TRANSITION TO A **NEW GENERATION** OF **PUBLIC POLICIES** FOR AGRIFOOD SYSTEMS

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TRANSITION TO A NEW GENERATION OF PUBLIC POLICIES FOR AGRIFOOD SYSTEMS

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ACRONYMS

AFS Agrifood systems 01, 03-05, 07, 08, 10, 13-24, 26, 27, 30, 31, 33, 34-36, 40, 45-50
CIAT International Center for Tropical Agriculture 45
CSA Climate-smart agriculture 29
CFS Committee on World Food Security 39
CSICAP Climate Smart Initiatives for Adaptation to Climate Change and Sustainability in Agricultural Productive Systems 45, 46
ECLAC Economic Commission for Latin America and the Caribbean 01, 14, 20, 30, 31, 33, 38, 42
FAO Food and Agriculture Organization of the United Nations 02, 05, 20, 30, 44
FNS Food and nutrition security 38, 39, 40, 41
FFS Farmer Field School 18
GHG Greenhouse gases 08, 45
IDB Inter-American Development Bank 20, 24, 27, 28
IFPRI International Food Policy Research Institute 20, 24
IMF International Monetary Fund 11, 34
INIAs National Agricultural Innovation Institutes 38
IICA Inter-American Institute for Cooperation on Agriculture 20, 24, 49, 50
IRD Integrated Rural Development programs 02, 36
IPM Integrated pest management 18
ISI Import substitution industrialization (ISI) 01, 36, 38
LAC Latin America and the Caribbean 01, 02, 04, 05, 06, 09, 12, 13, 14, 20, 27, 34, 35
MADR Ministry of Agriculture and Rural Development 45
MAG Ministry of Agriculture and Livestock 35, 36, 37, 38, 39, 40, 41, 42, 43, 45, 47
MAMCEPAZ *Mancomunidad de Municipios del Centro de La Paz* 31, 32
MC13 Thirteenth Ministerial Conference 10
MDR Rural Development Forums 21
MGAP Ministry of Livestock, Agriculture and Fisheries 21
NAP National Adaptation Plans 07
NDC Nationally Determined Contributions 07
NGOs Non-governmental organizations 42
NSA Nutrition-smart agriculture 29
OECD Organisation for Economic Co-operation and Development 02, 18
OPSAa Public Policy Observatory for Agrifood Systems 46, 49, 50
PAE Public Agricultural Expenditure 27
PAS Public Agriculture Sector 35
PEC Programming, Execution and Control 35, 49, 50
PROBIAAR Argentine Agricultural Bio-inputs Program 26
PROMIPAC Central American Integrated Pest Management Program 18
R&D Research and Development 25, 26, 27
R&D&I Research, development and innovation 29
RTA Regional trade agreement 11, 12
SDC Swiss Agency for Development and Cooperation 18
SDG Sustainable Development Goals 06
SDR Special Drawing Rights 34
SIRSD-S System of Incentives for the Agro-environmental Sustainability of Degraded Soils 28, 29
TBT Technical barriers to trade 11
TSE Total Support Estimate 27
UNCCD United Nations Convention to Combat Desertification 08
UNFCCC United Nations Framework Convention on Climate Change 07
UNFSS United Nations Food Systems Summit 33
WB World Bank 12
WTO World Trade Organization 02, 10, 12, 39

I. INTRODUCTION

Latin America and the Caribbean (LAC) face three key challenges with respect to their agrifood systems (AFS), namely the need to redefine these systems to integrate new demands and activities; to develop a new generation of public policies adapted to the current global context, and to restructure public sector institutions to respond to these transformations.

Public policies targeting the agriculture sector in LAC have varied significantly over time and across countries. Amidst this diversity, countries with abundant agricultural natural resources, such as Argentina and Brazil, appear to have pursued policies that are similar to each other but unlike those implemented in countries that have historically been net food importers.

However, despite this diversity, over the past fifty years economic development strategies—and therefore the public policies applied to the agro-industrial sector in LAC countries—have evolved in broadly similar ways.

After the post-war period, despite production differences between countries, agro-industrial policies in LAC became increasingly similar and were characterized by the subordination of agriculture to industrialization.

The most predominant approach adopted after the Second World War, subordinated the role of the agriculture sector to the needs of industrialization[1]. The classic study by Johnston and Mellor (1961) proposes four main ways in which agriculture should contribute to industrial development: by providing cheap food and low-cost raw materials; generating foreign exchange through exports, to import the machinery and intermediate inputs needed by the industrial sector; transferring labor to industry; and generating savings that could be used to finance industrial investments. The emphasis placed on industrialization was due to several of its presumed positive effects, including political and social externalities, such as economic independence and political sovereignty (Kerr, 1960); the avoidance of deteriorating terms of trade for countries exporting agricultural (or primary) products (Prebisch, 1950; Prebisch, 1968; Singer, 1950); technological externalities and economies of scale (Krugman, 1994); and greater macroeconomic stability, given that industrialization was believed to make economies less vulnerable to external shocks (ECLAC, 1969).

These arguments became the foundation of what is known as the import substitution industrialization (ISI) strategy, with the agriculture sector playing a subordinate role.

However, beginning in the mid-1960s and early 1970s, doubts emerged about the suitability of that development strategy. Schultz (1964) argued that farmers in developing countries were "poor but efficient" and therefore had strong production and development potential. Consequently, it was believed that a better strategy would be to support the agriculture sector through investments in technology and the development of physical and human capital in rural areas. The Green Revolution of the 1970s was an expression of these ideas.

[1]These issues are discussed in Orden and Díaz-Bonilla (2006), Anderson and Martin (2006), and Díaz-Bonilla (2015).

The Green Revolution and integrated rural development programs transformed the approach to agriculture, challenging the effectiveness of import substitution industrialization strategies.

Moreover, the recognition that poor populations in developing countries at that time were largely concentrated in rural areas, made it clear that a greater focus on agricultural and rural development would be the key to reducing poverty (Chenery et al., 1974; Lipton, 1977). In the 1980s, this line of thinking influenced the creation of the Integrated Rural Development (IRD) programs.

However, at the beginning of the 1990s, several countries in the region undertook a series of macroeconomic and sectoral policy reforms that reduced state intervention in agricultural markets. These policies reflected the emergence of the Washington Consensus at the international level and the resulting market liberalization and economic globalization. Consequently, development strategies in most countries in the region began to place greater focus on integration into global markets. In many countries with agro-industrial potential, this shift led to public policies that were increasingly concerned with productivity, competitiveness, and improved participation in world trade. Therefore, providing public goods such as technology, as well as long-term financing, and international trade negotiations became more important. These negotiations took place within the context of trade liberalization and strengthened global multilateralism, particularly with the creation of the World Trade Organization (WTO) in 1995.

At the same time, within this general trend, most countries in the region maintained—and in many cases deepened—their efforts to support family farming, which led to a policy framework and interventions specifically targeted at this social sector. Family farming also became linked to concerns about hunger, food security, and poverty.

Thus, in 1996, much like what had occurred in 1974, a World Food Summit was convened under the auspices of the Food and Agriculture Organization of the United Nations (FAO), once again highlighting global food security concerns. The concept of the "food system" began to take shape and was further consolidated at the 2021 United Nations Food Systems Summit (UNFSS), incorporating new social actors and highlighting the difference between food insecurity, on the one hand, and health problems related to dietary patterns, such as obesity, on the other. Various organizations participated in the summit's preparations and discussions, as well as in defining a policy agenda for food systems. The Organisation for Economic Co-operation and Development (OECD) developed a framework for developing better food system policies (OECD, 2021), emphasizing the need for coherence among policies across different areas and proposing ways to address the triple challenge of food security, environmental sustainability, and finally, livelihoods and quality of life. In doing so, it took into account objective data as well as the varying interests and values of different actors.

With trade liberalization and globalization, LAC's agriculture sector faces new challenges. For one, it must redefine its role in sustainable development amidst a shifting geopolitical and economic landscape.

In parallel, the effects of climate variability and environmental pressures stemming from the intensive use of natural resources are attracting increasing attention, particularly those associated with human activities, such as agricultural production. These concerns have led to a variety of debates and technical efforts aimed at improving the sustainability of production systems.

In recent years, evolving perceptions and concepts regarding the use of agricultural natural resources and food production have coalesced into the concept of Agrifood

Systems (AFS), which encompasses a wide variety of new products and social actors and explicitly recognizes opportunities to produce environmental goods and services. In other words, the subject of analysis is no longer primary agricultural production, but a highly complex production conglomerate, in terms of product composition and technological and organizational aspects.

At the same time as these internal changes within the production sector, profound transformations are also taking place in global geopolitics, creating increasing challenges for multilateralism and its governance mechanisms, greater international economic fragmentation, and intensifying armed conflicts. This evolving context makes it necessary to rethink the strategies and mechanisms supporting AFS development, as part of an inclusive and sustainable economic development strategy for LAC countries.

Rethinking the role of AFS involves three key challenges: devising a new concept of the sector, transitioning towards a new generation of policies, and adapting public sector institutions.

Three critical challenges arise in the process of redefining the role of the agrifood sector, namely, the need to:

a) Develop a new concept of the agrifood sector and determine how it aligns with each country's development strategy. It must take into account the sector's new demands, activities, and products, against the backdrop of a new global geopolitical context;

b) Transition towards a new generation of public policies (in a broad sense) better suited to the new concept of the sector and the changing national and international context; and

c) Rethink public-sector institutional structures to align them with the new characteristics of the sector and the new public policies that will be required, as a result of the sector's transformation and changes in the international context. It must be noted that "public policies" is used here in a broad sense, encompassing not only policies in the strict sense, but also strategies, programs, projects, investments, laws, and regulations. Some of the key elements of these three challenges are discussed in greater detail in the following sections.

II. AGRIFOOD SYSTEMS: EVOLUTION AND NEW DIMENSIONS IN A CHANGING AND PRECARIOUS INTERNATIONAL CONTEXT

The agrifood systems (AFS) of Latin America and the Caribbean (LAC) have evolved into complex and multidimensional systems that integrate food production, the bioeconomy, and environmental sustainability. This transformation requires a new generation of inclusive public policies adapted to global challenges and promoting economic development, food security, and environmental protection.

2.1 Evolution, new dimensions, and the growing complexity of the agrifood sector

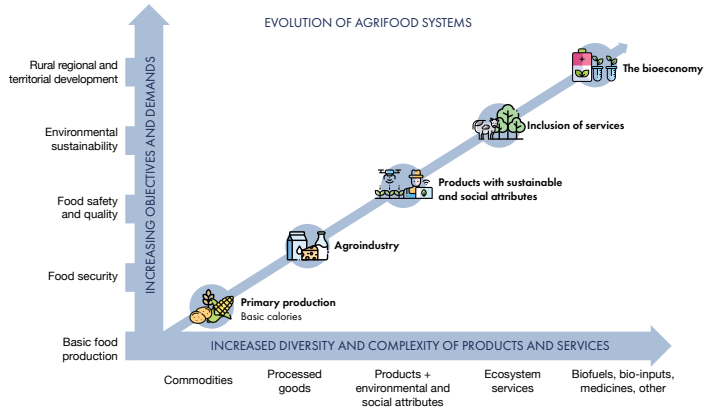
The evolution of food production into today's complex AFS creates new challenges for public policies.

Food production is humankind's oldest economic activity. It has gradually evolved into more sedentary agricultural production, supplying not only food, but also raw materials for clothing, housing, and other basic needs. Numerous technological advances have exponentially increased per-hectare yields and generated a surplus supply of food. This facilitated the development of large urban centers—the foundation of modern social organization (Diamond, 1997)—and later prompted the emergence of international food trade.

The evolution continues. Figure 1 illustrates how AFS have moved from primary production of basic foodstuffs towards a diversified structure that includes processed products and environmental services, and have now incorporated the bioeconomy. Public policies must adapt to the sector's growing complexity and diversification.

AFS have evolved from basic food production to agroindustry, the inclusion of services, and the bioeconomy, responding to new demands for sustainability, food security, and territorial development.

Figure 1. Growing production complexity and increasing demands on AFS



Source: The authors

2.2 The three dimensions of a new agrifood sector[2]

AFS include all economic activities and social actors involved in the production, sale, and consumption of all types of food and non-food agricultural products; activities related to biomass industrialization; and the products and services associated with the provision of environmental services. In other words, they encompass three conceptual and operational dimensions which, despite areas of overlap, represent and define core areas of activity and varying production opportunities.

2.2.1 The food system[3]

A significant share of the food consumed today, especially among urban populations, is no longer primary or fresh products, but also food produced through complex industrial processes involving firms, markets, and social actors other than those responsible for primary production. These other economic and institutional actors make up the food system in each country and, in most countries, provide more employment and value addition than primary agricultural production. FAO estimates suggest that in 2019, activities within the global food system were the main source of income for families representing nearly 50% of the world population (Davis et al., 2023).

Public policies must consider the entire production chain, including stakeholders, products, services, and activities throughout AFS, beyond the farm and primary production, where most employment and value added are generated.

Therefore, a comprehensive perspective is required, and food-related public policies must take into account all links in the production chain and consumption within the food system, considering all the social actors involved.

The expansion of the analytical perspective from agriculture to food systems has stemmed in part from the need to adopt more integrated approaches to address the challenges of sustainable development. For example, under international commitments, countries presented plans and programs (referred to as "national pathways") to transform their food systems. They also developed institutional mechanisms, for example, appointing "national conveners" to facilitate coordination between national institutions and international stakeholders.

Apart from these international processes, a central aspect of the food systems concept was the evolution of the "food problem." After the Second World War, a prevailing concern—aligned with Malthusian ideas—was that population growth would outpace food production and, consequently, the world would experience recurring global famines. These apocalyptic scenarios did not materialize. Instead, the global agriculture sector incorporated technologies that increased productivity, enabling greater food production. These improvements allowed the world's population to grow from 3 billion in the 1960s (220 million in LAC) to nearly 8 billion today (660 million in LAC), while producing 30.7% more calories per person and 34.1% more protein per person globally (and somewhat more per capita in LAC). All of this occurred despite the fact that in real terms global food prices in 2020–2022 were 14% below the levels of the 1960s and 1970s (Díaz-Bonilla et al., 2024).

AFS have increased the production of calories and proteins and reduced hunger, but income and affordability problems persist, along with new challenges, such as overweight and obesity, which have been driven by ultra-processed foods and lifestyle changes.

[2] The term "agrifood" was proposed by the FAO. Although the term may appear to be restrictive, from a linguistic point-of-view, FAO has explained that its definition "covers the journey of food from farm to table—including when it is grown, fished, harvested, processed, packaged, transported, distributed, traded, bought, prepared, eaten, and disposed of". It also encompasses non-food products derived from agriculture, fisheries, and forestry, and all the people, activities, investments, and decisions involved in producing, preparing, and distributing these products (FAO, 2022).

[3] See Global Panel on Agriculture and Food Systems for Nutrition (2016) and HLPE (2017) for a detailed explanation of the initial concept. Piñeiro et al. (2022) provides another perspective on the topic.

One consequence of this increase in production was the reduction of hunger worldwide. In recent decades, the percentage of people suffering from hunger fell from 40% in the 1970s to 9.1%, according to the latest estimates (2023)[4]. In the case of LAC, hunger also declined, amounting to 6.2% in 2023, down from nearly 11% in 2000.

In contrast to this reduction in global hunger, significant and rapidly increasing nutritional problems have emerged. The most notable is the rising incidence of overweight and obesity, and the consequent negative health impacts, leading to increases in diabetes, cardiovascular diseases, and certain types of cancer. In LAC, nearly 24% of the adult population was considered obese in 2016 (almost 12% of children and adolescents), a figure far above the global average and comparable to levels observed in other industrialized countries.

Priorities are shifting toward healthy diets and food safety, as well as toward public policies that systemically integrate production, nutrition, environment, and health.

These developments are partly related to growing urbanization in LAC—from 50% in 1960 to 80% in 2022—and the greater participation of women in the labor force (Díaz-Bonilla et al., 2024), which has shifted priorities in recent decades from "cheap calories" to "convenience foods." This led to the increased popularity of ready-to-eat processed and packaged foods in supermarkets, and away-from-home meals, resulting in diets dense in calories but limited in some essential nutrients.

Priorities continued to change and now, in many regions of the world, there is a focus on "healthy diets.", that is diversified diets that provide not only the required level of calories but also adequate amounts of other essential nutrients (proteins, fats, vitamins, and minerals) (Herforth et al., 2022). According to FAOSTAT estimates for 2022, the number and percentage of people in LAC unable to afford a healthy diet are 182.9 million and 27.7%, respectively (2.826 billion and 35.4% at the global level).

Another growing concern is food safety. In particular, there is an important connection between human health and the nature of production processes, given the latter's use of hormones, residue from agrochemicals used to combat pests and diseases, and the presence of microplastics resulting from packaging. These issues can be addressed in an interrelated manner, through approaches that propose a holistic and integrated view rather than addressing them separately.

These challenges have a clear impact on the design and implementation of new public policies and the related institutional structures.

2.2.2 The bioeconomy as a production paradigm[5]

The significant technological changes that make it possible to use agricultural natural resources to produce a variety of non-food goods must also be considered.

Historically, products originating in the agriculture sector have included non-food goods. Since the beginning of humanity, agricultural inputs have been used to meet other basic needs, providing clothing, footwear, housing, and energy. However, during the past decade, the use of disruptive technologies has facilitated a major increase in products efficiently and competitively generated from biomass processing.

[4] The usual method of calculating this is Indicator 2.1.1 of SDG 2, "Zero Hunger", which is the "prevalence of undernourishment" that is based on calorie consumption. Hunger (calorie deficiency) and undernourishment (which may include calorie deficiency or lack of other essential nutrients) are not necessarily the same.

[5] For a comprehensive review of the topic, see Bisang and Regunaga (2022).

One example is the demand for biofuels, which has increased in response to environmental concerns. On the whole, the evolution of energy technologies and markets will have significant implications for the agriculture sector and AFS (Díaz-Bonilla, 2019).

However, the bioeconomy can give rise to other sources of demand beyond biofuels, creating new jobs and industries and driving agricultural and rural development (CRS, 2022). This in turn leads to the development of an economy based on products, services, and processes derived from biological and renewable resources (crops and plants, terrestrial and marine animals, microorganisms, forests) that are used to manufacture a variety of goods, including health products, chemicals, materials, textiles, and energy (CRS, 2022).

Agrifood policies must integrate the bioeconomy and the circular economy, taking advantage of new technological and scientific developments that use biomass and agricultural waste to create more value, jobs, industries, and non-food products.

A new family of industrial activities with great potential has emerged from this process, which in several countries already represent an important share of biomass use.

A second possibility is the recovery of waste from primary production, particularly for livestock rearing, electricity generation, organic fertilizers production, etc. The overall goal is to reduce losses and waste along the entire value chain, all the way to the consumer, using waste as an input for other products in many cases —a system referred to as the "circular economy."

These production processes, which have great potential, especially in countries with abundant agricultural natural resources, must also be taken into account in designing agrifood public policies.

2.2.3 Environmental sustainability and opportunities stemming from environmental services[6]

Over the past two decades, there has been increased attention and discussion in the international community concerning the importance of jointly tackling growing climate variability (and the intensity of climate events) and the deterioration of natural resources as a result of agricultural production.

Agrifood policies must tackle growing climate variability and natural resource degradation, while integrating mitigation and adaptation actions, measures to address losses, and practices that will drive sustainable agrifood productivity.

The 2015 Paris Agreement, which entered into force in 2016 and is part of the United Nations Framework Convention on Climate Change (UNFCCC), underscores efforts aimed at mitigation, adaptation, and climate resilience, with references to including the agriculture sector as part of the negotiations.

Moreover, the idea of adopting a more holistic view, so that the negotiations would cover food systems in their entirety, was first discussed at COP26 and COP27. At COP28, more than 160 countries expressed their support for the Declaration on Food and Agriculture[7]. The declaration highlighted countries' interest in aligning the national plans discussed at the 2021 Food Systems Summit ("national pathways") with the Nationally Determined Contributions (NDCs) and National Adaptation Plans (NAPs) related to the climate agenda. To this end, the "Convergence Initiative"[8] was launched during the conference, to facilitate coordination among the abovementioned areas of focus. Additionally, many countries are also parties

[6] For a more detailed review of this topic, see AAPRESID and GPS (2023) and Viglizzo and Casas (2023).

[7] https://www.cop28.com/en/food-and-agriculture

[8] https://www.unfoodsystemshub.org/latest-updates/news/detail/national-convenors-propel-joint-implementation-of-the-food-systems-transformation-and-climate-action-agendas/en

to other international agreements, such as the 1994 United Nations Convention to Combat Desertification (UNCCD) of 1994, which focuses on sustainable soil management, and the Convention on Biological Diversity (CBD) of 1992.

These global agreements could provide reference frameworks for incorporation into the policies and regulations of the individual countries to address two main challenges: **growing climate variability and natural resource degradation**. Both dimensions are closely linked to the productive practices employed in the agrifood sector. In so far as **the first element (changing climate conditions)** and its effect on agrifood production is concerned, there are at least three interrelated aspects that must be considered, namely:

The deterioration of natural resources must also be addressed through the development of science and technology, regulatory frameworks, and incentives that promote sustainable practices, aligning national development goals with relevant international commitments.

a) the contribution of the agrifood sector to greenhouse gas (GHG) emissions, and the need to adopt production practices that reduce these emissions or enhance carbon sequestration through soils, vegetation, and other natural carbon sinks;

b) the need to adjust production practices and technologies used to cope with more variable and extreme climate conditions, such as fluctuations in rainfall, heat waves, or severe frosts; and

c) the need to develop both production practices and certification methodologies that demonstrate the environmental sustainability of production, in order to satisfy increasing environmental standards in international markets.

The **second factor (natural resource degradation)** includes processes such as the deforestation of native forests, loss of soil fertility, soil erosion and desertification, and the pollution of surface and groundwater resources. These problems stem from production practices that can be improved, by increasing their environmental sustainability and the efficiency of their resource use. Thus, it is important to promote the design of public policies that pursue two complementary objectives. On the one hand, scientific and technological developments must be promoted, with a view to creating agricultural practices that are more sustainable and better adapted to current conditions. On the other hand, regulatory frameworks and economic incentives must be established to encourage and support the adoption of these practices across different territories.

The countries of the region face pressing environmental challenges, largely due to the needs arising from their own development objectives, but also because of the need to consider their international commitments. Reconciling both sets of demands will have important consequences for future policies and the institutional structures required to design and implement them.

2.3 The new international context[9]

An important consequence of the way in which AFS in the region have evolved over the past three decades is the significant increase in international food trade. Some countries in the region, such as Brazil, Argentina, Paraguay, and Ecuador, among

[9]This section is based in part on M. Piñeiro (2024). See also Díaz-Bonilla (2016, 2020).

others, are major food exporters, and these exports are central to their economic development. In contrast, other countries in the region are net food importers[10].

Growing food trade interdependence in LAC is unfolding in a changing geopolitical context, which necessitates the adaptation of development strategies and public agrifood policies.

It is important to note that against the backdrop of this increasing food trade interdependence there are rapid changes in multiple aspects of the international and regional context that are affecting economic and trade relations among countries and, consequently, the conditions of and opportunities for international trade.

The international context is being redefined by geopolitical dynamics that demonstrate a trend toward polarization and fragmentation among different country blocs, such as:

a) the group of G7 countries and other advanced economies that historically have had common strategic and economic interests; and

b) alliances led by emerging powers such as China, and including countries such as Russia, Iran, North Korea, and other nations with converging interests.

Likewise, there is a group of middle-income countries that are seeking greater independence and geopolitical influence and maintain a certain degree of autonomy from the two alliances mentioned above, namely India, Türkiye, Saudi Arabia, Egypt, Brazil, and others[11]. Finally, there is a large group of countries that, including some that are already mentioned, make up what has been called the Global South[12].

This new geopolitical configuration—that is continuously changing, given recent trade, financial, and geopolitical decisions at the global level—nonetheless has a series of structural consequences for the economy and international trade, to which LAC countries will need to adapt their development strategies and, consequently, their public policies, including those related to the agrifood system.

The first consequence is increasing conflict at the global level, as shown by the rise in regional conflicts, which has interrupted the period of relative peace after the dissolution of the Soviet Union. These conflicts have disrupted maritime logistics chains that directly affect agricultural trade. Food supply difficulties in North African countries because of the Black Sea conflict are an example of this. The most recent HLPE (2024) report indicates that the acute food insecurity faced by 282 million people in 59 countries is due to conflicts, as well as extreme weather events and economic shocks. These factors particularly affect low-income countries.

The second consequence is shifting international trade dynamics and the emergence of new forms of economic organization that spurred global growth during the recent period of rapid globalization. This reconfigured trade is taking place even as global value chains are being rebuilt, based on concepts such as “nearshoring” and “friendshoring”—strategies that seek greater resilience and a more secure food supply and that are leading to a reconfiguration of economic and trade relations among countries[13]. Figure 2 illustrates how these changes in globalization have

[10] In LAC there are sixteen net exporting countries and the same number of net importing countries. However, more than 90% of LAC’s population lives in net exporting countries (Díaz-Bonilla, 2023).

[11] See, for example, M. Piñeiro and Piñeiro (2022).

[12] Hirst et al. (2024).

[13] For a discussion of this topic, see Chen and Evers (2023).

The reconfiguration of global value chains and geoeconomic restructuring are slowing the pace of international trade, while also affecting global growth and international economic architecture.

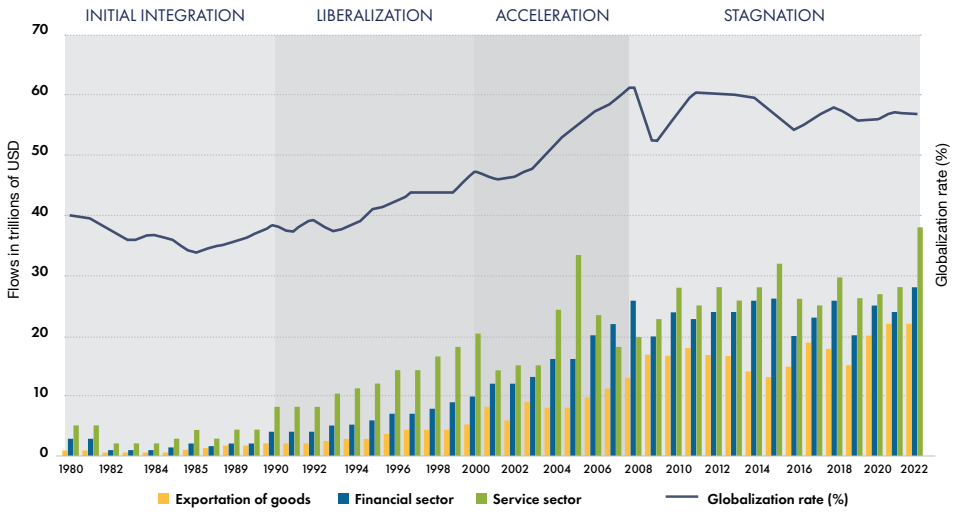
not only restricted trade flows but also financial and service flows. Over the last forty years, various phases have taken place, namely the integration, liberalization, acceleration and finally, stagnation of these flows.

A central component of these trends is the reorganization and relocation of multinational enterprises to countries with stable cooperation frameworks or minimal geopolitical tensions, particularly in sectors that are considered strategic for economic resilience and national security[14]. The relocation to Mexico of semiconductor production destined for the United States market provides a clear example of the importance of proximity and geopolitical stability in these value chain rebuilding processes.

The third consequence is the rethinking of multilateral trade dynamics and the associated difficulties in sustaining more open international trade within the framework of multilateral trade rules. As shown in Figure 3[15], growing geopolitical complexity is prompting the increased use of defensive trade measures, including protectionist policies that put pressure on the multilateral system. The difficulties that the WTO has faced over the past twenty years to reach a consensus on significant new agreements—as was also evident in the recent 13th Ministerial Conference (MC13)—demonstrate the current challenges. These tensions are particularly visible in sectors such as agro-industrial trade.

Figure 2. Global flows of exports of goods, services, and finance; and the rate of globalization, in trillions of U.S. dollars (USD)

Geopolitical tensions and shifts in the global balance of power hinder progress in multilateralism and limit the openness of international trade, with important implications for AFS.



Source: Modified, based on Zapukhlyak and Zhyvko (2022).

On the other hand, although there has been less activity surrounding new bilateral free trade agreements (with some exceptions) in recent times[16], in contrast, there has been a flurry of activity in relation to other types of trade agreements, which must be considered when designing strategies for international integration.

[14] For a discussion of this topic, see Seong, et al. (2024).

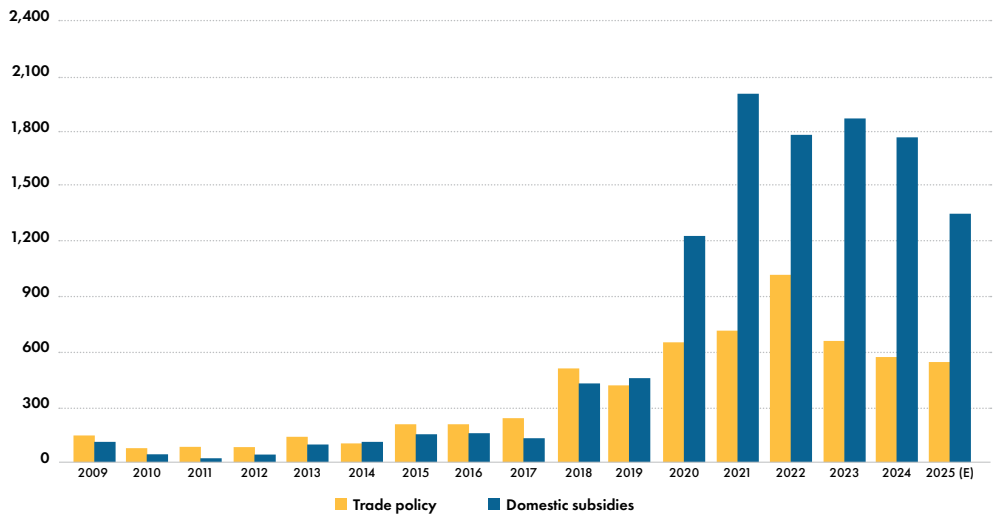
[15] It does not include the most recent measures adopted by several countries.

[16] For a discussion of this topic, see The Economist (2024).

The first type of agreement, the regional trade agreement (RTA), is the most important because it includes all the traditional trade instruments, including tariffs. These agreements have increased significantly in recent years (see Figure 4).

Sectoral or mini agreements are the second type of trade agreement. They pursue various trade-related objectives, particularly concerning matters such as rules, standards, certification, trade facilitation, financial issues, etc., but do not address tariff matters. Some of these agreements are simply the operationalization of agreements on sanitary and phytosanitary (SPS) measures and on technical barriers to trade (TBT). In any case, they reflect many countries interest in simplifying and expanding their trade relations in areas not necessarily related to tariffs but that contribute to facilitating trade. The fact that the United States has signed about 1,200 such agreements and the European Union close to 2,000 is one indication of the importance of this type of agreement[17].

Figure 3. Net number of new detrimental trade-restrictive measures, by policy instrument, 2009–2025



Source: IMF (2025), using Global Trade Alert data as of May 22, 2025. E = Estimate.
See also https://www.globaltradealert.org

The increase in trade restrictions and domestic subsidies reflects a more protectionist global environment that affects goods and investment.

Although these preferential agreements may be individually less significant, they demonstrate the possibility and wisdom of maintaining a very active trade integration policy. Currently, they are particularly important for three reasons:

a) Digitalization, artificial intelligence and the expansion of digital trade require and benefit from these partial scope agreements.

b) The growing importance of environmental, sanitary, and nutritional standards in agrifood trade can give rise to specific, narrowly focused agreements related to these aspects.

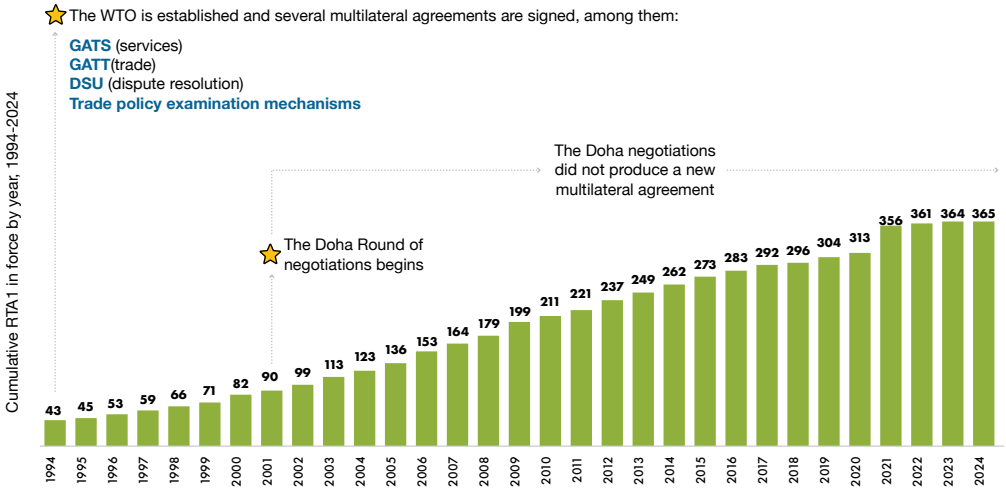
Preferential trade agreements remain key to promoting international market access, adapting to digitalization, agrifood standards and the rebuilding of value chains among like-minded countries.

[17] The Economist (2024).

c) Agreements of this type could facilitate the rebuilding of value chains among like-minded countries[18].

RTAs have increased since the creation of the WTO in 1995, despite the stagnation of multilateral negotiations.

Figure 4. Agreements signed since the creation of the World Trade Organization



Source: WTO (2024).

The resurgence of industrial policies to strengthen strategic sectors and attract investment creates key challenges for development strategies in LAC.

The fourth consequence is the return to sectoral production policy strategies (commonly referred to as "industrial policies") aimed at maintaining or reinforcing technological advantages and seeking to attract investment that will strengthen the competitiveness of sectors that are considered strategic at the national level. These policies also tend to foster economic linkages with countries with compatible regulatory frameworks or with which a country has stable geopolitical relations. As mentioned above, the rebuilding of value chains based on concepts such as "nearshoring" and "friendshoring" is a concrete aspect of these emerging strategies.

Various countries are reassessing industrial policies as part of strategies to strengthen strategic sectors, respond to technological challenges and advance the energy transition. These policies typically combine instruments aimed at attracting investment, improving competitiveness, and developing national productive capacities, with an emphasis on critical sectors. This trend reflects a transformation in how governments approach production development in an international context characterized by geopolitical tensions, supply chain disruptions, and sustainability goals. Previous experiences in Asia, Europe, and Latin America provide valuable lessons regarding institutional frameworks, the sequencing of agreements, and public–private collaboration in such strategies[19].

As in the past, the main instruments used to implement industrial policy were direct support to specific production sectors (subsidies), as well as tariffs and the provision of public goods. Large multinational enterprises, on the other hand, have played a role

[18] While such agreements can benefit trade between two or more politically like-minded countries, in some cases—depending on the issue and how reciprocity is structured—they may weaken a core element of multilateralism, namely non-discrimination, and may increase the growing fragmentation of global trade.

[19] The World Bank's (WB) 2007 study on the "East Asian miracle" discusses the industrial policies applied in a variety of Asian countries in detail (Birdsall et al., 2007).

in this process, adopting "de-risking" strategies that, in turn, lead to "friendshoring" and "nearshoring" strategies[20].

The return to these policies by the world's major economies to support national industrial development poses a major challenge for the design of public policies in LAC. In view of importing countries' implementation of aggressive industrial policies, what are the possible responses of exporting countries? What are the specific issues of concern to the agrifood sector in this regard?

In addition to these four geopolitical consequences, it is important to take into account a dimension that has geopolitical as well as technical components, namely the rapid and profound technological developments based on biology, artificial intelligence, robotics, etc., which will redefine the productivity of production systems and the social organization of the rural sector. These technologies are being developed primarily in the world's most advanced and wealthiest countries, and to some extent in some intermediate powers in the region, such as Brazil and, to a lesser degree, Mexico, Argentina, and a few others.

Technological advances will redefine rural productivity, but global fragmentation could limit technology transfer, underscoring the need to strengthen regional cooperation and national efforts in relation to science and technology.

Thus far, countries in the region have benefited from technology transfer processes through public technical cooperation programs, as well as the participation of international organizations and private multinational entities, particularly in relation to certain technologies.

These international technology transfer processes could be disrupted by increasing conflict and fragmentation in the international system.

Finally, a recent and highly relevant development is the increase in tariffs or import taxes as a strategy to try to rebalance international trade. These higher rates can be modified based on bilateral negotiations or changes in circumstances, which has created greater uncertainty in global trade. These conditions reinforce the need for LAC countries to improve regional trade conditions, which in turn underscores the importance of regional cooperation and national efforts.

2.4 A transformed global context and the need for new AFS development strategies and public policies

The transformation of AFS and the changing geopolitical and technological context call for a new generation of public policies tailored to the realities and challenges of each country in the region.

An evaluation of the role that AFS should play in the development strategies and the related public policies of countries in the region in the future must begin with a recognition of the transformations that have occurred both in the sector and in the international context. In terms of the sector, the central issue is the shift in focus from agricultural production toward AFS, which encompass a wide range of economic activities and social actors that must be incorporated into development strategies. In so far as the international context is concerned, the analysis must highlight the significant geopolitical and technological changes that are underway, as well as the new challenges and opportunities arising from these transformations. The challenge is to incorporate and internalize these changes and to tailor development strategies and public policies to these new circumstances.

[20] Seong et al. (2024).

Overcoming the structural traps of low growth, high inequality, and ineffective governance requires a new generation of public policies that integrate sustainability, inclusion, and robust governance.

In this new context, each country in the region must define a development strategy for its AFS and a new generation of public policies to achieve it. The design of these public policies must acknowledge and take into account not only the global transformations mentioned above but also the specific conditions in that country with respect to several key dimensions:

a) the economic importance, complexity, and opportunities for AFS;

b) the country's endowment of agricultural natural resources;

c) the relative importance of rural poverty; and

d) the values and vision of the country, as reflected in government decisions.

In this context, ECLAC (2024) has identified three structural traps that limit development in LAC: weak economic growth capacity, high inequality with limited social mobility, and ineffective governance[21]. These traps, combined with the global changes analyzed in this report, highlight the need to transition to a new generation of public policies that integrate sustainability, social inclusion, and robust governance. That is the major challenge of the moment.

[21] For a more detailed analysis of these transformations and their implications, consult the full ECLAC (2024) report.

III. TRANSITION TO A NEW GENERATION OF PUBLIC POLICIES FOR AGRIFOOD SYSTEMS

The analysis in the previous chapter has shown that the growing complexity of AFS, together with the new geopolitical context of deglobalization, economic fragmentation, and new social and environmental demands, make it necessary to update and rethink agrifood development strategies and policies. These issues are analyzed below.

3.1 General principles

Some core principles should guide the development of the new strategy, namely boldness, inclusiveness, reflectiveness, adaptability, and evaluability. These principles are essential to ensure that policies not only respond to current needs but can also anticipate and adapt to future challenges:

- **Boldness:** implies the willingness to break with traditional models and incorporate innovations that drive the sector's sustainable development.
- **Inclusiveness:** all actors involved in AFS must be considered and benefit, especially the most vulnerable.
- **Reflectiveness:** continuous analysis of results and effects is needed, allowing for adjustments along the way.
- **Adaptability:** the ability to respond effectively to a constantly changing global and regional environment is required.
- **Evaluability:** it is crucial that policies can be evaluated from as early as the design stage. This means that objectives, targets, implementation costs, and indicators to measure progress and achievement must be clearly established. In addition, policies must include clear mechanisms to measure their impact and effectiveness, allowing for informed adjustments, thus ensuring that stated objectives are achieved.

Traditional strategies no longer suffice. There is a need for a new vision that is bold, inclusive, reflective, adaptable and evaluable.

3.2 Key attributes of the strategy to drive a new generation of public policies

The development of a new generation of public policies requires a transformative strategy that can address multifaceted problems in a comprehensive and systemic way. The essential attributes that should guide this new strategy are discussed below.

3.2.1 Systemic and comprehensive

The new strategy must be systemic and comprehensive, balancing productivity, sustainability, and inclusion to address current and future agrifood challenges.

One of the central challenges in formulating the strategy is ensuring that objectives are clearly defined, quantifiable, measurable, and time bound. On that basis, coherence must be achieved among multiple objectives, which may sometimes be in conflict (for example, when pursuing economic productivity through approaches that may affect social inclusion and environmental sustainability). It is also essential that the strategy enable these objectives to be linked to an analysis of disruptive factors and barriers to change.

At the same time, the strategy must be sufficiently flexible to capitalize on drivers or enabling conditions that can accelerate transformation, such as technological innovation, adaptation to changing climate conditions, and greater integration into global markets. The mindset that subordinated the agriculture sector to the needs of industrialization has been left behind, since modern AFS must address a much broader range of social expectations. These expectations transcend mere food production and job creation, but also include poverty reduction, food security, improved nutrition and health, environmental sustainability, and regional and territorial development.

Therefore, it is essential to adopt a systemic approach that not only considers interrelationships among the different components of AFS but also addresses the imbalances that may arise among the economic, social, and environmental dimensions. This approach must be comprehensive and adaptive, taking into account the various components and stakeholders in these heterogeneous AFS, while also considering everything from primary production to industrial processing and final consumption. In addition, it should include the promotion of the bioeconomy, adaptation to a changing global environment, and resilience to market fluctuations and new international regulations.

This holistic approach will ensure the cohesiveness and effectiveness of the strategy across all links in the agrifood chain.

3.2.2 Long-term direction

Long-term policies are essential to ensure sustainability, innovation, security, and stability, as well as to carry out the necessary transformations in AFS.

Adopting a clear, shared long-term direction is essential for the transformation of AFS. This begins by defining clear, quantitative, and measurable objectives, which will provide a stable and predictable framework to enable the strategy to guide development in a coherent and effective way. A vision with a clear direction ensures that all actors work towards achieving common and aligned objectives. **Tangible** and **transformative results** can only be achieved in the long term, thereby demonstrating whether the strategy has a real and lasting impact. Delivering results over time will also build confidence in the transformation process (see Box 1 for examples).

Box 1: Experiences in managing long-term policies

Several countries have developed long-term agricultural policies that transcend political cycles and aim to promote sustainability, innovation, and resilience in the sector. Some notable examples include:

- **United States:** The five-year *Farm Bill* provides structural support for producers' income, financing for innovation, and environmental conservation programs.
- **Canada:** The *Growing Forward* (2008–2018) and Canadian Agricultural Partnership (since 2018) programs focus on environmental sustainability, rural resilience, and agrifood competitiveness.
- **Chile:** Law 20.412, which establishes an incentive for the recovery of agricultural soils, has been in force since 2010, with periodic renewals. The program is an example of a continuous effort to improve production sustainability (Government of Chile, 2010).
- **European Union:** The Common Agricultural Policy (CAP), in place since 1962, is implemented in multiannual cycles (currently 2023–2027), integrating components such as sustainability, innovation, and income stability (European Commission, 2023).

Source: Prepared by the authors, based on official documents.

Long-term policies, such as CAP, Growing Forward, or the Farm Bill, provide the legal security and stability that are essential for investment and planning in the agrifood sector.

This is partly because the **adoption of new clean technologies** and sustainable practices is a process that requires time. Therefore, the strategy must facilitate this transition by providing the incentives and support needed for stakeholders to adapt and evolve toward more sustainable models.

Another consideration that calls for a long-term focus in the strategy is the **diverse and long agricultural production cycles**. That is, the strategy must be flexible enough to account for the fact that production transformations may not be immediate. Indeed, the necessary changes will often only become visible after several production cycles, emerging in the medium and long term.

It also bears mentioning that profound transformations or changes can involve high **opportunity costs**. Thus, adequate financial instruments are needed to create sustainable interventions that will support these decisions in the short, medium, and long term, ensuring that promising efforts do not fail prematurely.

Finally, long-term strategies, especially those that transcend government administrations, provide **legal security and stability** for all stakeholders. A stable and predictable legal framework is vital to foster the innovation and investment needed to transform AFS. Legal certainty gives investors and other stakeholders the confidence they need to make long-term commitments, thus creating an environment conducive to sustainable development.

3.2.3 Evidence-based

For public policies to be effective and transformative, they must be grounded in solid, up-to-date evidence. The strategy should promote the inclusion of mechanisms, incentives, and instruments that ensure that policies are designed and adapted based on relevant evidence, while avoiding ideological and prescriptive approaches. In addition, processes must be put in place to generate evidence when it is not readily available. This approach is in line with the approach of other organizations such as the Organisation for Economic Co-operation and Development (OECD), which promotes a framework for analyzing public policies based on their contribution to multiple objectives in relation to productivity, sustainability, and resilience (OECD, 2020, 2023).

Evidence-based decision-making makes it possible to design interventions that not only respond to current needs and to a dynamic and complex international environment but also anticipate future challenges and opportunities within AFS. Historically, many policies have not been as effective as expected. Thus, new and more integrated approaches must be tested.

Public policies must be based on solid, up-to-date evidence, in order to be effective and transformative, thereby facilitating experimentation, evaluation, and continuous adaptation.

In this context, **experimentation** becomes crucial, both in terms of the objectives that are being pursued and in the use of multiple instruments and complementary measures. In addition, policies must be more **targeted** and **differentiated**, recognizing the heterogeneity of AFS and of the stakeholders involved. A concrete example of evidence generation through participatory, community-based processes can be seen in the experience of the Central American Integrated Pest Management Program (PROMIPAC). See summary in Box 2.

A combination of approaches to **collect** and **analyze evidence** should be considered for the strategy, including quantitative methods, qualitative methods, evidence synthesis, and modeling.

Box 2. PROMIPAC— Participatory innovation in Central America

The Central American Integrated Pest Management Program (PROMIPAC)—led by the Panamanian School of Agriculture, El Zamorano, and funded by the Swiss Agency for Development and Cooperation (SDC)—implemented adapted Farmer Field School (FFS) methodologies as participatory research tools. These FFS allowed small producers to experiment, reflect collectively, and adapt integrated pest management (IPM) practices to their local conditions.

The most notable results of PROMIPAC's participatory approach include:

- Significant reduction in pesticide use, without affecting crop yields or quality.
- The strengthening of farmers' capacity for observation, analysis, and decision-making.

- Crop diversification and adoption of sustainable practices tailored to each territorial context.

This approach strengthened local capacities and promoted endogenous innovation processes aimed at achieving more sustainable agriculture, adapted to producers' realities.

Source: Based on Deugd, Marriette et al. (2004).

The evidence-based policy cycle is intended to be a dynamic process that includes the phases of **experimentation**, **learning**, and **adaptation**, to ensure that policies facilitate the incorporation of innovations and the necessary adjustments in response to the observed results:

- **Experimentation:** The initial phase of the process involves the implementation of policies in a controlled environment or on a small scale, testing different approaches and measures. This stage is crucial for identifying which strategies work best and which need to be adjusted before broader implementation.

- **Learning:** As data is collected and the experimentation results are analyzed, a learning phase begins. During this phase, policymakers, researchers, and AFS stakeholders work closely together to interpret the data and extract key lessons that will inform the next stage of the process.

- **Adaptation:** Based on the lessons learned, policies are adjusted and refined to improve their effectiveness. This continuous adaptation process ensures that policies remain relevant and effective over time, responding to changes in the environment and in the needs of the stakeholders involved.

The dynamic implementation of evidence-based policies—through experimentation, learning, and adaptation—fosters continuous innovation and ensures the effectiveness and relevance of interventions in AFS.

The evidence generated and synthesized to support decision making supports at least three crucial areas of innovation (Avanzar2030 (2023); Box 3):

- **Policy innovations:** The development of innovative instruments that improve policy effectiveness. This includes creating new tools and mechanisms that enable better implementation and monitoring of public policies.

- **Technological innovations:** Incentives for the adoption of sustainable technologies and practices. These technological innovations are essential to drive productivity, sustainability, and resilience within AFS.

- **Institutional innovations:** Development of incentives and institutional mechanisms for transformative governance. These institutional changes are fundamental to ensure that policies can be implemented effectively, are inclusive, and have the support needed to generate lasting impact.

A strategy that promotes the design and implementation of policies, based on evidence and **close collaboration** among researchers, policymakers, and AFS stakeholders,

Consensus in agrifood policies ensures inclusiveness, legitimacy, and sustainability, facilitating the acceptance and effectiveness of long-term interventions.

How can we know which policies work, under what conditions, and with what results? The Avanzar2030 initiative is generating concrete evidence for a new generation of more effective, sustainable, and scalable public policies in LAC.

makes it possible to develop win–win solutions, in which public policies not only achieve their objectives, but also generate shared benefits for all stakeholders.

3.2.4 Consensus-based

An important attribute of a strategy is that it be based on or actively promote policies that seek consensus, in order to ensure that agrifood policies are inclusive and have the capacity to endure despite political changes. The search for consensus represents a major challenge and is key in an environment that includes diverse stakeholders and heterogeneous AFS.

Box 3. Avanzar2030 — Evidence for a new generation of public policies

Avanzar2030 is a collaborative initiative to accelerate the transformation of agrifood systems in Latin America and the Caribbean (LAC), through the strategic use of evidence. The initiative is building a unique database that systematizes the interventions implemented, their costs, and the results achieved. By organizing high-quality, contextualized information in one place, it is intended to become a key resource for researchers, governments, and development partners—in LAC and globally—that have an interest in understanding what works, under what conditions, and how to better guide future investment decisions and policy design. It aims to generate concrete inputs for more effective and scalable public policies, by pooling the efforts of institutions such as IFPRI, IICA, the Juno Evidence Alliance, FAO, ECLAC, and IDB.

One of Avanzar2030's key products is a regional systematic review of agrifood policies and their effects on economic, social, environmental, and institutional sustainability. Based on more than 100 high-quality studies, it identifies the policies that produce the best results—such as productive incentives, labeling and certification, payments for environmental services, or public procurement—and the conditions that favor their success, including solid institutional frameworks, adequate financing, technical support, and participatory governance.

For more information, see Avanzar2030 (2023).

The strategy should promote the development of policies through **processes** involving women, youth, communities, and other key actors. These processes will ensure that decisions reflect a **wide range of perspectives and needs**, thereby increasing the likelihood that policies will be accepted and supported by those they affect. In addition, inclusive processes make it possible to take into account the **preferences** and **behaviors** of the different AFS stakeholders, tailoring policies to their diverse realities, such as their experiences, educational levels, and risk aversion. This adaptation not only facilitates the adoption of technologies and new practices but also enables the design of more targeted and effective support mechanisms that increase policy effectiveness.

At the same time, the strategy must **avoid fragmented actions** and **ensure effective synergies**. Thus, collaboration among sectors such as agriculture, the environment, health, education, and finance, is fundamental. This intersectoral integration makes it possible to address challenges more holistically, taking into account the multiple impacts a policy may have in different areas.

The combination of inclusive processes with strong intersectoral and multi-level collaboration can create a powerful sense of empowerment among communities and other stakeholders involved. Participation in policy design and implementation gives communities a sense of ownership and responsibility for interventions, which **enhances their effectiveness**, as the communities are more willing to embrace solutions they have helped to create.

Finally, **policy legitimac**y is achieved when stakeholders feel that their interests and concerns have been considered and respected in the policymaking process. Participatory policies that are accepted and supported by the affected parties tend to be more effective, comprehensive, and sustainable. The Rural Development Forums in Uruguay provide a relevant example of participatory policies. See a detailed description in Box 4.

Box 4. Rural Development Forums in Uruguay: An example of consensus and participatory territorial action

The Rural Development Forums (MDR, for their acronym in Spanish) in Uruguay are an institutional mechanism created in 2007 to support the continued existence of family farming, through participatory territorial governance processes. Promoted by the Ministry of Livestock, Agriculture and Fisheries (MGAP), the MDR bring together multiple stakeholders—producers, ministries (Housing, Health, Environment, and Education, among others), public enterprises, and educational centers—that meet regularly to identify local demands and co-design solutions. Their agendas prioritize access to housing, healthcare, water, and energy, as well as actions to respond to climate emergencies. One example is the decentralized response to the 2022 drought, in which the MDR coordinated actions to ensure access to water and food for livestock and people. These forums also promote the adoption of agroecological technologies and practices, thereby consolidating their role as effective mechanisms for dialogue and territorial management.

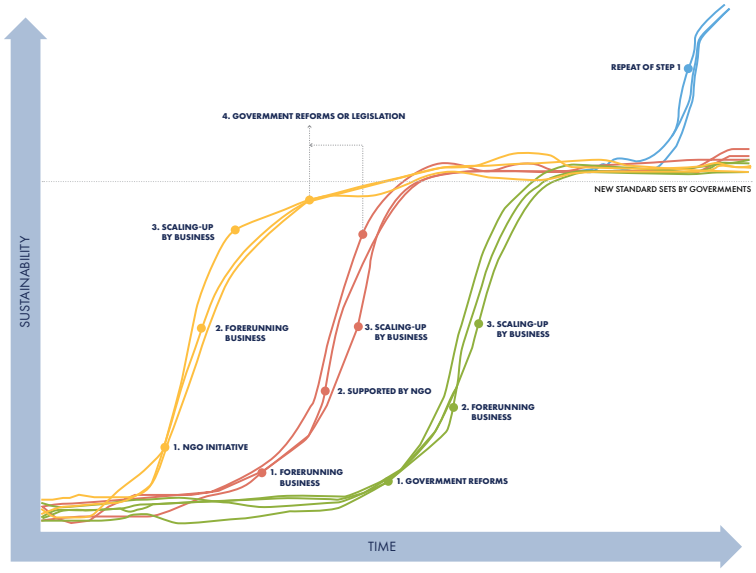
Can territorial consensus to drive effective public policies be achieved? The Rural Development Forums in Uruguay provide a concrete example of participatory governance.

For more information, see: Arbeletche et al. (2019), Cuña (2023), MGAP (2024, 2025) and Villalba Clavijo (2015).

There are at least three possible pathways for transforming AFS (Figure 5; UNEP, cited in Brunori (2023)), be it from civil society, from the private sector, or from the public sector itself. Although not shown in the diagram, change can also stem from interventions by international technical or financial cooperation organizations, or by coordination and integration mechanisms. In each of these pathways, the strategy must ensure that public policies engage all stakeholders to facilitate and accelerate change processes.

The transformation of agrifood systems stem from civil society, the private sector, or the public sector. In all cases, public policies are key to bringing actors together, accelerating processes, and consolidating sustainable change.

Figure 5. Towards sustainable AFS: transformative pathways



Source: UNEP, cited in Brunori (2023).

Each pathway requires a **collaborative and concerted approach** that **facilitates the pooling and coordination of efforts among different stakeholders**. The search for **consensus in diversity** is therefore a crucial component for achieving more inclusive, resilient, and sustainable AFS.

3.2.5. A balance between efficiency and risk management

In the current context, AFS face pressure to not only be efficient but also resilient (Pietrobelli & Seri, 2023). The capacity to adapt to disruptions such as the COVID-19 pandemic, trade tensions, and the emergence of disruptive technologies has highlighted the need to reconfigure global value chains. This reconfiguration requires AFS to be sufficiently flexible to quickly adapt to new circumstances, balancing efficiency with sound risk mitigation management, to ensure operational continuity and responsiveness in adverse scenarios.

Therefore, the strategy must integrate approaches aimed at optimal efficiency, as well as a solid capacity to adapt and recover.

Box 5. Brazil's ABC Plan: Production efficiency and risk management

Brazil's ABC Plan (2010–2020) is an outstanding example of an agricultural policy that integrated production efficiency and climate risk management goals. Its main objective was to reduce between 134 and 163 million tons of CO_2 equivalent by promoting sustainable practices in the agriculture sector.

The plan was broken down into seven strategic programs: recovery of degraded pastures; silvopastoral and silvoagricultural systems; no-till farming; biological nitrogen fixation; afforestation; treatment of animal waste; and climate change adaptation. One of its pillars was a soft credit line offered by the Brazilian Development (BNDES), which facilitated investment in clean technologies.

Its main achievements include:

- Recovery of 26.8 million hectares of pastures (179% of the target).
- Implementation of integrated systems on 10.76 million hectares (269%).
- Adoption of no-till farming on 14.59 million hectares (182%).
- Treatment of 38.34 million m^3 of animal waste (871%).

In total, measures were implemented on more than 54 million hectares and close to 197 million tons of CO_2 equivalent were mitigated, exceeding the initial target by 119%. In 2021, the program was renewed as the ABC+ Plan, setting even more ambitious goals.

For more information, see Agência Brasil (2021), Banco Central Brasileiro (2016), "Decreto No. 7390" (2010), and MAPA (2010, 2012, 2023).

Another example: In Chile, subsidized insurance measures, emergency funds, preferential credit, technologies, and early warning systems are combined to address agricultural risks, strengthening the sector's resilience (World Bank, 2021; García Sifontes, 2024).

To achieve a balance between efficiency and risk management, it is essential to incorporate **resilience policies that strengthen AFS' ability to cope with adverse climate conditions**. Such policies may include crop diversification, implementation of more efficient irrigation systems, restoration of degraded areas, adoption of sustainable practices that reduce environmental impacts, and the development of protection mechanisms against extreme events (see Brazil's ABC Plan in Box 5).

The new generation of AFS policies combine efficiency and resilience, ensuring adaptability and sustainability in response to emerging global challenges.

These actions not only contribute to ensuring more stable and efficient agricultural production, but also progressively reduce the impact of production activities on the environment, through the rational use of inputs, the generation of renewable energy, and the adoption of technologies with a smaller environmental footprint. Although many of these strategies require sustained efforts and create operational challenges, they offer increasing long-term benefits for the sector's sustainability.

A key component of this strategy is the design of financial mechanisms that help cushion the effects of extreme weather events. Instruments such as agricultural insurance, emergency funds, or conditional transfers can assist the most vulnerable stakeholders, ensuring faster and more effective recovery. These measures strengthen the system's adaptive capacity and cushion production investments from external shocks.

Balancing efficiency and resilience is key to protecting agrifood chains from crises and external shocks.

Adaptation and compensation for damage help reduce **vulnerability in value chains**. Companies and stakeholders within these chains seek not only competitive costs but also stability and the capacity to recover from disruptive events. Thus, efficiency is

no longer measured exclusively by the ability to produce at low cost, but also by the capacity to continue operations under adverse circumstances.

This provides greater **supply chain resilience** against global shocks. It also underscores the need for diversified and secure supply options. This balance between efficiency and resilience is crucial to ensuring that AFS respond effectively to fluctuations in the global environment.

A high-quality logistics infrastructure is another strategic factor that is essential for both efficiency and risk management. Improvements in infrastructure and logistics are crucial for maintaining competitiveness in a globalized market, while mitigating risks associated with food production and distribution, as well as strengthening the capacity of AFS to cope with disruptions.

Moreover, **policies for innovation and the development of human and social capital** are strategic for achieving this balance. Investment in advanced technologies and in training skilled human capital not only improves efficiency but also helps to mitigate risks inherent to agrifood production and distribution. The adoption of new technologies, coupled with continuous training, contributes to making AFS more competitive and resilient to current and future challenges. This includes the use of innovations in mechanization, digital technologies, and information systems, to support both production and distribution. Innovation in agrifood systems depends not only on technology, but also on institutional, organizational, and social factors that enable its effective adoption in diverse contexts (Klerkx et al., 2017).

One useful approach for structuring public decisions in diverse contexts is to distinguish between imperative policies (win–win and risk management), transitional policies (temporary and adaptive), and transformative policies (structural and long term). A similar proposal is made by Morris et al. (2020).

3.2.6 Scaling up strategically (by stages and levels of intervention) and prioritizing interventions

Transforming these systems effectively will hinge on establishing a robust decision-making and prioritization mechanism that facilitates timely interventions that complement the actions of the private sector and civil society.

Below is a possible example of an action or prioritization mechanism for State interventions that distinguishes between transitional policies, imperative policies, and transformative policies (See Box 6), recognizing the need to tailor State interventions to the realities of each country or agrifood system[22]:

Box 6. Examples of transitional, imperative and transformative policies

- **Transitional policies:**
  - Temporary subsidies for the adoption of sustainable or green technologies.
  - Gradual replacement of input subsidies with decoupled payments tied to environmental conditionalities.

[22] Another prioritization approach can be found in the report *Future Foodscapes: Reimagining Agriculture in Latin America and the Caribbean*, prepared and published by the World Bank, with support from institutions such as IFPRI, IDB, and IICA (Morris et al., 2020).

- **Imperative policies:**
  - Programs to improve irrigation infrastructure in drought-prone areas.
  - Safe agroindustry working conditions and the reduction of informal employment in agriculture.
- **Transformative policies:**
  - Sustained investment in agricultural research and development (R&D).
  - National programs for climate-smart agriculture and low-carbon technologies.

Source: Based on Morris et al. (2020).

- **Transitional policies:** These policies should be designed to facilitate the shift towards more sustainable and resilient systems, with the expectation that they will be phased out over time, as the desired objectives are achieved. This category also includes policies whose positive or negative impact is not yet well known, or for which there is insufficient evidence. A notable example of these policies is the temporary subsidies that are implemented for the adoption of sustainable technologies. These subsidies, are designed to incentivize the adoption of agricultural technologies that reduce the carbon footprint. Once producers have adopted these technologies and demonstrated their effectiveness, subsidies can be gradually reduced until they are eliminated.

  The principle of targeting formulated by Bhagwati (1971) is relevant in this context, as it establishes that the optimal policy instrument is one that acts directly on the problem to be solved, rather than doing so indirectly. In the case of food security, this principle suggests that support should be directed to people suffering from food insecurity, rather than to the crops or foods they consume. For example, a subsidy on maize or rice may be inefficient and generate negative side effects, without ensuring that resources reach those who truly need them. This approach reinforces the need for transitional policies to be applied, based on clear criteria regarding efficiency and targeting (Bhagwati, 1971).

- **Imperative policies:** These policies are indispensable because their benefits are assured or because they are needed to mitigate risks that could have catastrophic consequences. They are divided into subcategories, according to their characteristics (see concrete example in Box 7):
  - **Win–win policies:** Those that provide clear benefits without creating significant adverse effects. An example is the promotion of sustainable agricultural practices that reduce greenhouse gas emissions and improve climate resilience.
  - **Risk mitigation policies:** Those designed to reduce vulnerability to threats. A notable example is the improvement of irrigation systems in regions vulnerable

Transitional policies are temporary support measures that are discontinued once the objectives have been achieved.

The ideal instrument tackles the problem directly. For example, if the issue is hunger, then the affected person should be the direct recipient of the subsidy.

Imperative policies include essential measures that ensure benefits or mitigate risks.

to drought, which mitigates the impact of recurrent droughts and helps ensure food security in critical areas.

- **Transformative policies:** These are fundamental for long-term strategic development. One example is policies that foster investment in R&D to improve the sector's productivity and sustainability.

Transformative policies drive long-term change, by fostering innovations such as R&D. Others, such as agroecological practices and alternative diets, may face challenges with respect to their feasibility or may be met with cultural resistance.

Others, such as those that implement agroecological practices, may promise environmental and economic benefits but generate controversy surrounding their large-scale economic viability. Likewise, the promotion of plant-based diets may face resistance in some sectors, due to cultural preferences and a lack of consensus on their impact on health and the local economy.

This action and prioritization framework may assist countries to adapt policies according to their urgency and expected impact.

Box 7. Bioinputs in Argentina — An example of an imperative policy with multiple benefits

The Argentine Agricultural Bio-inputs Program (PROBIAAR), launched in 2021, promotes the development and use of bio-inputs through non-reimbursable funding for projects led by SMEs, cooperatives, subnational governments, and science and technology entities. It is part of a national plan that seeks to replace chemical inputs with less expensive products that have a lower environmental impact, thereby reducing import dependence.

In addition to promoting innovation and training, PROBIAAR fosters the creation of official producer registries and regulations that facilitate registration of artisanal family farming bio-inputs. These measures, coordinated with SENASA, incorporate criteria that evaluate efficacy, human health, and environmental sustainability.

The strategy aims to develop a more efficient, accessible, and sustainable agriculture sector, which will positively affect food security and territorial development.

For more information, see: Aramendis et al. (2023), Bullor et. al (2023), and MECON (2023).

3.3 The need to innovate in the design and implementation of policy instruments

The previous sections have explored key attributes that a new generation of policies should incorporate, as well as the urgent need to rethink traditional strategies to adapt them to today's complex challenges. This section will focus on how to transform and design policy instruments so they can generate the structural changes needed in AFS.

3.3.1 Refocus policy instruments to prioritize the generation of public goods

The key challenge in moving towards a new generation of agrifood policies is to prioritize public goods over private goods for sustainable development.

One of the main challenges in the transition to a new generation of policies for agrifood systems (AFS) is the need to refocus policy instruments to prioritize the generation of public goods, which have a significant and lasting impact on the sector's development (Conroy et al., 2024). In this context, policies focusing on private goods would be considered **transitional**, with a view to gradually redirecting resources towards public goods, which fall within the category of **transformative policies**.

Evidence demonstrates a direct relationship between the share of public spending allocated to public goods—such as research, infrastructure, and phytosanitary control systems—and better performance in the agriculture sector. In contrast, spending on private goods—such as production inputs, price support, and direct payments—while necessary in the short term, should be treated as transitional policies that facilitate the shift towards a more sustainable and public-goods-oriented approach (see Box 8).

Box 8. Redirecting public agricultural expenditure toward public goods

Did you know that support to the agriculture sector in Latin America and the Caribbean still depends heavily on policies that cause distortions, while investment in key public goods is decreasing? Redirecting expenditure is a matter of urgency.

According to the 2023 report on agricultural policies in Latin America and the Caribbean (LAC) by the Inter-American Development Bank (IDB), public agricultural expenditure (PAE) in the region represents, on average, just 5% of agricultural GDP, but nearly 16% of the total support estimate (TSE), which also includes price support. This reveals a strong dependence on price-distorting policies and limited use of budgetary instruments that foster public goods.

Moreover, in 17 LAC countries, average budgetary investment over the past three years, based on available data, is lower than in the three preceding years. This is concerning, given the fact that PAE includes key elements such as sanitary and phytosanitary services, rural infrastructure, and research and extension systems, all of which are key to improving the sector's productivity and sustainability.

In contrast, countries such as those in the European Union, the United States and Canada channel almost all their support to the sector through budgetary resources, with PAE representing nearly all of the TSE, suggesting a more efficient, equitable structure that causes fewer distortions. This analysis highlights the need to redirect support to LAC's agriculture sector toward the provision of public goods that benefit all producers and enhance the resilience of the agrifood system.

Source: Conroy et al., 2024.

Different studies have found that public agricultural expenditure does not have a significant positive effect on the sector's GDP. However, allocating expenditures to "non-social subsidies" or "private goods" generates negative effects, while devoting a greater share to "public goods" (such as investment in R&D, control of plant and

Reallocating 10% of agricultural expenditure to public goods raises agricultural value added per capita by 5%; achieving the same effect without altering the expenditure mix would require increasing total expenditure by about 25%.

animal diseases, and environmental protection) yields positive impacts (Allcott et al., 2006; Anríquez et al., 2016). The latter study, which was later expanded to include additional years and countries using the IDB's updated Agrimonitor data on agricultural expenditure, shows that increases in total public expenditure—when the expenditure mix between public and private goods is kept constant—have a relatively small impact in terms of promoting agricultural sector income.

On the other hand, redirecting the expenditure mix toward public goods, while keeping total expenditure constant, has a much greater impact on per capita value added in the sector. For instance, it was estimated that shifting 10 percentage points of the agricultural budget from private to public goods, while keeping total expenditure constant, increases agricultural value added per capita by around 5 percent; achieving the same increase without altering the expenditure mix would require boosting total expenditure by roughly 25%.

Thus, the distribution of expenditure between public and private goods is crucial for sector performance. A significant share of current public expenditure allocated to private goods could be redirected towards public goods, thereby strengthening **transformative policies** that ensure a long-term impact.

Transitioning toward modern agrifood policies will require shifting public expenditure from subsidies to incentives aimed at achieving sustainable results, such as productive, environmental and market improvements.

Evidence suggests that greater investment in public goods, such as infrastructure, research and development, agricultural extension services, and phytosanitary control systems, is key to improving overall performance in the agriculture sector and ensuring sustainable and equitable growth. Chile's SIRSD-S program, presented in Box 9, offers a concrete example of an agro-environmental policy with a results-based approach.

Redirecting public expenditure toward the generation of public goods is closely linked to the challenge of transitioning from traditional State interventions via subsidies to more efficient and sustainable incentive mechanisms. A fundamental difference between **subsidies and incentive**s lies in their focus: current subsidies, though sometimes necessary in the short term, focus on production or market inputs, such as fertilizers or prices, whereas incentives are geared toward achieving **results**, such as improvements in soil and water quality and biodiversity.

Can public incentives actually change production practices? The box shows how Chile achieved this through a results-based approach.

Subsidies have historically been used to offset adverse market conditions and support key sectors. However, they have often encouraged practices that, although productive in the short term, harm the environment or distort markets by expanding production activities that do not necessarily generate more jobs and general income.

Box 9. Case: SIRSD-S (Chile): Results-focused incentive

Chile's System of Incentives for the Agro-environmental Sustainability of Degraded Soils (SIRSD-S), implemented by its Ministry of Agriculture, is a representative example of a conditional incentives policy geared toward sustainable results.

The system offers co-financing for sustainable practices such as minimum tillage, compost use, stubble incorporation and improved fallow. Payment is subject to the effective implementation of these practices, as verified by technical entities (INDAP or SAG), which emphasizes its focus on concrete results.

An empirical study (Bopp et al., 2019) assessed the effectiveness of the SIRSD-S incentive by considering both producers' intrinsic motivation and their perception of the risk of erosion. The results show that:

- The incentive was most effective among producers with low intrinsic motivation.
- Producers with high intrinsic motivation adopted sustainable practices even without the incentive.
- Perception of risk and perceived capacity to address soil erosion increased adoption.

This case shows that economic incentives can be effective if they are results-driven, conditional on verifiable practices, and geared toward those who need them most, thereby maximizing the impact of public expenditure.

Source: Based on Bopp et al. (2019).

Conditionality in agrifood policies ties incentives to clear environmental and social goals, ensuring the sector's sustainability through compliance with practices that protect ecosystems and foster productivity.

A key element that should be taken into account in restructuring traditional subsidies is conditionality; in other words, the awarding of incentives should be contingent on performance and the achievement of clear environmental and social objectives. For example, payments could be conditional on maintaining or improving soil quality, reducing pollution from agrochemicals, or protecting biodiversity. It is also crucial to prioritize investment in research, development and innovation (R&D&I), as well as the adoption of advanced methodologies such as climate-smart agriculture (CSA) and nutrition-smart agriculture (NSA). This would allow for simultaneously achieving productivity, ecosystem preservation, and long-term nutritional improvement objectives on a sustained basis.

The transition from subsidies to incentives must also consider both market and non-market mechanisms. The former may include tax credits, payments for environmental services, or preferential prices for sustainable products, while the latter may involve the provision of infrastructure, training and technical support that fosters more sustainable practices among small and medium-scale producers (See evidence synthesis in Piñeiro et al., 2020).

The effective integration of social and production policies in rural areas is crucial to ensure that temporary support evolves into sustainable income opportunities and sectoral development, especially in times of crisis.

3.3.2 Complementarity between social policies for direct support and production policies

Ensuring adequate integration between social policies that provide direct support and production policies is one of the main challenges in designing effective public policies. In rural areas, this complementarity is even more necessary to ensure that

vulnerable populations not only receive temporary support, but can also be integrated into production activities that generate sustainable income and contribute to the development of the agrifood sector.

The COVID-19 pandemic and subsequent climate and geopolitical crises have highlighted the urgent need to expand social protection, especially in rural areas, where the socioeconomic impacts have been most severe. However, social policies alone are not sufficient to generate structural changes in the sector. These policies must be strategically tied to productive inclusion programs that provide beneficiaries with tools and resources to improve their production capacities, as well as access to markets and technologies. Integrating social and production policies creates synergies that foster sustainable and equitable development, thereby contributing to the resilience of rural populations in the face of future crises (ECLAC et al., 2021).

Conditional cash transfer programs, for instance, which alleviate poverty in the short term, could be more effective if they are linked to production outcomes, such as the adoption of sustainable technologies, technical training, and access to resources that foster agricultural production.

Policy instruments that combine social support with production incentives can contribute to driving structural transformation that strengthens the capacities of small-scale producers, promotes equality, and ensures more inclusive and sustainable growth.

3.3.3 Strengthening the role of markets

Markets play a key role in sustainable development, by connecting agrifood systems (AFS), optimizing the use and distribution of resources and food, stabilizing prices, and improving sectoral productivity and resilience.

Markets, in their various forms, play a crucial role in the sustainable development of AFS (; FAO et al., 2023; Rodríguez Sáenz et al., 2021). They connect AFS at the global and national levels, moving food and other products from surplus regions to deficit ones, which is key to ensuring their availability, access, use and stability and, in turn, neutralizing negative shocks caused by climate, diseases and other factors. This not only improves food availability, but also promotes a mor stable supply and dietary diversity, contributing to balanced nutrition and the overall health of the population. Markets also help stabilize prices, by facilitating the movement of products between different regions, which in turn makes food more affordable, especially for vulnerable populations. This economic access to quality food is key to combating hunger and malnutrition, while improving health standards through regulations and quality controls.

Moreover, markets play a fundamental role in boosting agrifood productivity. By transferring knowledge, technologies and best practices, they increase efficiency and sustainability in the agrifood sector and strengthen resilience in the face of global challenges.

Lastly, markets enable a more efficient allocation of resources, fostering production in regions where high-quality resources are abundant and production is more efficient and sustainable. This, in turn, contributes to the long-term resilience and sustainability of AFS.

Policies must foster a fair, efficient and resilient trade environment[23] in order to strengthen the role of markets in the sustainable development of AFS. To that end, they should promote international trade agreements that facilitate trade, establish food quality and safety standards, and encourage sustainable practices, among other things.

It is also important to conclude pending agricultural negotiations and, as a **matter of urgency**, to limit export restrictions during times of crisis, to ensure a continuous flow of food during emergencies. In that regard, a **comprehensive and strategic policy** could involve the implementation of a global labeling system, along with greater mutual recognition of sanitary and phytosanitary measures, which can improve transparency and food safety worldwide.

Finally, at the national level, it is necessary to consider the impact of trade barriers and, as part of a long-term **strategic policy**, to streamline logistics in the food supply chain through digitalization and regulatory convergence. This should be complemented by fiscal, monetary, and exchange rate policies that ensure a stable economic environment.

3.3.4 Endogenous and low-cost solutions as a financing strategy

Endogenous financing strengthens AFS by capitalizing on a community's own resources, such as local knowledge, labor and existing infrastructure, generating financial autonomy, sustainability and resilience.

In a context of limited fiscal resources, **endogenous and low-cost solutions** are key instruments to strengthen the financing of AFS (ECLAC et al., 2021). This approach fosters the mobilization of internal capacities within communities and territories, optimizes available local resources, and generates more sustainable and resilient interventions.

These solutions focus on **making better use of local resources**, such as traditional knowledge and existing infrastructure, which reduces costs and improves the efficiency of initiatives. Involving communities in management and decision-making ensures that local needs are better met, which, in turn, strengthens the sustainability of projects.

In addition, endogenous solutions foster the **development of local capacities** to create new technologies and sustainable practices that improve productivity. They also promote **low-cost**, accessible and high-impact innovations, such as efficient irrigation systems and agroecological techniques, which allow for increasing production without having to increase investments.

Fostering **local networks and partnerships** among farmers, cooperatives and community stakeholders is another relevant action that would facilitate the pooling of resources and knowledge, as well as increase the effectiveness of initiatives. An example is the Mancomunidad de *Municipios del Centro de La Paz* (MAMCEPAZ) association in Honduras, which mobilizes resources from local governments and community stakeholders to implement sustainable projects, with complementary support from international cooperation (see Box 10). This approach reduces dependence on external financing, makes communities less vulnerable to international economic fluctuations, and ensures the long-term sustainability of initiatives.

[23] A more detailed proposal of policies that can strengthen the role of international trade is available in Arias et al., (2024).

Public policies can therefore focus on creating an enabling environment that incentivizes the use of local resources, strengthens self-financing, and empowers communities, for example by:

- **Creating and expanding cooperatives** and producers' associations, which would allow for pooling resources, sharing technologies and knowledge, and reducing production costs.
- **Creating revolving funds** and savings and credit cooperatives, enabling producers to self-finance and reinvest in their projects.
- **Promoting the adoption of low-cost sustainable practices**, such as agroforestry and crop rotation, which not only improve productivity but also reduce dependence on external inputs. This can be achieved by facilitating access to microcredit opportunities and providing technical assistance to optimize the use of local resources.
- **Encouraging crowdfunding mechanisms** that enable communities to finance sustainable projects, such as agricultural infrastructure, irrigation systems, or initiatives aimed at reducing negative environmental impacts and improving productive resilience. Green bonds, which are primarily issued by public entities, can play an important role in attracting investment for projects that have positive environmental impacts and promote sustainable agrifood practices.
- **Promoting the creation of local markets** for sustainable products, in order to strengthen local economies and encourage responsible consumption.

One example of endogenous financing is a self-managed revolving fund established by a farming community with local contributions, aimed at financing drip irrigation systems and agroecological techniques to lower costs and reduce dependence on external credit.

Box 10. Mancomunidades in Honduras: Local financing with a sustainable impact

A concrete local financing experience that strengthens agrifood system autonomy and sustainability.

The *Mancomunidad de Municipios del Centro de La Paz* (MAMCEPAZ) association is comprised of seven municipalities in the department of La Paz, namely La Paz, Cane, San Pedro Tutule, Santa María, San José, Chinacla and Marcala. Its scope of influence spans 907 km² and a population of 130,000 inhabitants.

The main objective of the association is to foster sustainable development through a participatory process aimed at solving a series of issues that affect the municipalities and harnessing available resources. Each municipality allocates financial resources in its annual budget so that the *mancomunidad* can operate with the necessary human resources and cover its operating costs.

In its activities, the mancomunidad involves public stakeholders, international cooperation, civil society, organized groups, rural savings groups and SMEs, among others.

The *mancomunidad* has received funding from international organizations such as the World Bank, the Inter-American Development Bank, and KfW (the German Development Bank), among others, as well as from national public bodies, to carry out various projects.

Source: Based on ECLAC et al. (2021).

3.3.5 Comprehensive use of available financial sources and instruments

It is crucial to secure the financial viability and feasibility of agrifood policies to ensure that they actually materialize. However, a summary of the UNFSS+2 *Stocktaking Moment* in 2023 (UN, 2023) showed that only 29% of surveyed countries reported having an "investment/implementation plan" and only 33% indicated they had identified the "cost of their implementation plan".

Only 29% of countries surveyed by UNFSS+2 in 2023 reported having an investment plan for agrifood policies.

Countries must therefore complete this exercise individually, based on comprehensive plans that account for all the dimensions discussed in previous sections, while also taking costs and financing into consideration.

To succeed in this regard, public policies must take into account six key financial flows[24] (Díaz-Bonilla, 2023a, 2025), both within and outside of[25] AFS.

The **first flow**, within AFS, comes from **consumers**. Policies can optimize interventions that influence prices and market preferences without any distortions, promoting healthy and sustainable diets, such as through front-of-pack labeling and consumer education. It is a recognized fact that the entire agrifood system is fundamentally driven and transformed by what consumers demand.

The six key financial flows include consumer spending, income in value chains, international funds, public budgets, banking system credit and financing via capital markets.

The **second financial flow** complements the first: consumer spending is the income of **value-chain** stakeholders, who use it for their various productive and commercial activities. Public policies can guide production and investment decisions in these chains by promoting financial instruments that facilitate a greater flow of resources between the various stakeholders, from production to marketing and points of sale. Governments also apply regulations and controls related to health, nutrition, food safety, labeling, advertising, environmental conditions (including eliminating deforestation and reducing food loss and waste), labor conditions, fair competition and other objectives.

The **third financial flow** is external to AFS and comes from **international development funds (bilateral, multilateral and philanthropic)**. Countries in the region can work together to expand and use these funds more strategically. To that end, they can engage in discussions with multilateral development banks to increase their lending capacity (by changing financial policies to increase leverage, for example, through capital increases).

[24] This flow-based approach involves the application of the national accounts framework of social accounting matrices (Pyatt and Round, 1985).

[25] The idea of "within" or "outside" of AFS should be understood as a simplification to organize information on flows.

In 17 LAC countries, average agricultural budgetary investment over the last three years has been lower than in the previous three years (Conroy et al., 2024). This reveals that there has been a setback in public support to the sector.

There are also international financial and environmental negotiation forums that address issues such as climate funding, carbon market incentives, and compensation mechanisms for adverse impacts. In all cases, international public resources must also be used more strategically to mobilize financial resources from global private capital markets, such as through guarantees that reduce risks associated with specific projects and through the issuance of thematic subsidies (social or environmental) that can support investments addressing broader humanitarian and development objectives. International public resources should also be used more strategically in the context of the Special Drawing Rights (SDRs) of the International Monetary Fund (IMF).

The **fourth flow** consists of **public budgets**, where the challenge involves capturing sufficient resources[26] and allocating them efficiently and in alignment with the goals and objectives established in key sectors like agriculture, infrastructure, social protection, health and climate action. Policies must ensure that resources are distributed in a way that supports sustainable development goals and thus promotes inclusive and equitable growth, which implies a greater allocation of resources to generate public goods.

The **fifth financial flow** comes from the banking system. Policies should foster financial inclusion and drive collaboration between development banks and other financial institutions. This will not only facilitate access to credit for small-scale producers and agrifood enterprises, but will also spur investments in sustainable technologies and practices. New-generation policies that apply the approaches and instruments discussed in this document should create conditions that enable commercial and development banks to channel more resources toward AFS.

The viability of agrifood policies depends on strengthening all six financial flows to achieve impact and sustainability.

Finally, the **sixth financial flow** is the capital market. Here, the priority is to develop instruments such as green and similar bonds to facilitate financing for sustainable projects, as well as to drive the digitalization of AFS. Policies must establish a general incentives framework that reduces investment risks and encourages participation in capital markets that support initiatives aligned with the economic, social, and environmental objectives of modern AFS.

In short, the financial viability and feasibility of agrifood policies depends on a comprehensive approach that strengthens and optimizes all six financial flows[27].

[26] Public Agricultural Expenditure represents 5% of agricultural GDP. In 17 LAC countries, average budgetary investment over the last three years has been lower than in the previous three years (Conroy et al., 2024).

[27] A more detailed discussion can be found in Díaz-Bonilla (2023b, 2023d.).

IV. TOWARD A TRANSFORMATIVE GOVERNANCE OF AGRIFOOD SYSTEMS[28]

Transforming agrifood systems requires shifting from *what* and *why* to *how* and *with whom*. This involves strengthening public institutional capacity, broadening the perspective beyond the Ministry of Agriculture, and driving effective coordination between multiple sectors and stakeholders. In LAC, the institutional framework has evolved from a sectoral, production-focused model toward more complex, multisectoral and results-driven arrangements. The key lies in incorporating strategic planning, specialized services, productive linkages and territorial development, as part of a coordinated and flexible governance structure that considers the full programming–execution–control cycle.

The previous sections discussed the changing role of agriculture (broadly speaking) in development strategies, the expansion of expected objectives for the sector, shifts in the global context, and potential policy approaches to address these transformations. While earlier sections examined what needs to be done to move forward and why, this section focuses more on how and with whom—with special emphasis on public institutional arrangements. Public institutions in this context would be the ministries, agencies and organizations through which political, economic and administrative authority is exercised to manage the country's affairs related to the agrifood sector in its broadest sense. Agricultural activity is increasingly being regarded as part of a more complex and expansive agrifood system (AFS), with national and international linkages and policy demands that have broadened significantly. This has had important implications for the institutional and organizational models of ministries of Agriculture and Livestock (MAGs, according to the acronym in Spanish)—including what can be called the Public Agricultural Sector (PAS)—and for their interactions with the rest of the public and private institutional landscape.

The focus shifts from "what and why" to "how and with whom," highlighting the central role that public institutions play in AFS governance.

The following section begins with a brief overview of the institutional framework of MAGs[29], in light of changing paradigms and the emergence of new sectoral and cross-cutting topics. Throughout history, MAGs have transitioned from "production and sector-focused" to "multi-objective, multisectoral" ministries. This is followed by a more detailed discussion of the institutional framework of MAGs in this new context, describing their internal dimensions and external linkages. Lastly, the section presents a broader idea of what the "institutional framework" of AFS as a whole (which includes but goes well beyond MAGs) might look like, if it were to move beyond just organizational charts and duties by incorporating the full programming–execution–control (PEC) cycle.

[28] This section is based in part on Díaz-Bonilla (2023c, 2025).

[29] In this document, "MAGs" refers to ministries and agencies within the PAS whose mandate is directly tied to the agriculture sector. A distinction can be made between public bodies that operate directly in the agriculture sector (which includes fisheries and forestry) and others whose operations have significant implications for the sector but that do not have it as an explicit mandate. Similarly, various analyses differentiate between public expenditure "in" (or specific to) the agriculture sector and expenditure "for" (or in support of) the sector.

4.1 History

Postwar – Production-oriented model and ISI: MAGs focused on increasing the production of staple foods, subordinated to industrial development. Support via directed credit and decentralized agencies.

As noted earlier, as new social, economic and environmental challenges emerged, policies and institutional structures began to evolve from a production-oriented model toward more comprehensive approaches, subsequently integrating value chains, the bioeconomy and sustainability. The analysis highlights how global and regional changes have driven institutional transformations, revealing the complexity and challenges of achieving coordination between multiple sectors and stakeholders within AFS.

During the postwar period, which was dominated by an import substitution industrialization (ISI) strategy in which the agriculture sector's role was subordinate to industrial development, MAGs focused on maximizing the supply of a limited number of basic food products for nutrition, as well as a few key export commodities.

At the same time, **high** inequality in Latin America and the Caribbean spurred various smallholder-led movements in relation to land. This resulted in agrarian reform and the creation of land settlement entities promoted in the 1960s by the Alliance for Progress, which generally operated as decentralized bodies separate from MAGs. On the other hand, the technological advances of the Green Revolution led to the establishment of agricultural research institutes beginning during the same decade, while several countries promoted irrigation development through agencies operating independently from MAGs.

1960s and 1970s – Agrarian reform and the Green Revolution: Emergence of agrarian reform and technological entities. Fragmented institutional framework with separate duties for MAGs.

This period was characterized by **"production-oriented, sector-focused" MAGs.** These ministries were organized around general, cross-cutting services (such as statistics, extension, sanitary and phytosanitary matters, marketing, and others), while activities such as research, agrarian reform, and irrigation were assigned to **decentralized entities** with varying levels of dependence on the sectoral ministry. A more complex network of state-owned agribusiness companies also emerged, operating with greater autonomy in the domestic and international marketing of agricultural products and inputs.

The sector's institutional framework was also comprised of public agricultural banks that managed directed credit and subsidized lending for agricultural production, financed through international loans or rediscount operations from central banks. MAGs and related entities operated within the framework of development, macroeconomic and trade policies under ISI, which began to be criticized in the 1970s for its "anti-agriculture bias". Directed credit through public banks was also criticized for stifling the development of rural financial markets and for the fiscal costs and operational problems of public banks (a summary of these debates can be found in Díaz-Bonilla, 2015).

1970s and 1980s – Integrated Rural Development (IRD): Multisectoral programs for small-scale producers. Coordination led by presidential offices. Territorial focus and inter-institutional networks.

In the mid- and late-1970s, sharp increases in food and commodity prices heightened fears of famine. At the same time, the **production-oriented** approach did not seem to address broader social issues. This gave rise to development approaches that focused on the rural poor (Chen and Evers, 2023) or on broader "basic needs" (Streeten and Burki, 1978), laying the foundation for the UN's **Human Development**

Index (first published in 1990), the **Millennium Development Goals** approved in the year 2000, and the **2030 Agenda** in 2015.

The **Integrated Rural Development Programs** (IRD) of the 1970s and 1980s combined support for small-scale producers (through technology and credit opportunities) with a territorial development approach that emphasized infrastructure, health, education and other services at the local level. This approach led to the creation of CRDP secretariats or equivalent entities, which often reported to high-level authorities (such as the Office of the President) and were empowered to convene and coordinate the work of MAGs and other ministries and public agencies.

While MAGs had traditionally focused on specific commodities, IRD highlighted the differences between subsistence farmers, moderately competitive family farmers and commercial producers. A recurring debate has been whether to support "modern" producers with greater potential in terms of efficiency and productivity, or to prioritize small-scale and family producers for reasons related to equality and poverty reduction. However, rather than choosing one or the other, it is important to develop differentiated approaches tailored to different types of producers, under a consistent policy framework for the sector. As a result, at least three types of institutional innovation modalities emerged:

a) separate units for small-scale/family producers within MAGs, in some cases under the concept of rural/territorial development;

b) separate ministries for small-scale/family producers and for commercial producers;

c) the transfer of subsistence or small-scale agricultural producers to social assistance or social development ministries.

Another aspect of IRD was their emphasis on territorial development, given that projects involving small-scale farmers were implemented in specific geographic areas that required infrastructure and public services at the local level. This gave rise to a variety of **territorial/rural development approaches**, with various institutional and operational structures, that sought to facilitate coordination between multiple ministries and public institutions at the local level, and with subnational governments and local social organizations. Many of these territorial approaches extended beyond agricultural production, underscoring the importance of non-agricultural rural activities as components of rural development.

1980s – Crisis, structural adjustments and weakening MAGs: Adjustments reduced the State's role. Public banks and agencies disappeared or were privatized. Weakened MAGs, but agricultural health gained relevance.

In the 1970s, commodity price shocks led to broader food programs in which the production component was linked to various mechanisms for consumer support. In the late 1970s and early 1980s, public food marketing and food retail entities expanded. One such example was Mexico's National Food System (SAM) in the early 1980s, which included a wide range of programs overseen by a high-level institutional authority aimed at coordinating the work of multiple public entities.

TIn the case of both IRD and these national food programs, MAGs had to interact with other public entities as part of a broader inter-institutional network, which

required support from various coordination mechanisms. Institutional coordination experiences revealed difficulties in achieving a harmonious public sector in the pursuit of proposed objectives. This was one of the many reasons for which these programs were discontinued in the 1980s and 1990s.

Furthermore, in the early 1980s, the United States and Europe changed their monetary policies to combat inflation—raising the high interest rates of the 1970s—which triggered the global recessions of 1980 and 1982, the collapse of commodity prices in the second half of the 1980s, and the debt crisis in developing countries. Debates over the ISI approach, coupled with the crisis of the 1980s (the "lost decade", a term coined by ECLAC), led to a broad review of policies in Latin America and the Caribbean. The so-called **Structural Adjustment Programs** (for more general economic matters) and the **Sectoral Adjustment Programs** (for agriculture, based on the 1986 World Development Report by the World Bank) of the 1980s and 1990s resulted in the restructuring, privatization or disappearance of numerous public enterprises, agencies and banks within the agricultural institutional system. In many countries, MAGs grew significantly weaker. However, **agricultural health and food safety** agencies gained a more prominent role, especially in relation to export markets. In several cases, land agencies shifted from agrarian reform toward facilitating land markets and land titling. On the other hand, National Agricultural Innovation Institutes (INIAs) strengthened their engagement with producers' organizations and private input suppliers in designing and implementing technological development programs.

1990s – Agro-value chains and agribusiness: Integration of value chains. Institutional debate regarding whether agribusiness should fall under the purview of MAGs or ministries of industry. Emergence of competitiveness councils.

During the 1990s, rising urbanization and greater participation by women in the labor force boosted demand for "convenience diets" consisting of processed foods and meals consumed outside the home. This period saw the **expansion of agribusiness**, supermarkets and food service chains, involving both national and multinational companies. The fact that primary agricultural products are part of more complex production systems (including packaging, transport, processing, marketing, distribution, consumption and even waste management) led to the emergence of the concept of "production chains" or "**agri-chains**" within the context of the agriculture sector. This approach, associated with the concept of "agribusiness" in the United States and "filières" in France in the 1960s and 1970s, began to spread as a new framework for agricultural policies during the 1990s.

2000s–2010 – Food and Nutrition Security (FNS), social programs and new demands: Emergence of FNS secretariats, transfer programs and coordination with the field of social development. Expansion of biofuel and sustainability agendas.

From an institutional perspective, the **chain approach** raises the question of whether agribusiness should correspond to ministries of Agriculture (which would then become ministries of Agribusiness) or ministries of Industry. This has resulted in the creation of competitiveness councils organized by value chains (or similar entities), involving relevant public bodies and organizations from the private production sector (Sotomayor et al., 2023). In addition, regardless of their structure, there is still uncertainty regarding which ministry (Agriculture, Industry or another) should be responsible for coordinating these councils.

More recently, the "**bioeconomy**"—a concept that, as noted earlier, encompasses and expands on traditional value chain elements by including both food and non-food agricultural products—poses similar organizational challenges in terms of how traditional ministries of Agriculture should engage in coordination with other ministries

whose functions go beyond primary production. Argentina's recent experience with the attempted creation of a Ministry of Bioeconomy is one example, as is the role of ministries of health in relation to biomedicine, or ministries of energy in relation to biofuels.

The **Uruguay Round trade negotiations** that led to the establishment of the World Trade Organization (WTO) in 1995, particularly the agreements on Agriculture, Sanitary and Phytosanitary Measures, Technical Barriers to Trade, and Intellectual Property Rights, among others, also highlighted the need for coordination between MAGs and ministries of Foreign Affairs and Trade.

Persistent poverty prompted the introduction of **transfer programs** (conditional and unconditional), in which Latin American countries were pioneers. These programs underscored the need for driving coordination between MAGs and ministries of Social Development (or similar agencies) in the implementation of activities geared towards poor producers. As previously mentioned, this also led to institutional arrangements under which responsibility for subsistence farmers was transferred to ministries of Social Assistance or Social Development.

The price shocks of 2008 and 2011 reignited concerns about "food security". This led to the reestablishment or strengthening of public agencies for food marketing and retail distribution, as well as the development of detailed **Food and Nutrition Security** (FNS) strategies, plans and programs in most countries, including laws recognizing the right to food. Many countries also created parallel institutional structures, such as FNS secretariats that report to the Office of the President or other high-level entities. However, these FNS secretariats tend to be institutionally weaker than the integrated rural development programs of the 1970s and Mexico's Food System of the 1980s. A well-known challenge—often called "the food policy dilemma"—is aligning consumer-oriented food security and nutrition objectives (which are generally aimed at addressing income-related issues and propose maintaining low prices) and objectives related to supporting producers to increase supply (which requires higher prices).

While in the 1960s and 1970s the focus was on "**caloric diets**" (due to fears of famine), in the 1990s attention shifted to "**convenience diets**" (due to urbanization and greater participation by women in the workforce). In recent years, however, greater emphasis has been placed on "**healthy diets**", due to rising rates of overweight, obesity and associated noncommunicable diseases (diabetes, cardiovascular diseases and some types of cancer).

The price shocks of 2008 and 2011 also sparked debates regarding the **production of biofuels** and the food-versus-fuel issue, raising the question of whether such policies should be managed by MAGs or ministries of Energy (or similar institutions).

Beginning in 2015, various international processes have promoted the development of sustainability and food system transformation strategies. As previously mentioned, in 2021 the Committee on World Food Security (CFS) encouraged countries to develop "**National Pathways**" comprised of coordinated action proposals, and institutional

Since 2015 – Sustainability, climate and fragmented governance: Emergence of "national conveners" and "focal points". The challenge: driving coordination between production, sustainability, health and nutrition with weak institutions.

Institutional challenge: aligning production and employment with environmental sustainability and health/nutrition in agrifood systems (AFS).

roles such as "**national conveners**" were established to facilitate coordination between government sectors (and in some cases non-governmental stakeholders). Other multilateral processes, in turn, fostered the appointment of "**focal points**" responsible for coordinating national plans linked to environmental negotiations.

This has posed challenges in terms of driving coordination between two separate institutional structures. Additionally, both the national food-system conveners and the focal points for climate change and environmental negotiations tend to be institutionally weak.

The **institutional challenge**, therefore, involves **aligning the issues of production, employment and income-generation** with two additional requirements: **environmental sustainability and resilience** on the one hand, and **health and nutrition** on the other. The following section begins by analyzing institutional aspects of MAGs, and subsequently discusses different aspects related to the institutional operation of AFS.

4.2 Ministries of Agriculture

Ministries of Agriculture today face a complex network of internal and external linkages, which demands effective multisectoral coordination.

Figure 6 illustrates the current institutional complexity of MAGs, due to evolving themes and interconnections, such as the following:

a) MAG and its internal departments;

b) related, autonomous or decentralized entities that are directly involved in agricultural issues;

c) linkages with other ministries and public entities whose activities have a direct impact on the sector;

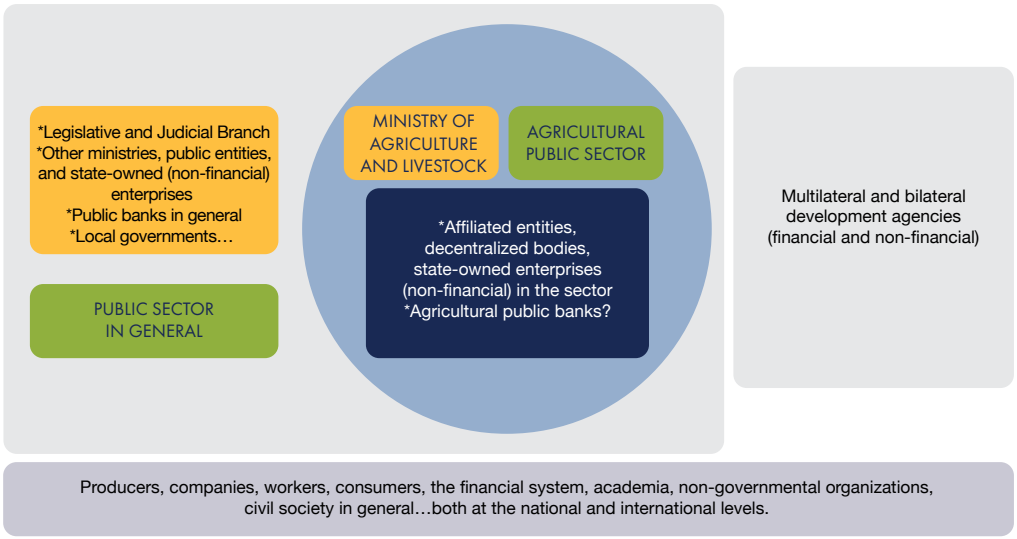
d) multilateral and bilateral development organizations (financial and non-financial); and

e) the private sector and civil society in general, both at the national and international levels.

Food and Nutrition Security (FNS) and social issues: A core dilemma in agrifood policy is whether to support producers through high prices or protect consumers through low prices.

While Figure 6 illustrates the various stakeholders, it is also important to account for thematic external linkages, including ties to the **general economic policy**. An important point to consider is how MAGs interact with macroeconomic policies and development strategies, which in many cases have a greater impact on the performance of the agriculture sector and AFS than sector-specific production policies (see, for example, Díaz-Bonilla, 2015).

Figure 6. Conceptual framework



MAGs operate within a complex network of public, private and international stakeholders involved in the agrifood system.

Source: The authors.

There are at least two aspects worth mentioning with respect to **food and nutrition security** (FNS) and social issues. The first is the dilemma involving agricultural and food security policies that was previously mentioned, between maintaining high prices to support producers and low/affordable prices for consumers. This dilemma is particularly visible in trade policy: tariff protection and related measures increase domestic agricultural prices and are the main policy instrument in many countries of the region[30]. The second aspect is how MAGs fit into the broader frameworks of national FNS policies and programs, from both an institutional and operational standpoint.

Environment and climate change: MAGs must coordinate with ministries of the Environment on biodiversity, climate, water and agricultural resilience issues.

MAGs are also tied to **environmental issues**. Most countries have ministries ofthe Environment with varying jurisdictions. In many cases, these ministries are responsible for natural resources (including water, forests, fisheries and biodiversity conservation), meteorological aspects, extreme weather events, and climate negotiations (which are highly relevant for mitigation, adaptation and resilience in the agriculture sector).

MAGs also perform functions related to **health** issues, while ministries of Health cover various food safety aspects from the perspective of consumers. These issues, in turn, are also tied to production aspects with implications for human health, such as the use of growth hormones in food animals, pesticide residues resulting from pest and disease control, and related concerns. It has been argued that a comprehensive approach is needed to address these linkages, given that they cannot be effectively addressed in isolation. Once again, this raises the question of which institutional structure would be most appropriate to implement such an approach.

Health: MAGs must collaborate with health ministries on food safety and production matters that affect human health (such as agrochemicals or hormones).

MAGs may also have duties related to other **sectors**, such as public entities involved in territorial development, export promotion commissions and competitiveness and

[30] Argentina's approach is the opposite: it applies export taxes, which benefit consumers and harm producers.

A comprehensive approach is required, ensuring that agriculture, health and the environment work together under a clear institutional arrangement.

investment agencies, among others. Similarly, there are a wide range of non-public organizations, such as cooperatives and producers' groups, private agribusiness associations and councils, nongovernmental organizations (NGOs), and other civil society entities, that provide technical and commercial advisory services, innovation and management support, credit assistance, environmental stewardship, and more. In many cases, their activities involve the provision of (semi-) public goods; therefore, adequately defining mechanisms to facilitate coordination and cooperation between such organizations and public agencies would benefit society as a whole.

Moreover, as highlighted in ECLAC et al. (2021), an important aspect of institutional work involves coordinating, from the perspective of national governments, the activities of international cooperation and funding agencies to ensure the implementation and effectiveness of these international programs, especially under conditions of fiscal constraint.

Ties to other sectors: MAGs interact with territorial development, trade, investment and export sectors, which requires significant coordination.

One possible way to structure MAGs, headed by ministers, could be to divide these linkages into at least four thematic areas, to be overseen by deputy ministers or similar officers[31].

4.2.1 Strategic planning and programming, agricultural economics, and information

Countries that have achieved significant and rapid economic and social transformations have a common denominator: the ability to define a medium-term vision for society as a whole, and subsequently implement it through consecutive short-term programs with explicit quantitative targets, supported by institutionalized public–private dialogue mechanisms (Devlin and Moguillansky, 2011; Fernández-Arias et al., 2016; Rodrik, 2008).

Planning, specialized services, production chains and rural development: **four key pillars** for effective MAG management.

MAGs should have the analytical capacity to work:

a) with strategic planning bodies that define the country's vision and objectives;

b) with ministries of Finance/Economy (and central banks) that determine macroeconomic policies (fiscal, monetary, and exchange-rate policy);

c) with ministries of Trade and agencies responsible for trade relations;

d) with credit institutions (to analyze financing for the sector); and

e) with other sectoral ministries (environment, health, etc.).

This vice ministry—focused on strategic planning and programming, agricultural economics, and information—should support the minister in the overall programming of the MAG's work, as well as in budget preparation and execution, information collection, and monitoring of planned activities. This will require strengthening agrifood information services and improving monitoring and control mechanisms for measures and programmed activities, including the use of digital and mobile systems for program implementation and service delivery.

[31] This refers to the specific activities of MAGs. A high-level department responsible for financial, human resources, legal and related matters is also necessary.

This vice ministry would also be responsible for conducting economic analyses for the various activities described below and for gathering agricultural statistics in coordination with national statistics and census institutes.

Planning: This vice ministry guides the MAG's strategy through planning, programming, agricultural economic analysis, information management, and monitoring.

4.2.2 Specialized cross-cutting services

The vice ministry of specialized cross-cutting services would be more heavily involved in programs associated with these services, which in many cases are implemented by decentralized entities with limited coordination among themselves and with the MAG. Its duties would focus on programming/policies and monitoring/evaluation, while decentralized entities would continue to oversee implementation. As noted, these services include: research and extension (transfer) of agricultural technology; sanitary and phytosanitary measures and food safety; irrigation and drainage; land tenure; marketing; cooperatives and farmer organizations; and other related topics. Relevant institutional considerations include how these services are programmed and organized (by product, producer type or region), how effective provision of these services is ensured, and how monitoring mechanisms operate. All of this requires clear coordination with the two vice ministries described below.

Specialized services: Coordinates and evaluates key services such as health, irrigation, extension and marketing, fostering alignment between decentralized sector entities.

4.2.3 Productive linkages

Governments in many developing countries dedicate a considerable amount of time to holding sectoral meetings with different economic stakeholders to discuss their demands. This type of interaction faces several operational limitations: a) it is not based on a jointly agreed-upon medium- or long-term agenda, but rather on specific issues that trigger lobbying activities; b) it is not supported by prior joint analytical work; c) it lacks formal institutional structures for follow-up; and d) it does not necessarily involve all relevant stakeholders (particularly when the meetings are triggered by lobbying efforts of specific groups) (for conceptual foundations and country examples, see Devlin and Moguillansky (2011), Fernández-Arias et al. (2016) and Rodrik (2008) . On the contrary, in many high-growth countries with strong public–private collaboration, such dialogue has been supported by institutional mechanisms designed for that purpose, involving regular meetings and structured follow-up on results (Devlin and Moguillansky, 2011; Fernández-Arias et al., 2016; Rodrik, 2008). These mechanisms facilitate information flows, reduce the potential for favoritism and corruption, and provide stability to policy agreements.

Productive linkages: Foster public–private dialogue in production chains through strategic agendas, technical analysis, and institutionalized follow-up.

The vice ministry of productive linkages would serve as the institutional anchor for competitiveness councils organized by value chains (or similar bodies; see Box 11). Technical secretariats by commodity chain would allow for holding regular meetings for major chains, preparing the necessary studies to analyze priority issues, and facilitating the definition and implementation of multiyear programs that are periodically evaluated and updated.

Box 11. Agrifood chain councils in Colombia: Institutionalization and coordination

National chain councils emerged in Colombia as institutional mechanisms for public–private coordination on agrifood development. These are formal platforms that bring together representatives of producers, processors, traders, research entities, support organizations, and public authorities.

Their goal is to align efforts between stakeholders in each production chain (such as rice, cocoa, palm, and yam, among others) to design joint development strategies and action plans aimed at improving competitiveness and sustainability.

Each council has a technical secretariat responsible for convening regular meetings, coordinating actions at the national and regional levels, and following up on commitments undertaken. These councils are supported by regulatory instruments and seek to generate technical and political consensus, avoiding fragmented, sectoral approaches.

Colombia institutionalized chain councils as public–private discussion forums for strategic, coordinated agrifood development planning.

Source: FAO and Ministry of Agriculture and Rural Development of Colombia (2006).

These value-chain councils must include all relevant stakeholders involved in each chain. Their effective development also requires strengthening producer and farmer associations—both smallholder and agribusiness associations—especially those organized by subsector, so they can professionalize their participation, align their positions vis-à-vis the public sector and other stakeholders outside of the chain, and provide high-quality services to their members.

4.2.4 Rural/territorial development, small-scale producers, and cross-cutting social issues

The vice ministry for rural/territorial development, small-scale producers, and cross-cutting social issues can assist in coordinating various rural/ territorial development programs and projects focused on small-scale producers, through a project programming unit for territorial projects involving smallholders. This unit would function as a project portfolio secretariat with a structured agenda, supporting studies and monitoring.

Rural development: Coordinates projects for small-scale producers and territorial development, addressing cross-cutting social issues such as gender, youth and vulnerable populations.

A key issue is the establishment of an integrated, unified registry of producers and producer groups that receive support from different projects that provide production, economic and social information, as well as geospatial referencing. This would facilitate the use of digital information systems and telecommunications tools to monitor planned and executed activities (or lack thereof), based on information supplied by participating populations.

This approach also requires coordinated actions with other public entities involved in target areas, given the fact that agricultural production and agrifood systems

(AFS) require investments in intermediate cities, including rural road connectivity, quality health and education services, telecommunications, electricity, internet, citizen security, and other essential public services. One example of this type of territorial, multi-stakeholder approach is Colombia Agroalimentaria Sostenible (CSICAP) project, described in Box 12. This project brings together the national government, research centers and producer associations and organizations to strengthen technical and institutional capacities, drive social inclusion, and scale up adaptive technologies—directly benefiting small and medium-scale producers across different parts of the country.

As this case demonstrates, achieving more inclusive and sustainable rural development not only requires well-coordinated territorial initiatives, but also an enabling environment that improves the structural conditions under which producers operate. Strengthening this institutional and territorial fabric is crucial for the development of value chains and AFS, which are becoming increasingly complex and integrated (Berdegué and Favareto, 2019). It will also contribute to resolving the issue of migration to large cities and other countries, as well as crime and insecurity issues in rural areas (Díaz-Bonilla and Torero, 2016).

This vice ministry would also address cross-cutting issues such as gender, ethnic groups, vulnerable populations and youth, which must be incorporated into MAG activities.

Box 12. Colombia Agroalimentaria Sostenible: A territorial partnership for climate resilience

The CSICAP project, led by the Ministry of Agriculture and Rural Development (MADR), represents a strategic effort to transform Colombian agriculture, reduce the agriculture sector's vulnerability to climate threats, improve agro-climatic risk management, lower greenhouse gas (GHG) emissions, and, in turn, promote more sustainable, resilient, and inclusive production systems.

This long-term initiative, designed to be implemented over the course of 25 years, involves key agrifood system stakeholders, including research centers (CIAT, Agrosavia, CIMMYT, CIPAV), sector associations (FEDEGAN, FEDEPANELA, CENICAÑA, FENALCE, ASBAMA, AUGURA, ASOHOFRUCOL), and community organizations, bringing together technical expertise, local knowledge, and territorial leadership.

The project is comprised of three main components:

- **Digital systems and climate services**, to modernize agricultural extension and anticipate risks;

Colombia: science, associations and communities working together for a sustainable agriculture sector.

- **Validation and scaling up of adaptation and mitigation technologies**, such as resilient varieties, sustainable water management, and good agricultural practices;
- **Strengthening institutional and community capacities**, with a gender focus and emphasis on business sustainability.

Active participation by producer associations from the design stage strengthens project ownership and sustainability and offers a model that can be replicated by other countries in the region. CSICAP demonstrates how an integrated, multi-stakeholder, multi-scale strategy can accelerate the transition toward more resilient agrifood systems aligned with climate adaptation objectives.

Source: Public Policy Observatory for Agrifood Systems (OPSAa) (2024); Green Climate Fund (2020); Colombia Agroalimentaria Sostenible (2024).

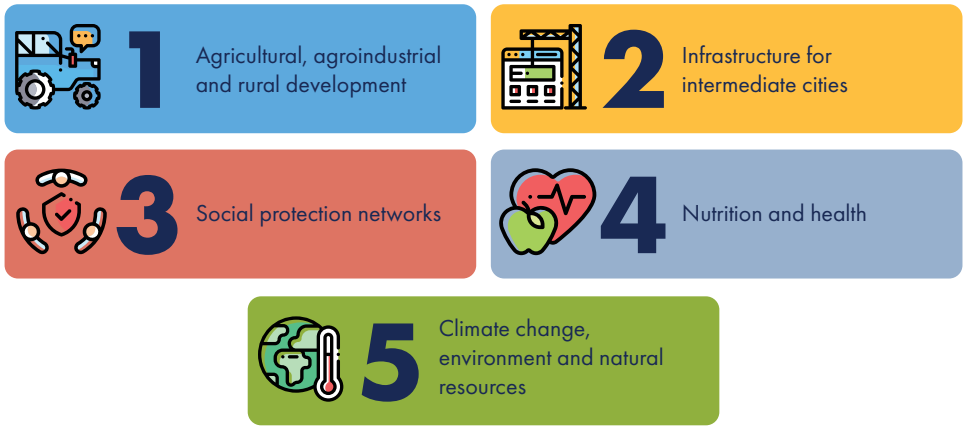
Transforming AFS requires vision, interministerial coordination, and comprehensive management: brain, skeleton and nerves.

4.3 The agrifood system

As mentioned earlier, comprehensive rural development programs, followed by broad food and nutrition security programs, and more recently the AFS approach, have highlighted the linkages with other ministries which, depending on institutional arrangements in each country, involve blocks such as those shown in Figure 7.

Figure 7. General economic policy

Interrelated policy blocks that reflect the institutional complexity needed to address the multiple objectives of AFS.



Source: Díaz-Bonilla (2023c).

These blocks represent the main types of policies and initiatives that can be used to address the aforementioned AFS-related objectives. This categorization, which has also been used in the context of cross-cutting food security programs[32], bears correlation with a general institutional structure of ministries and government agencies, such as:

[32] The UN Food Systems Coordination Hub utilizes these thematic blocks (except for the general economic policy block) to collect information on public expenditure related to food systems.

1. Ministries of the Economy, Planning and similar entities, and other bodies related to general macroeconomic and economic development issues (such as central banks);

2. MAGs, with the involvement of ministries of Industry or similar ministries related to agro-industrial matters;

3. Ministries of Infrastructure;

4. Ministries of Development, Social Assistance, and topics such as food security;

5. Ministries of Health; and

6. Ministries of Environment and Natural Resources (or similar entities).

The previous section discussed institutional aspects pertaining to MAGs, their specific functions, and potential overlaps between these ministries and public entities. It was also noted that many countries have not fully harmonized their food and nutrition security secretariats and entities and their focal points for climate negotiations and environmental issues. This section focuses on an institutional organization for the agrifood system, taking into account the ministries and agencies indicated in Figure 7 (and possibly others), and the complexity of the relations and coordination between productive, social and economic components. **This requires considering different institutional mechanisms.**

Exclusive ministry: Creating an AFS ministry is an option, but there may be institutional limits and it may be met with political resistance.

One possibility is to create a dedicated authority and institutional structure, such as a Ministry of Agrifood Systems. However, such a drastic institutional shift is highly complex and would likely face significant bureaucratic and sectoral resistance. More importantly, even if such an agency were created, it would be impossible for it to internalize all the cross-cutting linkages shown in Figure 7.

Interministerial coordination: National and territorial coordination commissions help align actions across key sectors and government levels.

Another alternative is to establish intersectoral coordination commissions with the participation of ministers or senior officials from agriculture, health, environment and other ministries and public entities. Beyond the national level, these types of systems generally include intersectoral coordination commissions at the local/territorial level, involving the same national agencies in addition to representatives of subnational governments and other local entities.

Lastly, another possibility would be to appoint an AFS Secretary—likely in conjunction with the aforementioned national and local commissions—to ensure coordination among institutions participating in AFS programs. An AFS Secretary would have varying levels of bureaucratic authority over the participating agencies, ranging from a technical secretary role to holding actual decision-making power over programming and budgeting in the participating agencies.

Specialized secretariat: An AFS Secretary can coordinate public action, with or without real authority over programming and budgeting.

However, changes in organizational charts alone may not be sufficient, as they represent only the “skeleton” of the public sector’s “body”. Other components of that “body” are needed (see below). Moreover, regardless of the manner in which

Beyond the organizational chart: Institutional design requires strategic vision, programmatic alignment, financing and results-driven management.

Plan with a systemic vision: The agrifood plan must align goals, resources and programs, involve international cooperation, and include results monitoring.

Aligned budget: The systemic approach involves reviewing public expenditure and revenues linked to AFS in a comprehensive manner.

Structure and leadership: A technical secretariat with authority, budget, and convening power ensures institutional coherence and continuity.

responsibilities and tasks are distributed in the organizational structure, there will always be activities that cut across more than one of the defined blocks. Therefore, institutional innovations seeking to address the complexity of the agrifood agenda must go beyond adjustments to organizational structures, taking into account at least the following levels:

a) **A general vision (or plan) for AFS** that is aligned "upwards" with national strategic plans and disaggregated "downward" into multi-year operational programs of the public agencies involved (the "brain"). It should include quantitative targets specifying timelines, instruments, costs, funding and a monitoring and evaluation system. This general AFS vision/plan must include a unified programming framework for international financial and technical cooperation organizations, involving the signing of individual agreements with each.

   In defining a general vision/plan and breaking it down into individual programs for ministries and public agencies, it is important to avoid overly vague plans that amount to wish lists without clear objectives or means of implementation, and unrealistic, rigid goals and timelines that hinder learning and experimentation.

b) **An organizational structure** with defined hierarchical levels, clear functions, established coordination mechanisms (council or similar mechanisms), and a high-level AFS secretariat that ensures planning and budgeting, and leads monitoring and evaluation meetings (the "skeleton").

   The experience of comprehensive rural development programs and the Mexican Food System, among others, suggests that the head of such a secretariat should be able to manage funds from international organizations and participate, alongside the Ministry of Finance and implementing agencies, in decision-making regarding budget allocation and use.

c) **A program budget aligned with the multi-year program** (point a) and periodic reviews of the physical and financial execution of defined objectives ("nerves"). This involves reviewing the public budget under an AFS lens—both expenditures (especially agricultural spending, social protection, health, infrastructure, fossil-fuel subsidies and others) and revenues (domestic taxes, exemptions, service fees, import and export taxes). This review should also consider revisions to international financing and technical cooperation programs.

   In this process, it is important to strengthen the programmatic and budgetary capacities of the AFS Secretariat, of the ministry responsible for preparing the national budget and coordinating international financing, and of the functional units in implementing ministries.

d) **Operational mechanisms** (the "muscles and other organs"). The AFS Secretariat should implement a disciplined, results-driven programming and coordination mechanism at all operational levels (at least once a year), along with execution analyses (at least every six months).

Periodic planning/control events must include concrete, verifiable goals, as well as monitoring systems to track the implementation of planned activities and evaluate results (as mentioned in the section on policies).

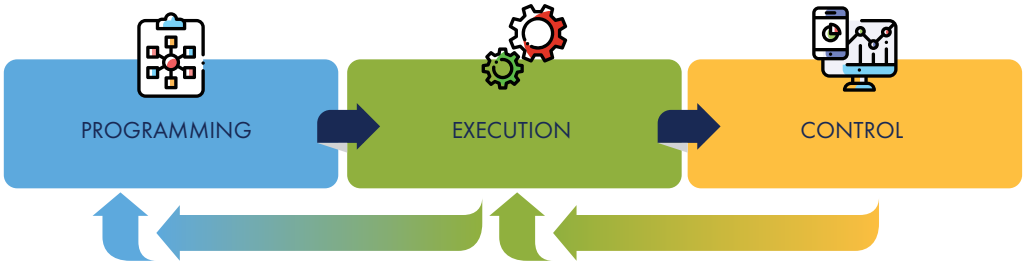
The AFS Secretariat may be managed in keeping with operational and programmatic agreements with participating ministries and public entities, agrifood chains, local governments, producer organizations, and other stakeholders, that clearly specify territorial, functional, producer and product attributions. These agreements may take on various forms, such as sectoral programs, projects, work agendas, results-based contracts, execution agreements, and others. Executing entities must possess adequate staff and equipment.

These agreements must include clear operational mechanisms for direct implementation at the local level and among social groups, integrated registries of beneficiaries and goods/services delivered, as well as digital monitoring tools and mechanisms for engaging in direct consultation with participating populations (to track the actual level of implementation). Broad mechanisms for engaging in consultation with multiple stakeholders would also benefit execution, as highlighted in the policy section.

Another relevant operational aspect that should be taken into account is regulations. In that regard, consultation, consolidation, harmonization and transparency mechanisms, similar to the US Code of Federal Regulations, may be considered.

In summary, the institutional framework required to implement AFS programs goes well beyond organizational structures and must take into account the full **programming, execution and control** (PEC) cycle (Figure 8), in keeping with the multiple objectives being pursued.

Figure 8. The programming, execution and control cycle



Source: the authors.

Evidence-based support infrastructure

An institutional initiative of IICA, the Public Policy Observatory for Agrifood Systems (OPSAa) provides a platform for reflection, interaction, knowledge-sharing and

Operational management: Requires operational mechanisms that include follow-up, verifiable targets and agreements between institutions and stakeholders in a given territory.

The institutional frameworkity for AFS is not defined through organizational structuresnot by organigrams but by rather through clear operational agreements, integrated registries, and effective implementation, monitoring, and citizen consultation mechanisms.

The PEC cycle emphasizes comprehensive, results-driven public management in agrifood systems.

foresight on public policies for AFS of the Americas. To document initiatives, results and comparative learning, OPSAa integrates **policy mapping** with **evidence synthesis** and digital tools that support interministerial coordination and the PEC cycle; see Box 13.

Actionable evidence: OPSAa integrates policy mapping and evidence synthesis to close the PEC cycle.

Box 13. OPSAa: Policy mapping + evidence synthesis for results-based management

What problem does OPSAa address? IICA's OPSAa connects what is done (frameworks, programs, spending and investment) with **what can be achieved** (results and impacts), using the best available evidence to guide public decision-making.

Components and operation

- **Mapping and systematization of State interventions:** policy frameworks, spending and investment initiatives, monitoring and evaluation (good practices), indicators and events.
- **Evidence synthesis** in policy briefs, reports and visualizations to facilitate the design, adjustment and prioritization of instruments.
- **Analysis and foresight** to identify trends and windows of opportunity.
- **Digital tools:** integrated database and online platform with decentralized management; organized by policy areas and nodes/regions.

Analytical dimensions (for each intervention): *What? For what purpose? How? With whom? With what resources? What does it achieve? What does it change?*

Public value

- Aligns **multi-year programming and budgeting** with measurable and verifiable results.
- Facilitates comparable **monitoring and evaluation** across multiple sectors and territories.
- Facilitates **learning and adaptation** of the PEC cycle using synthesized evidence.
- Strengthens **interministerial coordination** and accountability.

For more information, visit: opsaa.iica.int/es/about-us.

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