new voices and models can lead to solutions for sustainable food systems. Each of these are summarized below.

Context

Many Latin American countries depend on agriculture as a main source of income, with diverse food and agriculture production at small, medium, and large scales, each making an impact to income, livelihoods, food security, and the use of natural resources.

AB InBev, a multi-national beverage company working in Ecuador that produces, sells, and distributes items such as beer, malt, and water, makes an important economic impact in the country because they create jobs, source products locally, contribute to taxes, and the provide entrepreneurship opportunities for small neighborhood stores known as *tiendas*.

In contrast, Puerto Rico's government policies and subsidies favoring large-scale production have had a negative impact on small-scale farmers and on food sovereignty, making agriculture production dependent on agrochemicals and inputs, thus reducing local production so much that the population now depends primarily on food imports.

Throughout the LAC region, many of the rural families whose livelihoods depend on small-scale farming live in poverty and have limited access to food, resources, and opportunities. This puts people at risk and makes them vulnerable, so they find themselves forced to sell their assets, depend on family labor, or immigrate to be able to survive.

Cumulative effects of crises and disasters, including climate change and other factors, such as depletion of natural resources and low diversification of livelihoods increase these vulnerabilities. Some of the biggest challenges our LAC countries face include poverty, food insecurity, and malnutrition that are made worse by not implementing more sustainable management of our natural resources.

Effects of the Pandemic

During the pandemic, food supply chains were disrupted, which brought awareness to the importance of food production, distribution, and commercialization in maintaining food and nutrition security. The population experienced reduced access to fruits and vegetables and higher consumption of foods with high contents of sugar, fats, and sodium, which exacerbate the double burden of malnutrition: hidden hunger (micronutrient deficiencies) and overweight. For example, in Ecuador, for example, at the beginning of the pandemic supply chains stopped, communication between provinces was not good, roadways were closed, and many people could not access food and basic products. They were afraid to go out for the fear of contracting COVID-19.

For AB InBev, their entire value-chain and sales stopped when the pandemic hit. The company felt forced to transform itself, combat the effects of the pandemic in the private sector, and participate in the reactivation of the economy. Many *tienda* owners contacted the company for help because they were not able to access basic food products to feed their families. The

company started distributing their water and malt drinks, and joined with many other companies to utilize their extensive logistics network to bring basic food products, such as oil, water, salt, and potatoes to the Ecuadorian people.

AB InBev established communications with the national government and got involved in setting safe policies and practices to reopen businesses. Through e-commerce, they were able to connect ninety thousand *tiendas*, out of the one hundred and fifty thousand they had contact with and reactivated them. The *tienda* owners were in turn able to distribute the products in the neighborhoods.

They partnered to create a "Heroes Unit", a space where medical personnel could be hosted, as many did not want to go home for fear of bringing COVID-19 to their families. Since they produced alcohol for beer, the company pivoted to production of hand sanitizer instead. They produced ninety thousand units and donated them to hospitals and the police force, among others.

Need for Equitable and Sustainable Food Systems

The planet is getting close to a precipice where it will have serious problems feeding its population. We need to pay attention to the current situation, build resilience, and prevent crises of greater scale and complexity that can become unmanageable. We need to establish medium and long-term goals that will improve food and nutrition security and reduce vulnerabilities. It is important to invest in addressing structural challenges and work towards social, economic, and environmental sustainability. We need to increase access to social services and infrastructure, invest in resources for agriculture and food production, generate employment opportunities in agriculture and in other sectors, and protect our natural resources.

Protection of the region's rich natural resources, including fertile soils, water sources, and diverse ecosystems, are imperative. In Puerto Rico, for example, to maintain the interconnection between ecosystems, life zones, the large number (>1,100) of water bodies, and the large population requires agriculture practices that minimize contamination caused by large scale production and the excessive use of agrochemicals. Puerto Rico has a diverse topography where more than 80% of the land is mountainous, representing many different types of soils. With these geographic, soil, and water characteristics, we are obligated to practice agriculture that protects our resources from degradation, erosion, and contamination if we want to be sustainable and resilient.

To increase rural sustainability and resilience, we need to support not only large-scale production, but also focus on small and medium-scale production, particularly the many farms that make good use of the limited space available. This is fundamental in Puerto Rico and throughout the region where the diversity of soils and micro-climates force us to adopt models that are more compatible with our natural environment.

Agri-food systems are complex and respond to real time dynamics in markets and consumer tendencies, such as greater demand for organic or local products. These tendencies were accelerated during the pandemic, provoking a mindset change among consumers and presenting opportunities for change among stakeholders and sectors, and encouraging food systems transformation focused on better stewardship of community, the economy, and the natural environment.

As one of the largest companies in the world, AB InBev saw the need to move towards more responsible and sustainable production, to communicate this to consumers, and to commit to sustainable agriculture, water use reduction, and packaging recycling.

New Voices, Models, and Solutions for Sustainable Food Systems

The Dialogue included some deep and controversial topics discussed by the diversity of guest speakers, facilitators, and participants from throughout the Americas. These rich and diverse discussions were debated with respect and published as result of the Dialogue. There were new voices, new theories, and new solutions for food systems transformation based on practices that we need to understand.

While increasing production is important, especially in contexts like Puerto Rico that only produces 15% of its food needs (Puerto Rico Report, 2021), little is talked about what model to use to improve this production. We need to adopt models that fit better with the characteristics of our diverse ecosystems and allow us to protect their integrity. Production of organic inputs would allow us to have an agriculture with greater levels of autonomy and sustainability because these inputs rely on the biology that is already available, and not only on the chemistry that needs to be imported. This would be a more sensible way for producers to reach higher levels of food and technologic sovereignty.

As Salvador Coleman, Dialogue speaker, shared during his presentation, "people benefit from being connected to the land and when they are disconnected, it affects their physical, mental, and spiritual health" (See Appendix). In LAC, we would be wise to invest in an agricultural model that would build rural culture, regenerate ecosystems, and be capable of generating a connection between the fields and the cities to provide holistic health for the population and the ecosystem. Nature and human lives are inexorably interconnected in a reciprocal relationship. We are reminded of this by the rural proverb that says, "*Cuida del suelo, y lo demás se cuidará a sí mismo*" ("Take care of the soil and the rest will take care of itself").

Being connected to the land is even more important when facing a global pandemic, when geopolitical conflicts are present, and when climate change is resulting in unpredictable weather patterns because local food production can provide necessary nutrition when distribution networks and typical production areas are disrupted. The pandemic emphasized the importance of having timely information on the threats and the situation of the most vulnerable population. An information system on food and nutrition security, with the participation of national and local governments, would provide fundamental information to build and reinforce resilience in our region.

Though there is a need to support small and medium-scale production to ensure the food supply, it is important to recognize, large scale production can support sustainability and resilience in its own way. Large scale food system stakeholders have opportunities to transform and adopt new models and solutions. In fact, the pandemic forced us all to adapt, reconsider our ways, and come up with solutions to the crisis. An example of this is AB InBev. When their entire value-chain and sales stopped, they were forced to adapt and combat the effects of the pandemic. Some innovative solutions they implemented include:

- Connected with the national government and to form public-private partnerships and utilize the existing distribution network to address food security and establish safe business practices to reactivate the private sector.
- Connected ninety thousand *tiendas* (neighborhoods stores) through e-commerce, so they could in turn distribute food and other products in the neighborhoods.
- Established a *Siembra por Contrato* (Planting by Contract) Program to benefit roughly two thousand barley, rice, and corn producers, with a goal to benefit one hundred and seventy thousand people by 2025.

3.3 Discussion Topic Outcomes

The group facilitators were in charge of sharing the main points of the small group discussion to the large group during the report back session. There were three discussion topics given to the breakout groups to discuss. As mentioned above, the Summit guidelines recommended to state them as ambitious future statements of how we envision food systems functioning in ten years from now.

The following is a summary of the main points generated by the discussion groups in response to the statements:

1. **Lessons Learned During Times of Crises:** *Recent crises have tested the resilience of our food systems, showing us weak areas that need investment and transformation, strong areas that need protection and growth, and how the various actors in the system can join forces and work towards the reactivation, resilience, food security and nutrition of all populations.*

   Supply chain disruptions revealed food system weaknesses

   During the pandemic, farmers continued producing but could not deliver or commercialize their products because supply chains shut down or became points of contagion, so a lot of produce was lost. The pandemic caused a food security crisis affecting important crops that generate food and income, such as corn and other staple grains, and coffee. Horticultural crops were the most devastated from the shutdown of the distribution networks. This included fresh produce that feeds the population and non-food products, such as flowers, that generate income. This was a major weakness in the system, particularly at the beginning of the pandemic, and a cause of great concern for producers and stakeholders throughout the value chains.

The crisis increased awareness of many areas lacking in the agri-food systems, including access to technology, training, financing, research, contingency plans, and laws protecting producers, particularly for small-scaler farmers. There was also a lack of understanding of the best production, handling, and distribution practices. As noted by a facilitator, “produce was being distributed in an incoherent way, without awareness for the adequate handling of foods.”

Additional pressures compounded these effects in the food systems during the pandemic. For example, Central America experienced floods and significant losses caused by hurricanes Eta and Iota, which both struck Central America and some parts of the Caribbean in November of 2020 (Relief Web, 2021). Another pressure resulted as many people left the urban areas to return to the rural areas during the pandemic. The food systems in the rural areas were not prepared for these changes and experienced increased pressure on their natural resources, such as the cutting of trees for wood and the need to expand agricultural production areas for food production.

There were many students from agricultural universities that shared their experiences of having to switch to a virtual learning mode. This was a challenge since agricultural education relies heavily on field practice, not easy to move to an online delivery. Transitioning to virtual and new teaching modalities was not done in an effective way and was seen as a weakness in the higher education sector for agriculture.

Food system responses observed

There were a number of large companies running much of the food system, so when these companies were in crisis, the food system was in crisis. Companies were not prepared for the biosafety needs and new regulations for exports resulting in logistical issues that brought supply

chains to a stop, so products did not reach their destination. This happened for export products as well as for essential products for local consumption.

As a result, food systems had to become more flexible and adaptable. New ventures were started to overcome the distribution issue, which created diverse and innovative ways of transport and distribution to make products available to the population. There was also a turn towards more national production and the opening of markets to other food system participants, expanding beyond those that were already dominating the food system. Additionally, because of quarantine measures and blockages in the supply chain, farmers did not have much access to conventional production inputs, such as agrochemicals, so they turned to more organic options.

Recommendations and solutions to strengthen food systems

People came to a greater realization of how valuable farmers and rural livelihoods are for food security, since it became clear that people in the urban areas are not prepared to produce their own food. Emphasis should be given to providing greater support, training, access to technology, and other resources to farmers, including financing policies that would allow them to adopt agroecological practices and produce more sustainably.

To accomplish this, one idea is to create communities of support bringing producers and other stakeholders together to allow for knowledge exchange towards strengthening the food system. Additionally, promoting small-scale and more diverse production in order to diversify incomes and strengthen the food system against climate change threats, was also suggested. Focusing on the richness of crops that exist at the local level and improve both the ability to grow and distribute them would also benefit small-scale farmers. Focusing on regional seed systems that include native species would help guarantee productivity at the regional level.

It was also noted that we need to have more harmony between people and nature. Showing solidarity with one another, being flexible to change, and encouraging public and private entities to work together to overcome poverty and crises were other suggestions. New models and private sector initiatives should be encouraged. One example of a private sector initiative was AB InBev's "*Siembra Por Contrato*" (Planting by Contract) project in Ecuador that stimulated barley production in the country and included provision of technical assistance and training to barley producers, while generating new markets for their produce. Additionally, it is important to make sure these initiatives are regulated by appropriate public policies enforced by government entities.

2. **Robust, Equitable and Sustainable Food Systems:** *We all have a role and do our part to create robust, equitable and sustainable food systems that provide fair income for farmers and workers in the system, and ensure food and nutritional security for all, with special attention to the most vulnerable populations.*

   Recommendations and solutions to strengthen food systems

The pandemic made clear the need to have national plans and strategies that would help countries be better prepared to confront future crises and maintain food security and food sovereignty. A national plan should be more inclusive of small-scale farmers in terms of food distribution networks, providing them with training and establishing national policies and initiatives, such as crop insurance, to protect them and their production, particularly of fresh produce. We need to create pathways for farmers to commercialize their products in just, fair, and equitable ways. These plans and pathways to support farmers should not be paternalistic, but an accompaniment to provide continuity, not limited by project timelines or governmental changes. National governments cannot alone create robust, equitable, and sustainable food

systems. They need to collaborate with the private sector to facilitate production and job creation, while developing policies and regulations that ensure the private sector does not simply function on greed but balances profits with social responsibility. The financial system needs to be regulated, yet flexible, so it can benefit value chains and provide entrepreneurial opportunities for food and agricultural production.

Other sectors also need to be considered in plans and strategies. For example, the technology sector can help create digital equity, particularly in rural areas, to improve coverage and connectivity, which have become key for production and commercialization. The education, health, and nutrition sectors are also key, for example, to promote awareness of the importance of consuming fresh fruits and vegetables as part of a healthy diet and to promote consumption of more local or native foods.

3. **Transformation Towards Diverse and Sustainable Food Systems:** *Transformed food systems make possible a more diverse and sustainable production, which regenerates our natural resource base and protects our biodiversity, and at the same time provides a diverse diet that meets the nutritional needs of our present and future populations.*

   Recommendations and solutions for diverse and sustainable food systems

Current public policies are weak in influencing resilience and long-term sustainability. We need to transform our models and policies from favoring primarily economic gain to becoming more holistic, prioritizing healthy diets for the population and managing natural resources more sustainably. Public policies need to transform to better support farmers, promote production diversification, and provide access to resources that would enable these changes, such as crop insurance. Crop insurance is usually available only for monocultures because they are considered

more profitable and secure, but this limits the growth and economic viability of other types of models, such as diversified production and production that relies less on agrochemicals.

We need transformation that gives more value to primary production and provides opportunities, training, and incentives for producers, particularly small-scale farmers, to move away from conventional practices and adopt more sustainable practices, such as soil conservation and the development of agroforestry to improve productivity in smaller areas, reducing the need for clear cutting of forested areas to expand production.

Other recommendations included educating the public, building awareness of the need to transform our food systems, and supporting more research that more clearly defines the best ways to protect and manage natural resources and biodiversity. For food system transformation, we need to involve all voices, stakeholders, and sectors, including producers, industry, government, technicians, scientists, and indigenous peoples. If we do not include them, we limit transformation because we would be missing the knowledge and capacity needed to generate change.

4. Participant roles or commitments

Dialogue participants represented diverse sectors and wanted, in their respective roles, to be change agents towards foods system transformation. Access to technology and training were identified as important needs, and participants expressed a desire to be involved in building technological capacity and training for hard and soft skills. An idea was to form a production collective that would have the needed technological capacities and skills required for this day and age.

Regarding the commitment to change, participants agreed to contribute to science and improve marketing strategies, provide technical assistance to producers, implement organic

production, provide practical training on conservation of primary production, generate small business opportunities to contribute to the local economy. All these need to be practiced at the household, local, national, and global levels.

As many participants were involved in higher education, there was interest in making sure that scientific research parameters matched the local and global realities so that the resulting knowledge could be used to reach sustainability goals. Research needs to take into account current resources if it is going to be used to inform options for transforming the current food system.

There was a desire to stay in touch and form a more permanent network to be able to act beyond the Dialogue and include more people. For this, people agreed to share their contact information with each other. Participants also wanted to share the takeaways and recommendations that came as a result of the Dialogue across their companies, organizations, and networks. Following up on these desires to continue connecting and sharing the results of the Dialogue through this paper are next steps towards meeting these commitments.

4. DISCUSSION

4.1 Dialogue Main Takeaways

Several main themes and takeaways emerged from the Dialogue:

1) Countries and populations were not prepared for a crisis, such as COVID-19. It revealed that many governments lacked the capacity to support important sectors, including health, education, and agriculture. A point of action identified by the Dialogue is the need for national prevention and response plans to ensure food systems continue to operate during crises to preserve food security and nutrition.

2) Food systems had been relying on a few large companies to supply most of the food. This significantly affected the distribution of products from the producers to the consumers when pandemic restrictions were put into place. This is one of the reasons why diversification is important within food systems. This diversification means engaging food system suppliers from very small to large farms as well as processors as well as protecting biodiversity to ensure sustainability and diversity of income sources and food supplies. Switching some focus from exports and large-scale production to more local production and increasing crop diversification as well as income diversification will help ensure farmers are not dependent on only one source of income, crop, or market.

3) As a result of the crisis and the resulting failures in the food system, adaptability and innovation was observed in various sectors and at all production scales (i.e., large, medium, small). During the Dialogue, a speaker shared how a multi-national company's production came to a complete stop at the beginning of the pandemic. At that moment, the company and other food system actors were forced to stop, reflect, and adapt. During the pandemic, producers lost a lot of their production, because the distribution networks stopped. There was not sufficient support for producers, particularly small-scale farmers, for distribution and marketing of their products. Through all this, producers and food system actors were able to adapt and innovate. Producers could have adapted much better with more access to technology, training, and extension services. To ensure farmers can deliver their products to the population in times of crises, investments need to be made to provide access to technology and training, particularly for small-scale farmers.

4) For transformation towards more resilient, diverse, and sustainable food systems, we need to transform our policies, models, and practices to prioritize the health of people and the planet,

by providing greater access to healthy diets, improve natural resource management, and support farmers to diversify their production and adopt more sustainable practices. Practical solutions that would move this transformation forward will require involving producers, government, technicians, scientists, indigenous peoples, and others with a vested interest in the food system. Inclusivity will ensure initiatives have the needed knowledge and capacity to generate change.

5) While people understand the importance of creating better linkages between food system stakeholders (producers, academic faculty, private sector personnel, government representatives, civil society, and consumers), there are not effective strategies and structures to foster this collaboration. A recommendation is to invest in creating strategies and structures to better link food system stakeholders. This is also an area that dialogue participants have the capacity to influence and continue working towards common goals within the diversity of roles and areas they represent within the food system.

4.2 Areas of Divergence Now Converging

While there is diversity of agricultural production and food systems in LAC, there are two main production models. One is focused more on monocropping, large-scale production, and the markets linked to exports of commodities that countries provide to the region and to the world. Much of this production depends on agricultural inputs and practices that are not generally environmentally sustainable and that can be exploitative of people and land. For example, while some farming community members make their livelihoods producing coffee for export to wealthy countries, these same community members experience high levels of poverty and malnutrition. In Guatemala, for example, the rate of chronic malnutrition, measured as the prevalence of stunting in children under five, reaches as high as 70-90% in some of these rural

farming communities (WFP, 2022). Additionally, indigenous people experience marginalization in their communities and have even worse malnutrition.

The other model is focused on more indigenous, diverse, and agroecological production with greater emphasis on food sovereignty, and the preservation of culture, agrobiodiversity, and ecosystems. For example, indigenous Andean communities that produce many kinds of colorful varieties of potatoes native to South America are able to feed their families and their communities. They have been stewards of these varieties for centuries and perhaps even for over a millennium, making this approach more sustainable. At the Dialogue, there was good representation from both production models including a speaker from a multinational company in Ecuador, with a national distribution network for their products, and a speaker from the agroecology sector in Puerto Rico, with an organization seeking to turn one-third of the territory into protected land (Para la Naturaleza, 2022). They were able to show how the two models diverge in focus, goals, and methods. The solutions proposed by people connected to one or the other will diverge in the same ways.

In LAC, these models operate in almost parallel ways. In recent years, however, there is recognition of the need to create balance and even overlap between these models. It is important that food and agriculture production is not only linked to market systems and profit, but that greater focus is put on creating equity, building resilience, and making our systems more sustainable.

The COVID-19 pandemic, climate change vulnerabilities, and other compounding crises have forced us to reconsider our food systems. Stakeholders, including companies and producers at various scales, are faced with the need to change and adapt to respond to these crises as well as to changing consumer trends. Many companies, for example, have adopted regenerative

agriculture, a practice that prioritizes recovering and rebuilding soil health. Because the process of regenerating soils is long-term, it requires producers and those who promote it to have a change of outlook when it comes to profitability and return in investment to become more long-term focused (Regrow Ag, 2021).

Academic institutions and multi-lateral agencies are also making a change towards the promotion of more agroecological production and greater sustainability. At the Agriculture, Nutrition and Health (ANH) Academy conference (www.anh-academy.org), this past June 2022, one of the plenary sessions was focused on "circularity" as an answer to building resilience in food systems. Circularity challenges linear models that take resources from one area to deliver products to another and promotes models that maintain and regenerate resources within the system. A circular economy for food would "mimic natural systems of regeneration so that waste does not exist, but is instead feedstock for another cycle" (Learning Lab & Ellen MacArthur Foundation, n.d.).

Multi-lateral agencies, such as the Food and Agriculture Organization (FAO), alongside other UN agencies have also been pushing for the adoption of more agroecological practices to build resilience and transform food systems to deliver healthier and more sustainable diets. An example of this is the recently published participatory *Tool for Agroecological Performance Evaluation* (TAPE) developed by the FAO's team and many collaborators to assess the transitions towards sustainable agricultural and food systems (Mottet et al., 2020). Another example is this push for change reflected in the *State of Food Security and Nutrition in the World* "SOFI" reports from the last couple of years, which have focused on the transformation of food systems (FAO et al., 2021) and food and agricultural policies (FAO et al., 2022) towards greater food security and nutrition, and more affordable healthy diets.

While these two production models have been overlapping more and more, there is still a lot of work to transform food systems to sustainably provide healthy diets for all, especially for the most vulnerable, while equitably supporting rural families and livelihoods. Policies, solutions, and practices still diverge greatly when trying to reach these goals. Understanding these models and discrepancies through a diverse and inclusive dialogue is valuable because we can all influence change in our respective areas of work. Moreover, it would also be valuable and necessary to engage beyond the Dialogue to connect and collaborate to find practical solutions and resources to transform our food systems to prioritize health and wellbeing, promote equitable and sustainable development, be more inclusive of small-scale farmers, and protect our ecosystems. This is a mammoth endeavor, and we all have a role to play.

4.3 Food Systems Transformation: Connecting the dots

Connections with small-scale farmers

A common thread shared in the Dialogue was the need for "*vinculación*" within food system stakeholders and across sectors. *Vinculación* is a term in Spanish that denotes both, linkages and relationships. The linkages and relationships within the food systems need to be strengthened and be more inclusive of farmers, particularly small-scale farmers. This need was also reflected in the Dialogue. Many participants said their work focused on small-scale farming, but we were missing farmer representation in the discussions. Some factors for this could be that the Dialogue was promoted primarily among professional networks, farmers could not access the technology, the meeting platform, had lack of connectivity, or the timing was not convenient for them. While these and other factors may be at play, better linkages and relationships with farmers within our networks could have been of help for a more inclusive Dialogue and created greater awareness of the challenges facing.

One of the main observations from the Dialogue was that farmers lack support, training, and resources to better respond to crises, build resilience, and transform food systems. While the perspective of those focused on small-scale farming as part of their work is important, representation matters. Having farmer voices be part of the conversation towards solutions for the challenges affecting them is imperative, and we must make a greater effort to make this happen and expand our networks in a way that farmers are included.

While organizations, institutions, and companies understand and often talk about the need for representation and the inclusion of all voices, they tend to invest very little towards these efforts. Moreover, it takes a lot of time and effort to improve linkages and build relationships at the grassroots level, which includes groups often marginalized or vulnerable, such as small-scale farmers who often experience greater levels of poverty, food insecurity, or malnutrition. Additionally, with the greater numbers of people at the grassroots level, it is not easy to maintain a two-way relationship, and these efforts require resources in the form of human capital, time, and platforms to support linkages and communications.

We must address this discrepancy between what we say and do, and invest the needed resources towards *vinculación* to improve linkages and build relationships within food systems, so that more farmer voices can be included, heard, and valued. Farmers' contributions are crucial to making agriculture and food system transformation towards greater resiliency, equity, and sustainability a reality.

Some practical ways this can be done include:

- Being intentional in connecting more farmers to our existing networks. In LAC many people use WhatsApp groups to connect, which is a well-known and accessible platform.

Include more farmers in these groups and share relevant information that would keep them and other group members engaged.

- Building relationships. Take time to listen and learn from farmers and make inclusion a priority by allocating work/company time and resources. Ask farmers about barriers for engagement and ideas that would help break them.
- Breaking barriers. Understand what the barriers are and take action to address them. Ideas include localized efforts (e.g., come to people rather than expect them to come to us), use appropriate technology to engage such as the use of virtual platforms or hybrid methods, and involve young people to support the efforts.

Personal reflections and commitments

Life can be hard and bring shocks and losses that force us to bounce back and become resilient. But we cannot do this alone, we need a community. Together we can find and share tools, support one another, and learn coping mechanisms. In community we can bounce back better.

We need to apply this understanding to building resilience and transforming the food system, so that we can move from complex theories or frameworks, shared by diplomats at the high-level meetings of multi-lateral agencies, and bring real change at the grassroots level, to the farming families that produce our food, but who still experience hunger. We can act in our respective areas of influence with the communities we are part of. This is how change happens, in relationships and in community, not in isolation.

For this reason, I plan to follow up on my commitments and make them realistic and attainable. I would like to continue connecting with my colleagues and networks but prioritize proximity with those we deem to be most vulnerable. Most assuredly, we have much to learn

from them about resilience and life. I want to be in community with them and amplify their voices, so that we can together find the support, skills, solutions, and resources needed to build resilience.

In practical terms, I can commit to follow up and continue the conversation, dialogue, and network building, so that we can continue to be involved, be part of the change and solutions, and include other voices. I would like to reconnect with people who participated in the Dialogue, and find ways to include other groups, including small-scale farmers and indigenous groups, in our networks. I have connections with several groups that I can invite to be part of these networks and efforts, including a group of indigenous farmers from the Southern mountains of Ecuador and a group of indigenous women from the Western mountains of Guatemala. Several of my Central American contacts work amongst Afro-descendant populations on the Atlantic Coast, and I can encourage them to join our networks. I will continue to work in the area of Agriculture-Nutrition linkages, and push for change at all levels, community, local, national, regional, and global. Change must come from all these, and we can do our part to influence it. Systems are complex, but if we take action build relationships, community, and power, our actions can make a difference, even if the change is slow. Sustainable change takes time.

5. CONCLUSIONS

While the COVID-19 crisis came with significant setbacks for Latin America and the Caribbean (LAC), it also tested the capacity of our food systems to bounce back. It also gave us opportunities to reevaluate whether these systems are delivering the benefits of healthy diets to the population in the region and using natural resources sustainably to the benefit of future generations.

LAC's agriculture and food systems are diverse, but the dominant forces within them are only a few large-scale companies which, alongside governments and other food system stakeholders, were not prepared to continue operating under the pandemic restrictions. This brought supply chains and distribution networks to a stop at the beginning of the pandemic threatening food security for the population and causing significant losses for farmers as their products could not reach the consumers. Access to healthy diets was also threatened because fresh fruits and vegetables were less accessible, as horticultural products were the most affected by this failure of the distribution networks.

Producers and other system stakeholders found ways to adapt and innovate in response to the crisis. New food system actors and initiatives emerged. However, small-scale farmers, who represent a significant percentage of producers in the region, experienced lack of support and access to technology, training, and financial resources that would have helped them to better respond. The pandemic, combined with the climate change and other crises, forced people to stop, reflect, and adapt. Consumer trends and demand for more locally and sustainably produced food accelerated, and food systems stakeholders were also forced to respond and make changes, accordingly.

There is greater recognition that the health of people and the planet are the main priority. Food systems are now expected to deliver affordable healthy diets, improve natural resource management, and support farmers to diversify their production and adopt more sustainable practices. This would require transformation of our policies, models, and practices as well as the involvement of all parties, including producers, government, technicians, scientists, indigenous peoples, consumers, and others with a vested interest in seeing this through.

Involving all food system stakeholders and sectors is imperative for food systems transformation because their knowledge, contributions, and actions are essential to finding solutions and implementing change. It is especially important to invest time, effort, and resources to make sure small-scale farmers are included and their voices are part of the conversation and efforts towards food system transformation. Smallholder farmers produce and provide much of the food that nourishes us, yet they suffer high levels of poverty and malnutrition, and are not well supported or connected within the food system and our networks.

We all have a role to play to make this change and to build inclusive connections within our spheres of influence and areas of work. Let us take action and do our part.

Next Steps

Thinking about systems change can be overwhelming and even make us feel powerless about our ability to do something about it. But being part of a community or network of people working together to generate change can make a difference because "*L'union fait la force*" (Unity makes strength). There is strength and power in community.

For this reason, I would like to follow up on some of the desires and commitments that were expressed by Dialogue participants to continue being connected and finding together practical solutions for building resilience and transforming our food systems that we can promote or take part in.

A specific way to accomplish this would be to connect with Dialogue participants and invite them to a meeting where we can share the findings and reflections from the Dialogue and this paper and have a discussion about next steps that we can take as a group, such as forming a regional network or community of practice focused on building resilience and transforming food systems in practical and inclusive ways.

APPENDIX

Summary of guest speaker remarks

During the introduction session of the Dialogue, Javier Villacis, dialogue co-convener from AgroPaís Ecuador, alongside guest speakers Adriana Hernandez from Zamorano University, Sandra Cañizares from AB InBev, and Salvador Coleman from Para La Naturaleza provided remarks to help frame the conversation in preparation for the small group discussion. Here is the abridged text of their remarks, which were originally in Spanish.

1. **Javier Villacis' remarks:**

There is an age-old debate on agriculture and its contribution to food security. This debate is more important than health because we can live without medicine or doctors, but we cannot live without food and agriculture. Additionally, many Latin American countries depend on agriculture as a source of income. As we discuss and debate, we need to focus on agri-food systems, and understand that these systems are complex. They respond to real-time dynamics, such as markets and tendencies. We also need to understand the new voices, proposed solutions, and theories based on practice regarding food systems. There are tendencies that evolve food systems them too, such as more organic or local consumption as well as the efforts towards food sovereignty. The pandemic accelerated these tendencies, and we need to address them. As we identify problems and solutions, we also understand that there are different areas of sustainability, including economic, environmental, and social. There are points of divergence on how to achieve this. There are opportunities for the different stakeholders and sectors. There are opportunities, but also deep and controversial issues. Many smallholder farmers live in poverty, not only financial but multi-dimensional, not able to meet their basis needs. We must understand that we now live on a different planet and must make a change. The whole world is getting close

to a precipice when it would have a serious problems feeding all its population. We have guest speakers that would speak into how the world is reacting to this, towards creating transcendental change in food systems. That is why we are here, and we expect participation and active debate. It is great to have participants from around the Americas. With the richness of the guest speakers and the participants, we are bound to have a rich and diverse discussion and interesting conclusions that can be defended, respected, and subsequently published as part of this Dialogue.

2. **Adriana Hernandez's remarks:**

She spoke of the effects of the pandemic not only on food security and nutrition but also on the population as a whole.

During the pandemic, food supply chains were disrupted, which in turn made us realize the importance of food production, distribution, and commercialization in maintaining food and nutrition security. People's access not only to food, but to adequate nutrition, was affected, experiencing less access to fruits and vegetables and higher consumption of foods with higher contents of sugar, fats, and sodium, exacerbating the double burden of malnutrition: hidden hunger and overweight. People in the rural areas, whose livelihoods usually depend on agriculture, have limited opportunities and access to food and supplies, which in turn increases their level of vulnerability, such as forcing them to sell their assets, utilize family labor, or immigrate to be able to survive. Cumulative effects of crises and disasters increase vulnerability and thus an increase in food and nutrition insecurity. Many studies have documented this during the pandemic, the change in people's priorities regarding food systems, and recognition of opportunities to take better care of our natural, social, and economic environment. The main vulnerability factors related to climate change risks include poverty, inequality, lack of regulation for land use, the depletion of natural resources, and low diversification of livelihoods.

For this reason, it is important to invest in addressing structural challenges, to build resilience, and reach the sustainable development goals. The biggest challenges that developing countries have include eradication of extreme poverty, combating malnutrition, and sustainable management of natural resources, to then generate development and diminish high vulnerability in every aspect. We need to promote sustainable development and improve resilience through access to social services, investment in productive resources, access to social infrastructure, and generation of employment opportunities in agriculture and in other sectors. These are fundamental elements for medium and long-term results in improving food and nutrition security and reducing vulnerabilities. We need to pay attention to the current situation, so that we can build resilience and prevent crises of greater scale and complexity, and thus prevent them from becoming unmanageable. For example, it is important to have timely information on the threats and the situation of the most vulnerable population. An information system on food and nutrition security, with the participation of national and local government, could provide fundamental information to build and reinforce resilience in our region.

3. **Sandra Cañizares' remarks:**

AB InBev is a multi-national company with offices in Ecuador. When the pandemic hit, the company felt forced to transform itself, combat the effects of the pandemic in the private sector, and participate in the reactivation of the economy. The pandemic accelerated some tendencies and a change of mindset for the company and consumers. AB InBev needed to move towards more responsible and sustainable production and communicate this to consumers. As one of the largest companies in the world, AB InBev is committed to sustainability in agriculture, use of water, recycling of packing, and a strong focus on inclusion, with particular attention to women. Their economic impact in Ecuador is important because of employment generation, local

sourcing, contribution to taxes, and the provision of entrepreneurship opportunities for small neighborhood stores known as *tiendas*. At the beginning of the pandemic, the company started working on sustainable supply and realized how much value-chains supply food to the whole country. Without well-working supply and value chains, some populations would not have been able to access food, especially in the months of March and April 2020. Many tienda owners contacted the company for help because they did not have the basic food basket products to feed their families. The roadways were closed and there was not good communication between the different provinces, so these basic foods were not accessible to many people, and people were afraid to go out for fear of contracting COVID-19. They started distributing their water and malt drink – thought to be a nutritional product – and joined with many other companies to utilize their extensive logistics network to bring products from the basic food basket, such as oil, water, salt, potatoes, etc. to the Ecuadorian people. Through e-commerce, they were able to connect ninety thousand *tiendas*, out of the one hundred and fifty thousand they had contact with and reactivated them. The *tienda* owners were in turn able to distribute the products in the neighborhoods. At the beginning of the pandemic, when their sales and entire value-chain had stopped, including beer production, they established communications with the national government. As alcohol production is the basis for beer, and it was needed for sanitation purposes, the company pivoted and started producing hand sanitizer instead. They produced ninety thousand units and donated them to places, such as hospitals, the police force, and all those who needed it. The company also got involved in setting safe policies and practices to reopen business, such as restaurants. They created a "Heroes Unit", a space where medical personnel could rest, as many times they were afraid to go home because they did not want to bring COVID-19 to their families. Additionally, AB InBev established a *Siembra por Contrato*

(Planting by Contract) Program, for which 1,922 producers planted 6,733 hectares to produce barley, rice, and corn with the goal of eventually benefiting one hundred and seventy thousand people by 2025.

4. **Mr. Salvador Coleman Tio:**

Salvador has worked with several organizations to promote agroecology and a transition to more agroecological practices in Puerto Rico. Puerto Rico is a Caribbean context connected to the United States economic and political system. This political context goes hand in hand with agriculture, in the sense that public policies have contributed to the abandonment of agriculture production, making the Puerto Rican population importers and consumers of the surplus of subsidized agriculture production of the United States. In the 1950's there was a program called *Manos A La Obra* (Hands to Work) that resulted in a lack of balance between a society dependent on agriculture vs. the industry, and substituted this for industrial agriculture instead. The producers that survived this transformation also experienced a transformation in the agriculture model promoted by public institutions oriented towards monoculture and an absolute dependence on agrochemicals. Providing this context helps us understand how the promotion of industrial agriculture as the only model is what brought to ruin our small-scale farmers in a place where they represent the majority of producers. Moreover, small- and medium-scale production is what we need to focus on when thinking about increasing rural sustainability and resilience, and social justice. While increasing production in important in Puerto Rico because we only produce about fifteen percent of the foods consumed, little is talked about what model to use to improve this production. This is important because we need to adopt models that allow us to protect our territory's integrity. Puerto Rico is an archipelago with an area of about 9,000 square kilometers where small-scale farms abound. We need to support not only the few large farms,

but the many small ones that make good use of the limited space available to farm. The interconnection between ecosystems and life zones in Puerto Rico, the large number (>1,100) of water bodies, and large population density need agriculture practices that minimize contamination caused by large scale production and the excessive use of agrochemicals. We need to protect our most important resources, which include the fertile soil and water. Puerto Rico has a diverse topography where more than 80% of the land is mountainous, representing many different types of soils. Out of the 12 types that can be found in the world, 11 can be found in Puerto Rico. With this geographic, soil, and water characteristics, we are obligated to practice an agriculture that protects our resources from degradation, erosion, and contamination, particularly of the water sources. This is fundamental is PR and in the whole world. This diversity of soils and micro-climates found in PR and in a great part of the Americas, force us to adopt models that are in tune with our natural environment. With the global scenario facing climate change, a pandemic, and geopolitical conflicts, we need to improve local food production and consumption, and also produce organic inputs that would allow us to have an agriculture with greater levels of autonomy and sustainability. These inputs are more focused on the biology that is already available, and not only on the chemistry that we have to import. We also need agriculture models that fit better within the characteristics of our ecosystems. For me, this is the more sensible way for producers to reach higher levels of food and technologic sovereignty. Lastly, in a country and region where our roots are so connected to the land, being disconnected from it has affected our physical, mental, and spiritual health; at least, this is the case in Puerto Rico. We have to bet towards an agricultural model that would build rural culture, regenerate ecosystems, and capable to generate a mystic between the fields and the cities, and that would provide holistic health for the population and the ecosystem. Our societies have to internalize the

understanding that our nature and our lives are inexorably interconnected in reciprocal relationship. To close, I leave you with a wise rural provern that says, "*Cuida del suelo, y lo demás se cuidará a sí mismo*," (take care of the soil and the rest will take care of itself).

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