

# NATIONAL AGROLOGISTICS PROGRAM

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# 3

## STRATEGY REPORT



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GOBIERNO DE LA REPÚBLICA

SAGARPA

SECRETARÍA DE AGRICULTURA,  
GANADERÍA, DESARROLLO RURAL,  
PESCA Y ALIMENTACIÓN

# NATIONAL AGROLOGISTICS PROGRAM

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REPORT 3  
STRATEGY

# National Agrologistics Program

## Report 3

## Strategy

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On behalf of the Wageningen UR Food & Biobased Research team,

*Peter Ravensbergen*



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# 1 Introduction

## 1.1 What is Agrologistics?

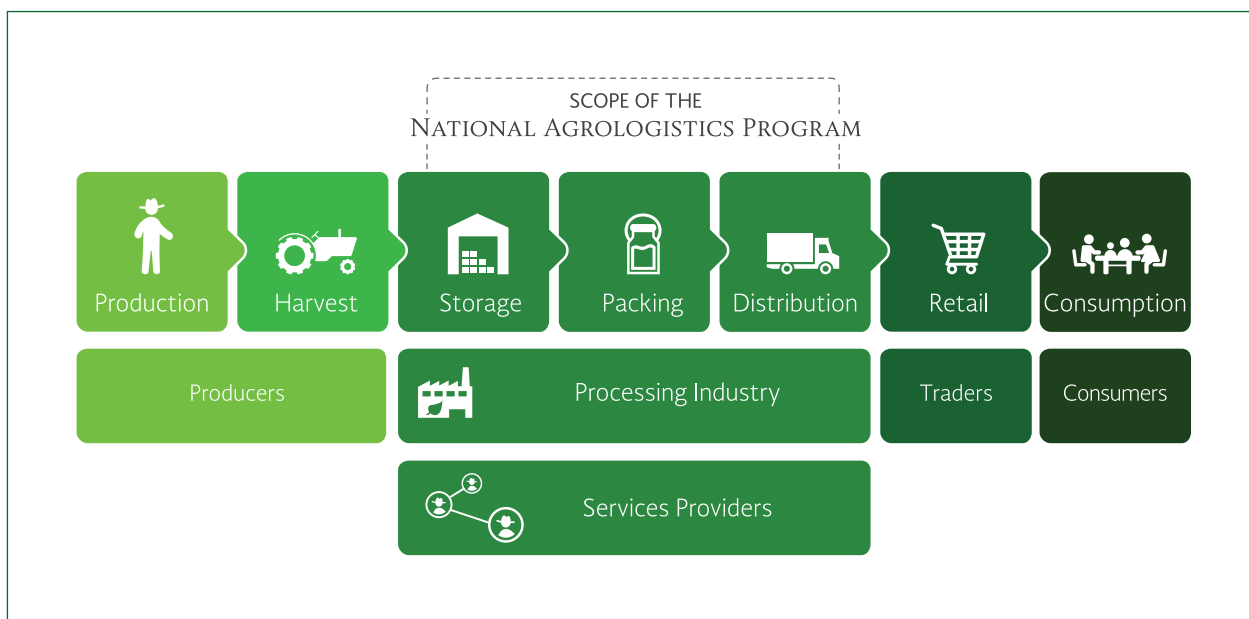
Agrologistics can be considered a sub-discipline of logistics<sup>1</sup> specifically focused on the agri-food sector. It reaches organizations that are responsible for the production (farmers and producers), processing (industry), and distribution (service providers and traders) of vegetable and/or animal based products.

Agrologistics comprises all of the activities in the supply chain that are needed to match product supply from the farm with the market's demand for those products.

The aim of Agrologistics is to get the right agroproduct at the right place, at the right time, in accordance with the right specifications (including quality and sustainability requirements), and at the lowest cost<sup>2</sup>.

The scope of the National Agrologistics Program comprises those activities that begin with postharvest and bring products to retailers. Besides Mexico's Government agencies, the direct actors of the program are those in the transformation industry and service providers, and indirectly, producers, retailers and consumers.

Figure 1.1. Scope of the National Agrologistics Program



<sup>1</sup> Logistics management is defined by the Council of Supply Chain Management (SCM) Professionals as follows: 'Logistics is that part of the supply chain process that plans, implements and controls the efficient, effective flow and storage of goods, services and related information from the point-of-origin to the point-of-consumption in order to meet customer requirements (Lambert et al., 1998) and satisfies the requirements imposed by other stakeholders such as the government (new rules and regulations such as the General Food Law) and the retail community (e.g. Global Safety Initiative)'.

<sup>2</sup> Van der Vorst et al. (2011; 2007)

## 1.2 Methodology

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The Strategy Report builds on the Diagnosis Report, which analyzes the current situation, proposing a set of recommendations for future development based on the study of a series of international success factors that have been selected in successive stages in order to adapt them to the context of Mexico and its particular goals. The starting point of these recommendations is the Program's Vision statement:

### *To become a world leader in export of agri-food products by the year 2030*

This Vision statement, which is further elaborated on in section 2, was developed and adopted by a Leadership Group comprising of the heads of major public and private institutions that form part of Mexico's agricultural value chain. The aim behind creating this group and conducting a collective visioning exercise was to engage stakeholders from the beginning of the program to facilitate implementation and policy continuity. The participatory process used was designed to ensure the following:

1. Help forge a common understanding of the challenges facing agrologistics in Mexico.
2. Help secure a shared sense of ownership and consensus on the Vision that will guide the development and implementation of the National Agrologistics Program.
3. Set precedence for future dialogue and decision-making processes to be inclusive while focusing on priorities at the same time.

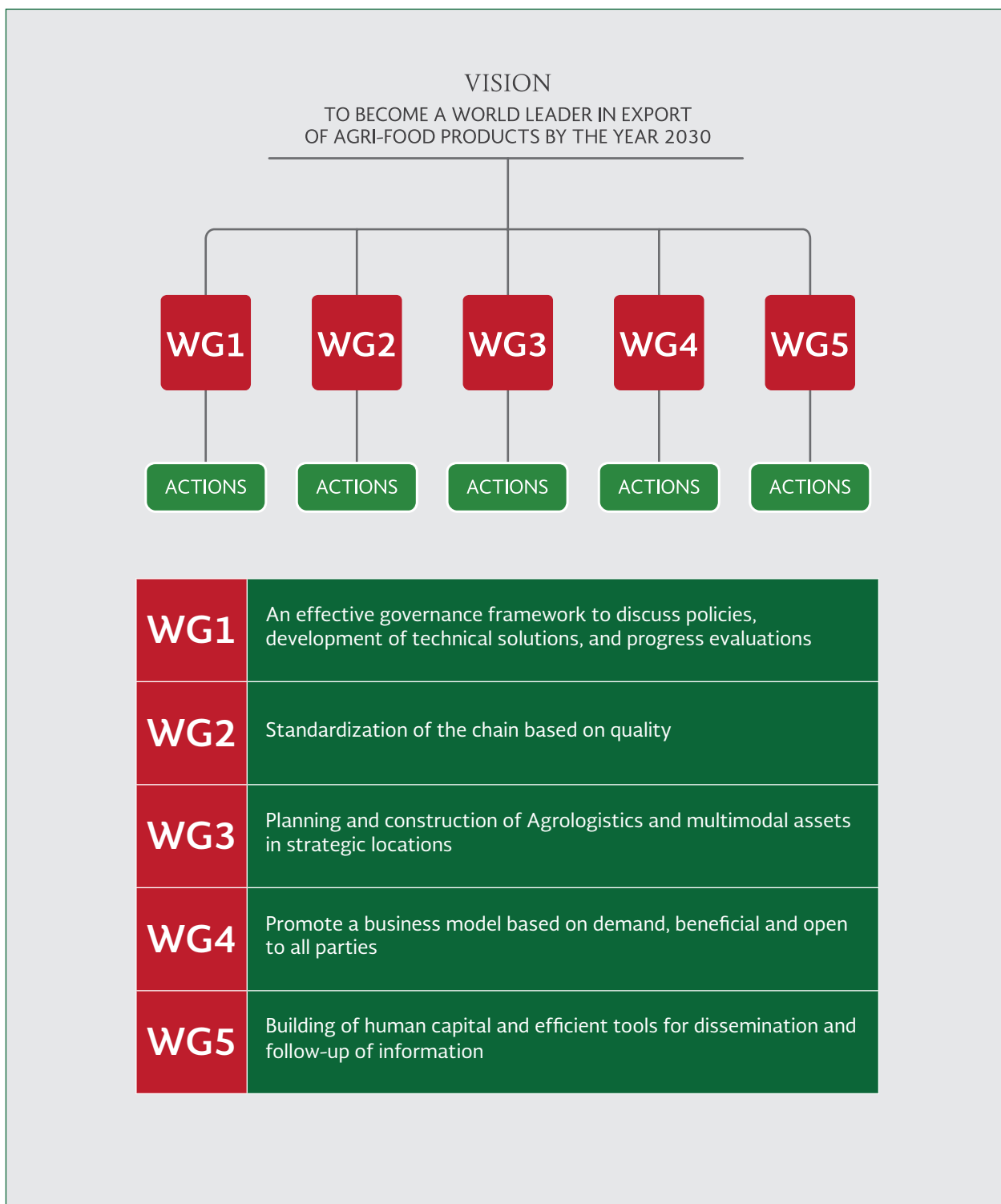
The workshop to determine the Vision adjusted and validated seven international key success factors. These were broken down into a series of short, medium and long-term actions that were identified previously.

The vision statement thus cascades into seven enabling factors that have been identified through various inputs and processes. The first step, as mentioned in the Diagnosis Report, was the identification by a panel of experts of 23 success factors that underscore internationally competitive policies and practices in agrologistics. These 23 success factors were gradually clustered and distilled into seven key factors through the following steps:

1. Interviews with key stakeholders and actors.
2. Site visits to agroparks, wholesale markets, ports, border crossings and distribution facilities.
3. Adjustment and validation of the seven success factors in the course of a fully facilitated participatory Vision Workshop held on May 22 2014 involving leaders of major actors and stakeholders in the value chain.

Further, the success factors and their associated preliminary actions were evaluated by the General Food Logistics Direction team abridged into five classes of working guidelines (WG), each of them with its actions in order that the Program may be led to the operating field.

Figure 1.2. Methodology - Vision to Action



## 2 Vision statement for the National Agrologistics Program

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### 2.1 Background

#### 2.1.1 An inspiring and shared Vision for change

Any new program or policy requires change. In the case of Mexico, establishing a first class agri-food value chain that meets domestic and external demand will require changes ranging from fine-tuning procedures to legislative and regulatory reforms. Overcoming resistance to change requires a combination of strategies including leadership, participation and inspiration.

The need for an inspirational vision was identified by multiple actors as an important mean to guide the development and implementation of the National Agrologistics Program<sup>3</sup>. For such a Program to contribute effectively to realizing the goal and objectives of the Reforma y Modernización del Campo and other macro reforms, it needs to set a long-term aspirational goal supported by a set of values and accompanied by short, medium and long-term objectives. The formulation of this aspiration needs to be the result of an inclusive process with the participation of all the major actors. For this reason it was decided to organize a broad-based visioning exercise upon the conclusion of the diagnosis phase and based on success factors or “actions to be performed” identified by a team of international and national experts.

#### 2.1.2 Leadership

Leadership, at multiple levels, was singled out as a critical issue in the implementation of the Program during the rounds of interviews with key actors and focus groups. This leadership starts at the highest level as the President of the Republic, Enrique Peña Nieto, has singled out on several occasions the importance of the Reforma y Modernización del Campo as part of an ongoing macroeconomic reform and restructuring of Mexico's economy, as well as the stimulation of productivity and entrepreneurship among producers and in ensuring food security in particular.

Given the complexity of agrologistics and the number of actors that need to be involved in enhancing the value chain, leadership is also required at other levels, in the public and private domains above all. Public-private partnership (PPP), for example, will play a critical role in the realization of a competitive agrologistics program. For PPP to work effectively and leverage the human, financial and technical resources required, two conditions are required. The first one is for public-public coordination. Government ministries, public agencies and authorities must work as one in order to present the consistency and certitude that is sought by the domestic and foreign investors. It is these economic actors that will provide their know-how, processes, financing and technology to make an agrologistics system that works efficiently.

In the second place, the countless private actors that are involved in the agri-food value chain need to act cohesively to be convincing discussion partners in policy dialogue, and in the policy development and implementation. Best practices in enhancing agri-food value chains, especially in horticulture, show this. Competitiveness in an increasingly crowded global market place depends to a large extent on leading firms, capable of not only achieving higher value for themselves but also in of helping other partners, especially small producers and SMEs, to do so as well. Sharing of knowledge, market intelligence and technology between large and small producers and service providers to climb the value chain together is one of the key ingredients of success behind global leaders such as Kenya in horticulture, Chile in wine and fisheries sectors and China in animal products.

Appropriate mechanisms will thus have to be found to ensure that public-public and private-private dialogue and coordination take place in parallel to public-private dialogue and PPP partnership. Such mechanisms could be a specialized cabinet and a working table that would serve as a first step towards the coordination under a multi-sectorial Council.

<sup>3</sup> During the interviews carried out by SAGARPA for preparing this Program, the most frequently mentioned problem (with a 36% incidence) is the need for institutional leadership as the key tool for achieving its objectives .



### 2.1.3 Alignment

To have a monitoring and reporting system based on performance indicators for the entire Agrologistics chain is of critical importance in governance terms. Part of the reason for the less than optimal performance in México in the current chain is the lack of benchmarks that place the prevention of food losses and waste as a central concern. Such benchmarks are particularly important to the horticultural export sector where value cannot be dissociated from quality and from competitiveness. Thus, for example, timeliness in delivery and integrity of the cold chain for fresh goods must become a shared performance indicator between all actors responsible for collection, transport and transfers and across all jurisdictions responsible for safety, security and regulatory compliance.

### 2.1.4 Implementation

Implementation is the Achilles' heel of many new policies and programs. Too often, implementation is left as an after-thought in the dynamics of crafting new laws, policies and strategies. Lessons learned from innovation in all development realms, (urban and rural, industrial and agricultural) point to two success factors: (i) the ability to mobilize and leverage funding that is not held hostage to the annual budgetary approval cycle; and (ii) the implementation of pilot projects in the spirit of "learning by doing". Pilot projects should deliberately be experimental and take place in parallel to policy development and regulatory reform. Their purpose is to encourage innovation by insulating them from bureaucratic and political risk aversion, thus empowering change agents to think and operate "out of the box".

To be truly successful, however, pilot projects have to be conceived in a scientific manner, namely with rigorous monitoring and evaluation methodologies focusing on "proof of concept", scalability and lessons learned from experience.

## 2.2 Vision Workshop

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The Vision statement was the outcome of the workshop participated by the Leadership Group<sup>4</sup> summoned by the Ministry of Agriculture, Livestock, Rural Development, Fisheries and Food (SAGARPA) which took place in May 2014.

The aim behind creating this group and conducting a collective visioning exercise was to engage stakeholders from the beginning of the Program to facilitate implementation and policy continuity.

The key components of good governance are often defined as a system of decision-making and resource allocation that is accountable, transparent and inclusive. While these three components are mutually reinforcing, participation is key to establishing a strong sense of ownership and consensus, overcoming resistance to change and ensuring effective follow-up and implementation.

In addition, the workshop participants discussed several important issues relevant to the success of the National Agrologistics Program. Some of the important issues which came up were as follows:

- The program will require a legal basis if it has to scale up across Mexico and would therefore need to be part of the legislative agenda for the next year.
- The program will require coordinated efforts by the different stakeholders who are part of the agricultural sector. The various chain links of the agri-food value chain currently operate without coordination and therefore generate inefficiencies within the sector. Public-Private Partnerships will therefore have a very important role to play.

<sup>4</sup> See Annex 3 for the list of participant Entities in the Vision Workshop.

### To become a world leader in export of agri-food products by the year 2030

In realizing this vision we will abide by the following values and principles:

- Promote high quality and high value agri-food products at a competitive price, for both the domestic and external consumers.
- Minimize food losses and waste to help enhance food security, economic productivity and environmental sustainability.
- Engage stakeholders in the agri-food chains in decision making to promote equity and justice, making globalization work for all Mexicans.

## 3 How can the National Agrologistics Program support the Reforma y Modernización del Campo

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### 3.1 Relevance of the expected outcomes of the National Agrologistics Program in the objectives of the Reforma y Modernización del Campo

The Reforma y Modernización del Campo, launched by President Enrique Peña Nieto, is a transformational policy package that focuses on rural areas and the agriculture sector in Mexico. Through SAGARPA, the Government of Mexico is giving shape to an ambitious program, which intends to make progress in areas such as justice, productivity, profitability, sustainability and food security. Specifically, its objectives are to foster:

1. **A fair land**, with good health services and pensions for the elderly, as well as a basic level of protection against illnesses and accidents.
2. **A productive land**, generating local jobs and raising the income of the rural population.
3. **A profitable land**, with more efficient and competitive agri-food processes, articulating each link in the value chains.
4. **A sustainable land**, in which crop yield does not grow at the cost of depleting natural resources such as soils, forests and jungles; agriculture should be based on scientific and technological innovation.
5. **To guarantee food security**, a basic requirement for well-being and a fundamental condition for ensuring sovereignty and social stability<sup>5</sup>.

The National Agrologistics Program can contribute to the Reforma y Modernización del Campo in several ways. Foremost to this contribution is the definition of a National System for Agroparks, a public policy that has been in fact identified as one of the strategic pillars of the Reforma y Modernización del Campo.

The National Agroparks System would be one of the key components to implement the broader set of objectives on the National Agrologistics Program. Agroparks, as well as other agrologistics assets such as the collection centers, would provide an entry point for small and medium producers into value chains; increase the reach and competitiveness of such value chains; and support a better territorial development

It is expected that each agrologistic asset could be developed with resources of the Government of Mexico or with resources of the private sector, or a combination of both, and that various typologies would coexist in the system. A clear definition of these variants in terms of sources and type would be needed so that they are all effective and complementary components of the agrologistics system.

The expected medium and long-term benefits of the National Agrologistics Program are supporting the objectives of the Reforma y Modernización del Campo.

<sup>5</sup> Source: Government of Mexico, Office of the President, <http://www.presidencia.gob.mx/reforma-del-campo-para-hacerlo-mas-justo-productivo-rentable-y-sustentable/>, consulted on June 18, 2014.

Table 3.1. Expected outcomes of the National Agrologistics Program and objectives of the Reforma y Modernización del Campo

Expected outcomes of the National Agrologistics Program	Objectives of the Reforma y Modernización del Campo directly benefitted
Mexico as a global leader in the production and export of quality fresh products, especially vegetables and fruits at competitive costs	1, 2, 3, 4
Increased food security through the reduction of postharvest food losses and waste in the logistics chains coupled with increased incentives for productivity	1, 5
Improved labor conditions in rural areas and higher incomes for all stakeholders especially small producers	1, 2, 3
Improved quality and phytosanitary conditions, matching international standards	1, 3, 5

## 3.2 Contribution to the objectives of the Reforma y Modernización del Campo

This section describes how the National Agrologistics Program can contribute to each of the objectives of the Reforma y Modernización del Campo.

Table 3.2. Reforma y Modernización del Campo and the National Agrologistics Program

Objective of the Reforma y Modernización del Campo	How does the National Agrologistics Program contribute towards the objective
Fair Land	<ul style="list-style-type: none"> <li>Improving access of small producers and SMEs to the value chain</li> <li>Delivering a more inclusive territorial development pattern which would allow the rural population to access services</li> </ul>
Productive Land	<ul style="list-style-type: none"> <li>Aligning production with demand</li> <li>Attracting investment and generating local jobs</li> <li>Increasing resource efficiency</li> </ul>
Profitable Land	<ul style="list-style-type: none"> <li>Improving performance in terms of quality, cost and time</li> <li>Driving efficiency of facilities and services in the logistics chain</li> <li>Achieving critical mass for exports through infrastructure investments, efficient regulations and institutional set-ups</li> <li>Evolving from basic production and transport to added value processes and logistics service networks</li> <li>Improving reliability and security</li> </ul>
Sustainable Land	<ul style="list-style-type: none"> <li>Promoting a transition to less polluting transport modes (and thus lowering greenhouse gas emissions)</li> <li>Driving an efficient use of energy, water and soil</li> <li>Making sure sustainability is part of business models</li> </ul>
Food security	<ul style="list-style-type: none"> <li>Reducing food losses and waste and providing opportunities to expand the food supply</li> <li>Providing means for food that is otherwise lost to reach consumers</li> <li>Contributing to reduce food imports and trade imbalances</li> </ul>

### 3.2.1 Fair Land

The agricultural sector in Mexico is extremely polarized. The majority of producers (about 74 percent) are small producers who produce mainly for self-consumption and commercialization of small portions of their output. Generally, they have more than one job as agriculture represents the smallest share of their total family income. The remaining amount of producers comprises medium and large enterprises, which use modern techniques of production. Importantly, they trade their products in the market.

The agrologistics program would initially benefit those producers that are already related to markets. It can help large producers increase their competitiveness by reducing transit times and widen market access. However, a well-designed logistics system should also provide opportunities for small-scale producers and small and medium enterprises (SMEs) in the food processing and packaging industries to join the value chain in the shortest possible time. Better access to and market information, a central part of any good logistics system, will go a long way helping small producers to make better informed decisions and helping SMEs in service provision to reduce their transaction costs.

Through a well-considered location of network components, the implementation of agrologistics assets driven by market demands, will contribute to a more inclusive territorial development pattern. This would need alignment of policies and budgets concerned with the deployment of such services and the agrologistics program. This alignment depends to a significant degree on political will. Arguments in favor are, however, very compelling. A well-coordinated distribution of agrologistics assets and services would trigger transformative change in terms of better livelihoods, better education and better health for a significant portion of the rural population who comprise today one of the most disadvantaged social segments in Mexico.

### 3.2.2 Productive Land

Although the National Agrologistics Program focuses on postharvest activities, it is impossible to ignore that productivity starts with activities related to production. The availability of the right production systems adapted to the particular conditions in Mexico is essential to obtain higher yields at the quality that is needed for both the domestic and export markets. However, such ability to produce would be irrelevant if there would be no system that allows bringing what is produced to the specific markets. What determines productivity is the alignment with demand, and how the products reach the consumers.

The key factors that contribute productivity are: guaranteeing product quality throughout the supply chain and reducing times and costs of bringing food to market.

A productive agri-food sector will attract investment and generate local jobs, raising the income of the rural population. As income increases producers will have more incentives to invest in productivity, leading to a virtuous cycle.

A further linkage between agrologistics and productivity lies in a system's ability to reduce losses and waste between harvest and final destination, thereby improving resource efficiency and enhancing food security.

### 3.2.3 Profitable Land

The contribution of the agrologistics program towards competitiveness is essential at product, producer, and industry levels. Competitiveness is related to the ability of a product to reach its market with the best possible quality, at the lowest possible cost, and within the shortest time. Quality, cost and time are defining dimensions of the performance of a product over its competitors.

A central aim of the Program is to improve performance in all three of these dimensions, and the central part of this objective is transitioning from basic production and transport to added value services. In particular, and as costs related to transporting fresh products are relative higher than for non-fresh products, the efficiency of the facilities and services in the agrologistics chain become a critical factor for the competitiveness of a producer.

A competitive producer would be making profits and would therefore be in a position to make his business grow, thus creating jobs and contribute to developing the sector as a whole. Incentives for producers to re-invest margins in further improving conditions will be very important to create sustained competitive advantages.

Critical mass is needed to improve the competitiveness of Mexico in the agri-food industry, both domestically and for export markets. Improvement of the infrastructure and how it is operated, including enhanced reliability and security would mean larger cargo volumes and shorter lead times. Investment in hard infrastructure needs to be supported by optimal policy interventions, efficient regulations, skills development and robust institutional structures.

As the market share increases and infrastructural assets perform better, opportunities are created to further streamline costs and therefore increase profitability.

### 3.2.4 Sustainable Land

Consumers are showing an increased preference for products that come from an environmentally sustainable chain. Emissions, energy and water consumption, packaging waste, land use and husbandry are some issues that affect the sustainability of an agrologistics chain.

In terms of transportation, trucks are the principal means of moving agri-food products across Mexico. The number of trips and age of the fleet generates a high level of carbon emissions. Delays in state border crossings due to customs, security and phytosanitary inspections intensify the problem. Consolidating these inspections at the origin of the chain, one of the aims of the Program, could reduce emissions saving time and fuel. The possibility to shift from road and air to less polluting modes such as rail and sea could provide a significant advancement. Modernizing the railroad network to non-contaminating engines and incentivizing its use could make a contribution towards making the transportation more environmentally sustainable. Integrated multi-mode transport will also contribute directly to a more efficient chain that consumes less fuel, energy and rolling stock and reduces wear and tear on infrastructure.

Energy consumption in facilities to cool the product, for example cold warehouses, mode change stations, and conditioned containers among others have an impact on environmental sustainability. Considering clean energy sources when designing an agrologistics chain could be a significant competitive advantage. Cooling agents can also be damaging to the environment if not properly managed.

Packaging is also an element to be considered in designing an environmentally sustainable agrologistics system. This is one part of the chain that has an important impact on the carbon footprint. Packaging waste is a large contributor to carbon emissions<sup>6</sup>. Establishing standards for packaging materials, for example cardboard, wood, plastic, and biodegradable materials, could be an important part of a more sustainable agrologistics system.

The agrologistics program can support a sustainable agricultural sector that prevents crop yields from growing at the expense of depleting soils and destroying forests and jungles. It would also drive a scientific utilization of lands, and a reduction of resource use such as water, fertilizers and soil.

Changing standards to sustainability-friendly ones requires investment and this cost factor might be met with reservation from those who have to pay for them. Increased marketability and margins can help make the business case more attractive, increasing the likelihood that costs are factored in commercial arrangements and management models.

### 3.2.5 Food security

Lack<sup>7</sup> of an efficient agrologistics system in Mexico results in food losses, which is directly relevant to food security and efficiency of resources. Losses of up to 35 and 40 percent of food in transit represent a comparable squandering of water, agricultural inputs and energy.

Food security is a basic requirement for ensuring well-being and a fundamental condition for ensuring sovereignty and social stability. It lies, in a large extent, in the efficiency of the resources. Improvements on all the other objectives of the Reforma y Modernización del Campo will lead to make the entire chain more robust, resilient and less wasteful, increasing the production of various agri-food products and their distribution. This means more products reaching more consumers, and, in addition, a direct positive impact on resource use and intensity.

Mexico has a deficit in its agricultural trade balance<sup>8</sup>. Reducing food losses could help to reduce such deficit and save foreign exchange that otherwise has to be spent on food imports.

<sup>6</sup> See an example in the case of Portugal in Ferreira et al in "Economic cost recovery in the recycling of packaging waste: the case of Portugal". Journal of Cleaner Production 37 (2012) 8-18.

<sup>7</sup> Existing agrologistics systems are polarized – from poorly organized inefficient chains to very modern ones run by supermarkets and private corporations.

<sup>8</sup> In 2013, the deficit in the trade balance reached the sum of 1,025 million dollars. Bank of Mexico, Secretary of Economy, INEGI, SAT, 2014.

## 4 A future scenario defined by key success factors

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### 4.1 Methodology

In this section the report will introduce a future scenario that is beyond the current situation that is defined by the components of success.

The identification of the components of this scenario, including its associated actions and other recommendations are derived from interviews, focus groups, workshops and field visits, and are further informed by a comparative analysis of international best practices. Lessons learned from these world-class success stories in the export of animal products, wine, fruits, cut flowers and vegetables have thus fed both the findings and the recommendations.

### 4.2 Development process

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The Diagnosis Report described 23 success factors, which were identified in international agrologistics programs and practices. These factors, initially distributed in six thematic areas to facilitate a sharper research focus, were identified by experts in each thematic area and served as a first step in shaping a hypothesis of success for the National Agrologistics Program.

In this process, a seventh thematic area regarding education was included, as well as a success factor based in capacity building, information exchange, and monitoring and evaluation processes.

Informed by field visits, interviews and the vision workshop, the reference success factors at international level were consolidated into specific seven success factors for Mexico.

Subsequently, and as a result of working sessions and evaluations carried out by SAGARPA and the working team, such factors of success have been consolidated into five working guidelines of the National Agrologistics Program.

Table 4.1. Development process

Key success factors identified in international cases	Key success factors for the National Agrologistics Program	Working Guidelines of the National Agrologistics Program	
Governance			
Public-private partnerships are essential but both sides need to be aligned and equally committed	1. Creating a multi-stakeholder policy dialogue and implementation entity	1. An effective governance framework to discuss policies, development of technical solutions, and progress evaluations	
The public sector plays a catalytic role in stimulating small scale agro-businesses			
The power of association mobilized by private sector initiative			
The effectiveness emanating from an integrated, transversal public agency with a clear mandate			
Fresh product logistics			
A closed cold chain from field to customer	2. Embedding quality management throughout the entire cold chain	2. Standardization of the chain based on quality	
Increasing chain efficiency by harnessing the power of information systems			
A flexible, reliable and sustainable supply chain			
Embedding quality management in the supply chain to reduce food losses			
Information systems and quality			
Traceability	3. Aligning inspections to the highest standards to build a reputation of quality		
Setting a program to improve customs and control procedures			
Align the interests of all parties in the supply chain			
Multimodality			
Location, location, location	4. Planning a reliably connected network of agrologistics nodes at the right locations	3. Planning and construction of Agrologistics and multimodal assets in strategic locations	
Size and connections matter			
Integrated multimodal policy keeps the logistic engine running			
Choose the right business model			
Maritime logistics			
Larger volumes and shorter turnaround times	5. Building, financing and managing efficient and viable agrologistics nodes		
The reefer is a game-changer			
Seamless connection between maritime and inland cargo			
Choosing the right port management model			
Agriculture policy			
Developing a clear guiding vision and defining specific expected outcomes on Agrologistics	6. Eliminating supply chain barriers and ensuring a clear business case for all stakeholders	4. Promote a business model based on demand, beneficial and open to all parties	
Developing relevant policies and implementation plans based on the guiding vision and objectives; in consultation with public and private sector parties			
Conversion of implementation plans into outstanding results on the land, supported by focused policy and targeted regulations			
Leverage inherent locational and competitive advantages through focused policy to drive investments in agrologistics			
	7. Building of human capital and efficient tools for information sharing and monitoring	5. Building of human capital and efficient tools for dissemination and follow-up of information	



### 4.2.1 Success factors by strategic pillars of the National Agrologistics Program

As highlighted in the Diagnosis Report<sup>9</sup> the National Agrologistics Program must: (i) address matters related to the physical development of infrastructure; (ii) ensure appropriate institutional development frameworks; and

(iii) foster innovation and knowledge development within the sector. Figure 4.2 illustrate these three strategic pillars, and the Table 4.3 reveals how the Program's working guidelines align under each pillar.

Figure 4.2. New Agrologistics Vision

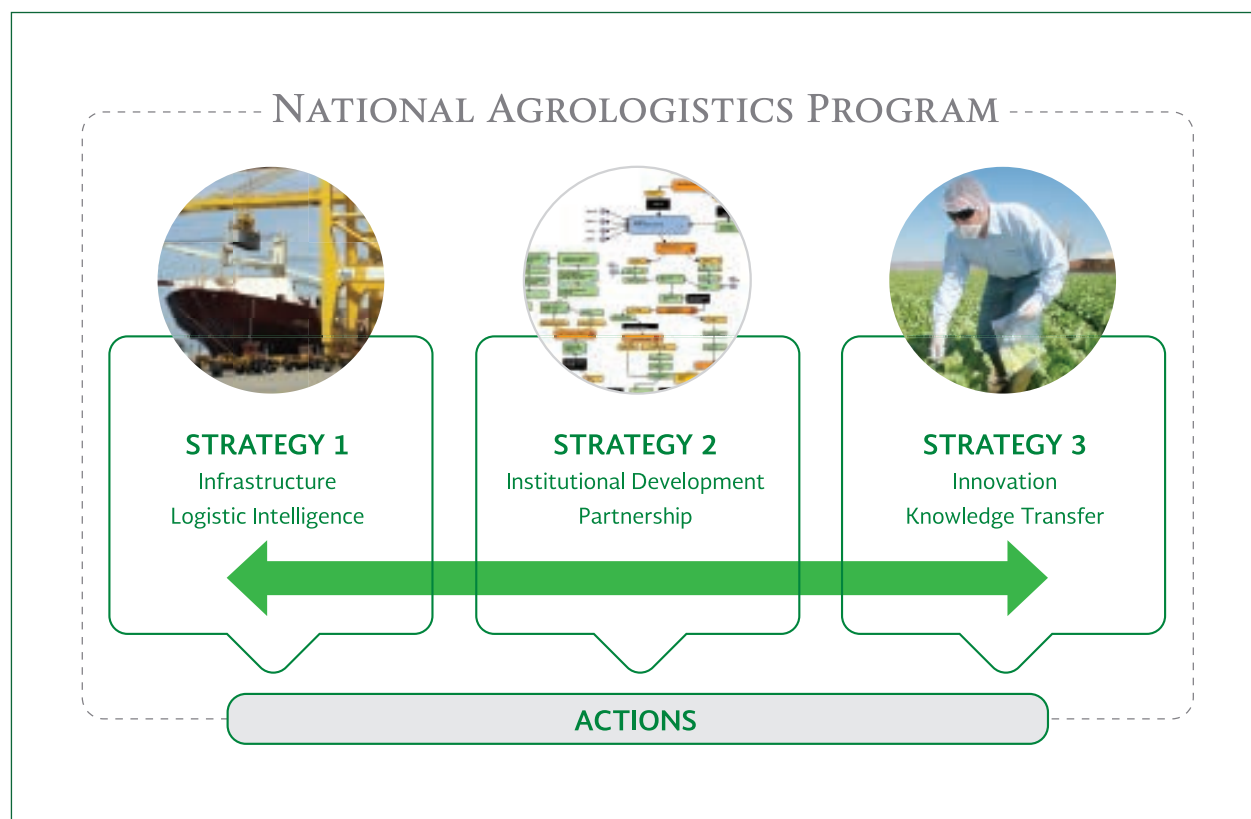


Table 4.3. Work guidelines and strategic pillars

1	Infrastructure and logistic intelligence	2	Institutional development and partnerships	3	Innovation and knowledge transfer
3. Planning and construction of Agrologistics and multimodal assets in strategic locations		1. An effective governance framework to discuss policies, development of technical solutions, and progress evaluations		5. Building of human capital and efficient tools for dissemination and follow-up of information	
2. Standardization of the chain based on quality					
4. Promote a business model based on demand, beneficial and open to all parties					

<sup>9</sup> See Diagnosis Report page 8.

## 4.3 An effective governance framework to discuss policies, development of technical solutions, and progress evaluations

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### 4.3.1 Background and justification

Agrologistics is a complex endeavor as it involves multiple actors and interests. These actors include all tiers of government, a wide range of public agencies and authorities as well as a large variety of private institutions. Not least, it affects lives and livelihoods of those who produce food and those who consume food in all of its forms. This inherent complexity of Agrologistics takes on an added dimension in the case of Mexico, as there is a growing awareness of the need to reform the agrologistics system and a political commitment to begin to do so in a very short period of time. Both of these dimensions increase expectations. This is a positive situation if used wisely; it also poses risks if expectations are not met.

For this reason, participatory governance has been included as a key issue in the diagnosis of and the recommendations for National Agrologistics Program.

Establishing a core group of leaders is important in order to drive progress in an inclusive way. Despite the importance of involving input from all relevant stakeholders, governance should be structured in a way that enables collaboration without diluting responsibility and decision-making authority.

### 4.3.2 Benefits and risks of participatory governance

Participatory governance engages people in decisions that affect them. It has proven to be particularly effective when the actors who are affected by a problem or an issue are engaged in the process of finding solutions. There are several reasons for this. One reason is that in complex situations, no single actor can be effective alone; each actor needs the support of other actors in order to come up with optimal solutions.

Another important reason is that each actor in the agrologistic chain has unique knowledge and expertise pertaining to one part of the chain as well as insights to how it is being affected by other parts of the chain. Participatory governance, if used wisely and correctly, can capitalize on that knowledge and expertise and translate them into effective outcomes. This “learning by doing”

approach contrasts with traditional governance models where decisions are taken top-down and accountability is predominantly bottom-up. Such models often result in “bureaucratic” and risk adverse procedures.

A third reason is that participatory governance “de-politicizes” decision making. It creates a space in which issues and problems can be examined and the resulting policy recommendations can both be evidence-based and lead to win-win solutions.

A fourth reason is that inclusive engagement makes for more effective follow-up and implementation as all relevant parties took part in the decision-making process. As a result all parties should feel that their interests were given due consideration and should therefore have no reason to hinder the implementation of decisions taken.

Participatory governance is not without risks. The biggest single risk is that of “cosmetic” participation. This is especially problematical when it affects to two poles of the societal spectrum, namely those that are perceived to be influential and those that are not.

One aspect to consider is when those who are perceived to be influential participate nominally and continue with business as usual. The other aspect of cosmetic participation is when the less influential and marginalized parties are invited to the table and use up a lot of their energy and time without any favorable outcomes.

Another risk is the possibility that the participatory process becomes an exercise in consensus seeking, i.e. seeking solutions that do not “rock the boat” and maintain the status quo ante to a large extent. In those cases, the process often adopts a few policy principles very quickly but then becomes drawn out and made more complex with the creation of sub-working groups and sub-task forces so as to avoid any real decisions or change.

The strategic planning and decision making based on evidence has very little to do with consensus and a lot to do with a few hard choices.

The principles that follow are intended to inform the recommendations with the above benefits and risks in mind.

- **Leadership:** maximizing the potential of participatory governance is first and foremost a leadership role and responsibility.
- **Reporting:** in order to minimize the risk of cosmetic participation, it would be critical that the multi-stakeholder entity report on “changes agreed to and made” to the Office of the President on a regular basis. This will help ensure that the multi-stakeholder entity remains action-oriented.
- **Evidence based:** to avoid decisions made on the least common denominator and to ensure a solid evidence base for policy recommendations. It is equally critical to have an independent research and innovation unit. This role of this unit would be to constitute a scientific baseline for monitoring the contribution of the Agrologistics Program to the key indicators and objectives of the Reforma y Modernización del Campo.

## 4.4 Standardization of the chain based on quality

### 4.4.1 Background and justification

Fresh logistics concerns all activities in the supply chain to match the product supply from the farm with the market demand for those products. All actors in the chain have a role and all the links of the logistic chain have great impact on the total yield. Fresh products are subject to quality decay during their transport and therefore require management approaches based on quality.

Standardized use of technologies, such as installations and temperature-controlled trucks, allows the food supply chains to manage the quality of the products throughout the entire chain. Besides, Quality Controlled Logistics<sup>10</sup> which claims that the establishment of better food supply chains designs depends on the availability of real time product quality information and the use of that information in advanced logistics decision making along the chain, establishing standards and norms based on quality is a key factor.

The supply chain of fresh products is ‘not a hospital’. Product quality will not improve during the transition from field to fork but tends to decline. It is essential for all actors to be at least aware of this. Furthermore, not only this awareness, but also the specific factors within their control that influence the product quality should be shared by the actors. These factors, and thus the span of control per actor, differ from the time and place of the product within the supply chain. Most essential is the phase just after harvesting the produce. All aspects related to (i) reducing field heat, (ii) selecting, sorting and grading, (iii) packaging, (iv) pre-cooling, (v) cold storage, (vi) loading on to trailer or reefer container, etc. determine product quality as perceived by the end consumer.

According to the Logistics Performance Indicator (LPI) of the World Bank, Mexico ranks 46th of 160 countries in the 2014 Index. This index examines multiple factors, and the factor that mainly affects this low rating is customs, in which it is ranked number 71 of 160. In the Enabling Trade Index, the customs factor in Mexico is ranked 58th of 132 countries, and the particular problem is the high costs of imports (place 101 of 132) and exports (place 70 of 132). This points out the opportunity to improve border crossing processes and border inspection installations. These low classifications have a negative impact on the goals of the Reforma y Modernización del Campo, in profitability and food safety. The national and international corporations can consider Mexico as costly in the international import and export of goods due to the high costs of the bureaucratic procedures as well as of inspection for imports and exports of goods, and the long waiting times at the borders. These long waiting times are particularly negative for fresh goods, because they tend to reduce their quality and even cause losses and waste. In addition to the direct effects of these classifications, often there are indirect effects of less effective inspection agencies, such as a weak control of quality along the supply chain and problems with informality. These low classifications make Mexico a less attractive country for international trade in agri-food products.

Removing the causes of these low classifications can be considered to be one of the most important challenges to overcome in order to use the full potential of this country to become a worldwide leader in export of fresh products. Two actions within the area should be considered:

<sup>10</sup> Van der Vorst et al (2011; 2007).

- Coordinate all the inspection agencies of the agri-food supply chain (including customs, phytosanitary, sanitary inspections and those related with drugs) under the supervision of the Office of the President, standardizing procedures and regulations.
- Make inspection agencies more efficient and effective by means of the use of a better quality control by the corporation (control based on risks) under the supervision of the Office of the President.

#### 4.4.2 Length and complexity of the supply chain

Taking merely product quality into account, the most optimal situation would be that just after harvesting the product is prepared for consumption and consumed. This however is not possible in complex supply chains; not only in terms of time and distances the product is transported, but also related to the amount of actors within the supply chain. Beside the number of actors in the chain, uncertainty aspects and the type of product bring complexity. Both concepts are 'not in favor' of a fresh product. Biological products will always face uncertainty related to availability; furthermore, the product is fragile and sensitive to environmental factors such as temperature, relative humidity, vibrations, light and other factors. In summary, both length (time, distance, number of actors) and complexity (fresh products) have impact on chain performance.

#### 4.4.3 Fresh logistics for domestic and export markets

The supply chains for export in Mexico, which focus largely on the US market, are in the domain of large corporations. These supply chains are long in time and distance, have many chain actors and are highly dependent on large buyers (wholesalers and/or retailers). These supply chains are challenging to product quality because fresh products have to be transported, in most cases by road, over long distances subject to roadside inspections and customs, where the cargo has to be unloaded and loaded in different trailers to cross the border. Products have to comply with demanding product specifications, certification (BRC<sup>11</sup>, GlobalGap, Organic, Traceability), availability (year round delivery, homogenous products) and logistic requirements (for example, delivery schemes, packed on retailer outlet level, Electronic Data Interchange or EDI, and electronic invoicing).

The supply chain for the domestic market in most cases is shorter and less complex in terms of the amount of actors involved. Furthermore the demands related to product specifications, certifications, availability and logistics are less in comparison to the export driven supply chains. But this of course depends on the specific customer (for example delivering to retailers like Oxxo and Walmart or the wholesale market in Mexico City), but in general the demands are lower. Producers focusing on the domestic market are medium sized companies.

The table below sums the two markets and the size of company. In this table the different steps in the supply chain related to fresh logistics are also displayed.

<sup>11</sup> British Retail Consortium.

Table 4.4. Markets and company size

	Domestic Market				Export Market				
Size company	Harvest	Grading, Sorting, Packaging	Transport	Market demands	Harvest	Grading, Sorting, Packaging	Transport	Customs	Market demands
Small & Medium	✓	✓	✓	✓					
Large					✓	✓	✓	✓	✓

#### 4.4.4 Challenges

Three key challenges to fresh logistics in Mexico are related to resource efficiency, food security and food safety, and product quality.

Food losses in the supply chain of perishables are estimated at around 40 percent. Most of these losses occur during production<sup>12</sup>, harvest and right after harvesting. For example, in 2014 over production, lack of domestic market demands, and price regulations contributed to the loss of tomatoes. However, in general the loss of food is related to the lack of good post-harvest handling and poor or no post-harvest facilities. Resource efficiency will be of growing importance as the population of Mexico continues to grow, not only to produce a sufficient amount, but also to produce affordable food.

The transportation of produce from the field to packinghouses in open trucks, where the product is unprotected, with minimal washing facilities and deficient hygienic care at wholesale markets, such as uncooled storage of meat and poultry, are not uncommon. Furthermore the lack of traceability due to the fact that such a system is not in place or because of the fact that products of several producers are combined and/or that the tracing starts at this 'consolidation point' do not contribute to a good food safety system. This challenge is most eminent in terms of the small and medium sized producers, especially for the domestic market. Traceability systems are often too expensive for individual producers or smaller companies or too complex when different product flows are combined. But also the 'domestic customers' in general do not ask for such a system. For the export market food safety is a key topic as well as a robust traceability system. However, the domestic market for Mexico is changing. Middle class and high-income consumers demand safe food that they

can trust. Producers must be able to track and trace their products throughout the entire supply chain, highlighting the increased importance of food safety.

The cold chain often starts late and is hardly ever unbroken, and inspections that are not product-related are the principal obstacle to a seamless chain. The relation between product quality and product temperature may be known, but it is not contemplated in inspection processes. This results in many broken cold chain cases leading to a rise of the product temperature and a negative impact on the product quality. But even when these inspections only take up little time, logistic service providers face price reductions by the customer as most customers in US and Canada demand that trailers carry thermographs.

#### 4.4.5 Import and export

The supply chains for the domestic and export markets are different and the size of the producers also differs. Small and medium size producers focus on the domestic market, large producers concentrate on the export market. Challenges can be seen in both types of chains. These are identified based on the combination of market (domestic/export) and company size (SME/Large).

Challenges for SME producers for a large extent are related to the first steps of the postharvest chain. The focus must not only be on the yield and quality during the growing season, but also on keeping the product quality during harvest and postharvest handling processes. This means, closing the cold chain as soon as possible and keeping it closed as long as possible. What 'as soon as possible' means exactly? That depends on the product, but in general this is right after harvesting the product.

<sup>12</sup> The scope of the National Agrologistics Program is postharvest.

Another challenge is related to packaging for transportation. The usage of the right packing, such as a case or crate, to prevent product damage is of upmost importance to maintain product quality.

Challenges for the export market are related to customs and market demands. Crossing the US border often has a huge impact on product quality. Not only waiting times at the border, where queues of 6 kilometers are rule, not exceptions, but also inspections by customs in poorly conditioned facilities harm product quality. Furthermore, market demands related to traceability (food safety and product quality) require closed, or at least controlled, cold chains with robust registration proceedings and facilities.

#### **4.4.6 Opportunities for coordinated border inspections and alignment with international standards**

Coordinated border inspections would bring two key advantages. With joint teams located at the same site, preferably at the premise of a terminal operator, the likelihood of the cold chain to be broken would be greatly reduced as the inspection agencies can share the same temperature-controlled inspection site. The second advantage is the reduction of waiting times, which are due to a large extent by a lack of coordination among border inspection agencies, in particular between customs and phytosanitary inspections.

Two precedents of such facilities exist in Mexico. At the border crossing of Nuevo Laredo, most goods are transported by truck. Although under a pilot program designated Mexican trucking companies can cross the border and circulate in the US, most trucks are not allowed to cross the border. This means that all goods have to be unloaded from one truck and reloaded into another truck on the other side of the border. Cross docking from one truck to the other at the border leads to extra waiting times and costs. In busy days, there are 5-mile long queues at both sides of the border. Typically, fruit and vegetables are refrigerated to 4 degrees Celsius and meat is deep-frozen to -28 degrees Celsius. Cross docking of fresh goods at the border is not always done under temperature-controlled conditions, which then leads to a broken cold chain. However, a new facility for phytosanitary inspections by SENESICA also has inspection equipment that is suitable for customs inspections, and is large enough to host a joint inspection team of officers from SENESICA and customs.

Another example of combined inspection is in the seaport of Manzanillo, where a terminal operator runs a phytosanitary inspection authorized by SENESICA. This site has controlled temperature and could also be used by customs inspectors to conduct joint inspections.

Solving this coordination problem between the various inspection agencies at the border, also called Coordinated Border Management (CBM). This is identified by the World Customs Organization (WCO) as one of the most important solutions to solve delays at the border for import as well as export, as is reported in the 'SAFE Framework of Standards to Secure and Facilitate Trade' of the WCO<sup>13</sup>.

<sup>13</sup> See: [http://www.wcoomd.org/en/topics/facilitation/instrument-and-tools/tools/safe\\_package.aspx](http://www.wcoomd.org/en/topics/facilitation/instrument-and-tools/tools/safe_package.aspx)

## 4.5 Planning and construction of Agrologistics and multimodal assets in strategic locations

### 4.5.1 Background and justification

To support the vision, the agrologistics chain including multimodal nodes has to be conceived as an integral and living system of parts that, although they will be completed over the long term, needs to be built every day. A system of multimodal nodes at the right locations, highly connected, and very reliable is a catalyst for new business, jobs and therefore the growth of the economy. Based on international experience, multimodality can be one of the most important factors for regions to attract investment.

While unplanned investment in multimodal nodes can lead to cannibalization and waste of public and private financial resources, a well-planned network of intermodal nodes attracts other business and value added services like clusters of production activities, warehousing, and packaging, and vice versa. The Dutch Venlo node is adjacent to the agri-food cluster Fresh Park Venlo, allowing fresh products to be shipped by rail, barge and road to ports or hinterland. Intermodal nodes need and drive consolidation of a critical mass of products, which can help reducing supply chain and packing costs.

In order to implement an effective system of multimodal nodes, several aspects have to be in place, such as thorough knowledge of supply and demand of logistics, production, balance between imports and exports, cooperation between supply chain partners, collaboration between private and public partners, among others.

### 4.5.2 Reliable and efficient connectivity on the intermodal transport network drives more sustainable and more competitive supply chains.

A reliable connectivity is essential for a successful multimodal network and services. If a node at the beginning of the chain is reliable, the frequency of connections up or downstream the chain can be increased enabling the system to work seamlessly. Since each mode has its own lead times, the number of services for each connection is a key element.

Connectivity is not only determined by a high and reliable number of connections to other hubs in the network, but also by the services offered at a multimodal node. The availability of services makes one terminal perform much better than another. For instance, a custom clearance point at multimodal nodes makes it possible to schedule export shipments directly at origin or final destination without any delay in seaports.

In Mexico, rail-based freight transport has no or very limited competition from passenger transport, which enables the use of the full capacity of the network. Although bottlenecks like one-way tracks are a hurdle, the key factor is the territorial dominance created by the concessions for rail track use, which impedes planning between the market and infrastructure managers. This leads to a non-optimal use of the infrastructure and prevents rail freight in general and thus multimodal to become competitive. Shippers will not make the switch from road to rail if it's less competitive.

Planning and collaboration between stakeholders in multimodal transport is even more important when it comes to cross border services due to the necessary alignment of processes on both sides of the border. For Mexico aligning processes on both sides of the border is important due to the 100 percent of agri-food products are inspected. For example, In Nuevo Laredo, all trains with agri-food products have to be controlled which has a particularly negative effect on mixed cargo trains. This leads to an increase of costs and reduces the trustworthiness of the logistics chain with the consequent loss of competitiveness.

### 4.5.3 Importance of the intermodal assets at the right location in the hinterland between large consumer and production areas

The location of multimodal nodes in relationship with consumer and production areas, and towards the ports is very important. Consumers are the origin of demand and often drive the location of distribution centers of regional and national scale. Proximity results in lower last-mile costs, which in Europe can be on average 25 to 30 percent of the total transport costs, but too many nodes can cannibalize on each other.



In Europe, the minimum distance for competitive multimodal solutions is between 250 and 350 kilometers, the nearest terminal to or from a large consumer area (400,000/1,000,000 inhabitants) should be around 25 to 45 kilometers.

Since distances in Mexico are longer the intermodal terminals could serve a bigger area. Based on the main production and consumer areas and the position towards main ports, the triangle between Mexico City, Guadalajara and Monterrey is a very good location for setting up or improving a limited number of intermodal hubs and improving the connectivity and competitiveness of multimodal transport. In this area there are many large producers and distributors in different industries with large cargo flows, but they are not using any multimodal transport.

In addition to location, critical mass is essential. The multimodal node must be of a sufficient size to allow recovery of the high upfront investment required, which for European nodes can vary between 5 and 100 million Euros for access roads, rail tracks, quays, cranes and other infrastructure. Nodes of 2 acres or less of area are suboptimal. In terms of capacity, in Europe terminals below a turnover of 10,000 to 15,000 TEU on annual basis are not competitive. Multimodal nodes should have enough operation space clear of obstacles, for example, when public roads cross rail tracks; tracks have sharp curves; or extra space is required for maneuvering and shunting. Some of these unfavorable conditions were observed in Manzanillo.

A better layout, optimal use of space and aligned processes in ports and multimodal terminals is often the outcome of a collaborative effort between the infrastructure asset manager (often local, regional or national authority) and the developer of the terminal (often private company or consortium).

#### 4.5.4 Ports

Following a reform passed in 1994, many of the ports in Mexico have seen an increase in private involvement in management. A number of concessions have created opportunities for terminal development and operations by private operators, in many cases international companies, which have led to an incremental increase of the total throughput. The ports of Manzanillo, Lázaro Cardenas and Veracruz have captured the majority of the market share in Mexico as primary hubs, outperforming other ports, which are now recognized as short seaports. However, as underscored by the LPI index mentioned in earlier sections, the performance leaves room for improvement, especially when looking at a strategy

needed to add value to the agrologistics program at a national level. The agri-food sector is particularly challenging for ports requiring speed in the process and a continuous cold chain.

The port of Manzanillo was expanded recently following a private sector concession for the development and management of the Specialized Container Terminal (Terminal Especializada en Contenedores, TEC II) and the Multiple Uses Terminal (Terminal de Usos Múltiples, TUM). An observed result is the increase in container volumes above the trend line, and a most likely related market share increase in the West coast of Mexico. The port faces spatial constraints, which are caused in part by urban growth. The layout is also challenging; in the case of an older container terminal at San Pedrito, it seems to prioritize landing and storing rather than speed.

The facility has a number of cooling, storage and inspection facilities in the direct vicinity of the unloading area, and leaves an area with a depth of some 40 m for landing, stacking and distribution. International best practice shows optimal size and ratios between quay length and depth of the stacking area. These serve to achieve best use of available equipment and human resources for a stacking grid that balances landing, stacking and distribution.

Although there is a plan to improve connectivity via rail through the construction of a tunnel south of the port, which will avoid trains crossing the city, a long-term development plan for modal shift to train is not clear. The tunnel project is driven by solving an immediate bottleneck and planned at micro scale.

The port of Lázaro Cardenas has space for further expansion, but suffers from unsafe hinterland connections. It has a rail connection, which it claims to be excellent, but this qualification primarily refers to the existence of infrastructure. A monopoly arrangement with a rail operator creates high dependency and an absence of competition. Two new terminals have been built in the past years, and the port authority Administración Portuaria Integral Lázaro Cardenas mentions that the port still shows ample options for further expansion, although the location towards water and hinterland and the area of these plots for expansion were not disclosed.

A port's financial performance is proportional to the throughput, and optimal throughput is, theoretically, proportional to occupancy, all other factors considered equal. Berth occupancy of over 60 percent is considered relatively high and occupancy of 100 percent is not realistic due to scheduling and friction that reduces the load capacity.



The observation in May 2014 indicates a low 20 percent occupancy, which denotes an underperformance of the terminal's assets, compromising two thirds of its potential return. Unless it is financed at very profitable conditions, money or at least an economic opportunity is lost.

The port authority Administración Portuaria Integral Veracruz is preparing plans for an ambitious seaside expansion to be completed by 2018. The expansion anticipates on market demand and can partially be explained by the limited expansion possibilities of the old port and its inadequate hinterland connections. According to the Administración Portuaria Integral Veracruz, improving the speed of operations is an area of opportunity, if the competitive lead times between receiving and clearing are matched by a 24/7 operation of inspections and administration procedures. The document validation process including tariffs, delays the uploading of the vessel. Integrating tariffs in the automated process would reduce dispatch time, as well as certificates issued at country of origin.

#### 4.5.5 Management models for ports in Mexico

Whereas many management models exist for development and operations of infrastructure, these can be considered as derivatives of four main types, defined by the level of private or public involvement in both investment and operations. The types are 1) fully private (private service port); 2) fully public (public service port); 3) private operations of public equity (cool-ports); and 4) public private cooperation for both investment and operations, known as the landlord model.

Regarding ports, in the landlord port system currently in place in Mexico the level of private involvement varies from other landlord port models. Public investment focuses mainly on main infrastructure such as waterways and coastal defenses. Public management is primarily focused on the harbormaster's role, including ensuring safe mooring, handling, and inspection. Terminal investment and commercial operation are private responsibilities. Expansion projects would benefit from a strategic definition of objectives, rather than being driven by supply. The outcome of the tender process, however transparent, is selling the concession to the highest bidder but not contracting a partner for an integral development of the port considering, among other factors, return, market share and sustainability.

In terms of rail, the two main rail networks giving access to the United States, Mexico's main market for export and import, are both controlled by a single concession

holder. A single concession holder operates in a monopoly and creates a dependency for the terminal operator. Unfavorable conditions that may rise from single concession will eventually affect the bid on the terminal concession negatively.

#### 4.5.6 A strategic planning approach to infrastructure management will improve performance

Ports with supply-driven development plans that do not include operational projections or reservations for handling space and connections may be built but face the risk of being overvalued facing to be tendered. If this valuation doesn't meet the operator's conditions, the result can be a failed tender. The current landlord port management model in Mexico does not fully utilize its potential to harness the expertise of both private and public sectors.

The model distributes responsibilities for infrastructure investment and operations, but does not consider strategic planning beyond landlord responsibilities' essential. If adopted, such approach would bring significant opportunities for improved performance. An infrastructure authority adopting a strategic approach would require the following attributes:

- A development master plan of the port area that creates an attractive and competitive layout in space and connections
- A proactive business developer that understand clients and markets and sets the port direction to meet this
- An investor and asset manager that generates investment space and control its use
- A regulator and facilitator that creates the conditions for competition
- A safety authority, such as a harbor master, that can adapt to change and provide safe and stable traffic.

Strategic planning is essential as it adds business dynamics to master planning. An expanded scope of master planning includes a hinterland connectivity strategy for the mid- and long-term, which takes into account expansion scenarios and strategic reservations to proactively manage space and capacity requirements. It would also plan the development of common carriers and hubs (for example basic infrastructure, intermodal facilities, backbone IT infrastructure).

The strategic master plan should go hand in hand with a business development plan. This is essential to proactively interface with potential operators and shippers in identifying markets of opportunity and traffic forecasts.

To fully capitalize the opportunities created by a management model based on public private partnering the professionalization of authorities is required. International players in the port industry have extensive track records in development and operation of terminal infrastructure as well as an equally large experience in contracting and managing assets. This generates an imbalance in the capacity of negotiation in favor of the private part, which generates dilemmas with for example, the port's long-term strategic plans.

Adopting a proactive infrastructure management approach does not need an institutional reform but the capacity to supervise and coordinate disciplines so that their respective outputs define a rational strategy for asset performance. Two key instruments would need to be coordinated:

- A sector plan development depicting a mid-term and long-term vision of product market combinations, in order to match ports strengths with opportunities in export markets
- A financial business case to rationalize concession agreements, considering both revenue and cost driven by return, that allows a long term prediction of financial results; this would enable off-balance financing which accelerates strategic investments.

#### 4.5.7 Bundling asset development opportunities

Port authorities acting in a landlord capacity considering the release of land through leasehold or sale would benefit from bundling asset management with other asset development opportunities. Leasing the site can be combined with the establishment of building rights on the port area, which opens opportunities for land value capture mechanisms. Creating additional docking capacity through quay walls would increase cargo volumes and harbor dues, which benefits both landlord and leaseholder. The allocation of risk and the mode of financing of the investment would depend on the term of operations contracts. The same principles can be applied to the developments of inland multimodal assets.

## 4.6 Promote a business model based on demand, beneficial and open to all parties

### 4.6.1 Background and justification

Globally, and in Mexico, supply chain barriers are key contributors to inefficiency in agrologistics systems leading to food losses of as much as 40 percent of fresh produce. Barrier reduction can be defined in terms of “institutions, policies and services facilitating the free flow of goods over borders and to destination.”<sup>14</sup>. This definition of barriers also includes the movement of goods within the domestic economy, which is often among the biggest challenges facing agricultural value chains in developing countries including Mexico.

Supply chain barriers drive food losses in various ways, in various value chains. For example:

- **Market access:** If containers of Mexican oranges arriving at EU customs exceed maximum pesticide limits, and cannot be redirected to an alternate market, they must be disposed of
- **Border administration:** Tomatoes traveling by truck across Mexican-US border can be delayed for hours or days at border crossings, resulting in up to 30 percent loss in firmness, and many tomatoes being unsuitable for sale upon arrival in the US or Canadian markets
- **Telecom and transport infrastructure:** A refrigerated truck takes more time and costs to travel from Chiapas to Nuevo Laredo than from Nuevo Laredo to Toronto
- **Business environment:** Tomato value chains that include processing at origin can reduce losses significantly versus purely fresh chains, but lack of reliable access to energy sources and water can prohibit processors from investing in a country.

Instances of physical food losses like these make a dramatic impression because the inefficiencies are so tangible. However, the costs that supply chain barriers impose on agricultural value chains are far greater than the costs of physical losses alone.

### 4.6.2 Levers to reduce food losses

Food losses occur in different percentages at varying stages in the value chain. In general, differences in loss drivers, and thus, solutions, are influenced by multiple factors, including crop (e.g. perishability), country (e.g. level of infrastructure), and end market (e.g. processing methods).

The less food is worth, the more susceptible it is to losses. This is consistent across the different value chains.

Reducing food loss requires resources, either in the form of capital expenditures or increased operating costs. These costs must be outweighed by the expected benefits of loss reduction. Therefore, the more profitable a crop is, the more resources that are available to ensure it makes its way from farm to fork with the least loss.

Three main levers exist to improve the economic efficiency of agricultural value chains. Supply chain barriers influence each of these levers in different ways:

1. **Reduced volatility.** Supply fluctuates dramatically in agriculture, particularly in developing countries. In years of oversupply, prices drop dramatically. As a result, the cost of harvesting and getting food to market can exceed potential revenues. Solutions to reduce volatility include stable long-term policy and reduced import and export barriers.
2. **Increased prices.** Aside from volatility, low average prices can also drive food losses. Since at times it is cheaper to just throw away the produce than to transport it, since the cost of transportation may be higher than the price being offered. Creating simple processing operations at the point of origin can help reduce food loss substantially e.g. during glut season a mobile tomato pureeing machine could be brought in to process tomatoes on-site in Florida.
3. **Reduced costs.** The journey that Mexican tomatoes take from farm to fork is extremely fragmented, involving regional and local marketplaces. The high number of touch points and middlemen adds costs along the way, meaning that margins for each player become slim. As a result, investment is less available for advanced technologies, which could reduce transportation losses by up to 75%.

<sup>14</sup> According to the Global Enabling Trade Report issued by the World Economic Forum

### ***Food losses reduction efforts in the broader context of economic efficiency***

Governments and companies have limited resources, so investments to improve supply chains must be made in ways that will maximize the long-term positive impact on society. If investments do not allow companies, and, subsequently, entire value chains to reach sustainable profitability, governments will expend a huge amount of energy and resources, and there will be no momentum developed. Low success rates of efforts to introduce grain storage technologies in Sub-Saharan Africa are an example. Implementation was often done without a clear path to financial sustainability, and their focus on enhancing storage often overlooked missing economic incentives.

If, on the other hand, policymakers carefully coordinate efforts as part of a broader strategy to promote promising, high-potential industries, tipping points of profitability can be reached. When this happens, the private sector is able to reinvest retained earnings into the industry, including loss reduction efforts,

and a virtuous, self-promoting cycle of development is triggered. A successful example can be found in Kenyan avocados. In the early 1990s, the Kenyan government liberalized the fertilizer market, resulting in a 14-percentage point increase in fertilizer use among smallholders. Resulting yield increases, combined with government investment in the Nairobi-Mombasa highway and the provision of reliable power at Mombasa ports, helped to enable A.P. Moeller Maersk's investment in the introduction of refrigerated containers. Beginning the cold chain at the pack-house gate increased the shelf life of exported avocados, allowing access to distant, high-value markets in Europe. Exporter profits generated from higher end market prices are now being reinvested to help small producers improve the quality of their products, driving further price appreciation. Similarly, coordinated efforts in infrastructure, financing, policy, and capacity building helped to drive agricultural transformations in countries like China in recent decades.

#### 4.6.3 Key implications for Agrologistics efficiencies through supply chain improvements

- Agrologistics systems should be part of a coordinated strategy of investments and policy support for an industry where the country has a competitive advantage.
- Within that industry, high-potential value chains and trade corridors should be specifically targeted.
- Any intervention to reduce barriers should aim to achieve a minimum rate of return.
- The further the actors in the target industry are from “tipping points” of overall profitability, the more time and resources governments must be willing and able to contribute.
- Private sector input is critical to maximize the impacts of these coordinated strategies

#### 4.6.4 Integrating small producers into value chains

If the benefits of any improvements in the value chains are to be passed on to small producers then it is imperative that the right structures be created which allow them to be connected to the formal Agrologistics/value chain systems. The present systems which small producers use to reach markets are archaic and not conducive to good product handling practices. The following initiatives would facilitate the integration of small producers into the value chain:

- **Supporting innovative equipment for pooling solutions:** In many cases, investment in improved transportation or storage technologies would be profitable in the long run, but lack of capital, knowledge, or enablers makes them inaccessible to farmers or transporters. In these situations, creative solutions must be found to overcome the barriers. In India, government subsidy on adoption of plastic containers for tomatoes and allowances for sharing/pooling of equipment has allowed small producers to connect more easily to formal supply chains. This innovative ownership model leverages pooling of equipment. A service provider retains ownership of transportation equipment (e.g. pallets, reusable plastic containers), and manages the network, providing customers with equipment when necessary. This model allows producers, processors, manufacturers and retailers to utilize the equipment without having to make a capital investment. Underlying logistics are also more efficient, as utilization rates for the equipment benefit from higher volumes, and maintenance of equipment only needs to be handled by one actor. For all of this to function, it requires policy in place, which allows the

service provider to quickly access his equipment and collect payments without getting tied down in slow legal processes in case of non-payment or return of equipment.

- **Reducing the potential travel distance for the small producer:** Another logistical challenge in agriculture is the long distances between producers and their corresponding markets, ports, or processors, especially in smallholder environments. A long-term solution to this challenge is constructing vertically integrated facilities co-locating farms and processors. In the near term, more creative logistical solutions need to be found. Collection points can help with the inefficiency of sending small trucks across long distances, and could also be used as points to train local farmers on best practices in post-harvest handling and storage. Mobile or primary processing can help to reduce losses for highly fresh goods, and to smooth prices in periods of excess supply. In addition to mobile processing other post-harvest treatments can also have considerable positive impacts on both weight and quality losses. Longer shelf life and improved durability can allow goods that travel further, granting access to higher-value markets.
- **Scaling up transportation services:** Scale in transport should ideally be balanced by a competitive landscape of service providers in order to drive down both costs and prices. Regulations impacting the development of this type of environment are important, along with those impacting vehicle movement and standardization of equipment. Scale is critical to achieve low transportation costs, for a long list of reasons. Larger trucking fleets have more flexible distribution networks and are better able to manage backhauls to maximize capacity utilization. They can afford larger, better-quality trucks, carry larger loads more safely, and invest in regular maintenance.
- **Liberalizing movement within regions:** This reduces direct costs and also promotes competition, which drives further efficiency in the transportation sector. An example of restrictive transport regulations is found in Central America. Guatemalan exporters sending goods overland to Mexico are forced to offload their cargo from Guatemalan trucks at the border and reload it onto Mexican trucks, and vice versa. The additional costs of this process make exported goods less competitive in both countries. It also drives up overall transportation costs by restricting competition in both Mexico and Guatemala.

- **Reducing restrictions on movement within countries:** Particularly strong effects on fresh goods are noted. In Mexico, complex state level phytosanitary regulations increase logistic complexity even for huge players such as Walmart. It is important for the state governments to have a clear understanding of the regulatory impacts before enforcing this type of restriction on the trucking sector.
- **Using information and communication technologies (ICT):** Despite the basic sufficiency of available ICT in Mexico, forward-thinking solutions are emerging to use ICT in creative ways to further improve the movement of goods.
- **Enforcing contracts:** Contract enforcement is essential to the development of any industry. In agricultural sectors in developed countries, contracts are typically established between producers and processors, providing both parties with protection against market price swings in either direction. In developing countries, the lack of long-term trust, scarcity of cash, and lack of effective legal recourse mean that agreements are often broken. As a result, producers sometimes have no buyer for their harvest, and processors sometimes have insufficient raw materials to operate their factories at capacity. Breakdowns occur on both ends of the deal. Once a processor or a producer experiences this breakdown of trust, it takes years to rebuild. Disillusioned and out of cash, either one may decide to abandon efforts and exit the value chain for good. Vertical integration can help to circumvent contract enforcement challenges, although this integration should be accompanied by mechanisms to mitigate potentially negative impacts on smallholders. Various models of shared ownership could help to align interests between parties. Public-private partnerships are also being tested as ways to deepen relationships and mutual benefits for producers and processors.

## 4.7 Building of human capital and efficient tools for dissemination and follow-up of information

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### 4.7.1 Background and justification

Every day, intense agri-food product export and import activities take place in Mexico<sup>15</sup>. To facilitate trading an agrologistics system is required. One of the most important assets for this endeavor is the quality of the human capital. Large quantities of financial resources can be available and the most sophisticated technology ready in place. However, if those in charge of managing the endeavor are not adequately equipped with the right knowledge and skills, the outcome would be useless and a misallocation of resources.

Given the fact that the producers trade in an open, globalized market, the efficiency of the process is directly related to competitiveness. Agrologistics is a complex process, which requires an intelligent and efficient synchronization of variables administered by different parties. It requires the participation of a wide array of actors using significant amounts of information e.g., norms, procedures, laws, and prices. The human factor is therefore critical, and insufficiently qualified system operators will inevitably lead to inefficiencies that transform into higher costs.

<sup>15</sup> According to FAO, from 1982 to the present, in Mexico for each dollar imported of fruits and vegetables, six dollars are exported. FAOSTAT, 2012.

#### 4.7.2 Poor knowledge of the entire chain

Products to be traded, particularly those for exportation, have to go through a complex and process of customs inspections by different types of government agencies. For instance, the Ministry of Finance and Public Credit (SHCP) makes sure that merchandise complies with the national and international laws agreed on in trade agreements of which Mexico is signatory. Customs officials are compelled to make sure that merchandises coming into or out of Mexico have a legal origin and pay the duties stipulated by the law.

Personnel of SAGARPA have the obligation of making sure that any product being imported or exported is innocuous and complies with the sanitary prescriptions that guarantee harmless consumption by final consumers. Non-government actors also intervene, for example custom agents facilitating goods movement in ports and airports; providers of transport services; and banks, providing access to credit.

In this complex scenario, trying to make sure that norms and procedures are fully carried out can be challenging, because this might result in a myopic view of the supply chain process. For example, in the main customs center, the practice is that customs and SAGARPA officers work separately<sup>16</sup>. Furthermore, there is a lack of coordinated routines where all stakeholders are considered. The problem lies not on the absence of a plan for coordinated interventions, but also in the insufficient training to understand the process holistically which is needed to carry out the priorities of different government or private institutions in a synchronized manner.

#### 4.7.3 Lack of appropriate tools to monitor progress

A second challenge essential to the establishment of an agrologistics system refers to the absence of appropriate tools to monitor both progress and the performance of programs related to it. Mexico does not have, for instance, control panels or monitoring boards that help supply and demand to converge as much as possible. In some cases, like the one of the ASERCA's Control Panel, these tools are in the initial stages but its potential remains unleveraged. Going forward, it will not be possible to realize the vision if the right information is not available and if there are no systems in place to monitor the effectiveness of what is being done.

#### 4.7.4 Absence of knowledge sharing mechanisms

In addition to properly trained personnel the agrologistics system should be built on a scientific basis. In many respects, such a system can be considered as applied science, where engineering, administration, economics and other fields of knowledge converge. A think tank dedicated to applied, already available knowledge to organize an efficient agrologistics system is still a project for the future.

Another challenge very much related to the above is research. An agrologistics system requires continues improvement. As far as it is known, agreements with research institutes or universities have not been established to set up multidisciplinary groups to research on new complex systems applicable to agrologistics. There are many areas in which proper research could help to establish modern practices. Some of them refer to engineering and digitalization of administrative processes. Cooperation agreements between organizations in charge of agrologistics and higher educational centers could very much facilitate research and its applications.

<sup>16</sup> This was observed during an onsite visit to the airport hub.

## 5 Working guidelines and actions of the National Agrologistics Program

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The following sections identify recommended working guidelines and actions, arising from the Diagnosis findings, success factors of international experiences, and success factors for specific to the Program.

Figure 5.1. Working guidelines of the National Agrologistics Program

<b>WG1</b>	An effective governance framework to discuss policies, development of technical solutions, and progress evaluations
<b>WG2</b>	Standardization of the chain based on quality
<b>WG3</b>	Planning and construction of Agrologistics and multimodal assets in strategic locations
<b>WG4</b>	Promote a business model based on demand, beneficial and open to all parties
<b>WG5</b>	Building of human capital and efficient tools for dissemination and follow-up of information

### 5.1 An effective governance framework to discuss policies, development of technical solutions, and progress evaluations

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A dynamic governance framework is distinguished by its ability to combine interests in designing policies, its knowledge to translate them into appropriate technical solutions, and its proficiency in improving all the activities based on the evaluation of their performance.

The goal of this action is to create a space for inclusive dialogue involving all the stakeholders including smallholders, SMEs and the private sector in order

to make them able to support any decision-making on policy matters, as well as a technical operational institutional structure to carry out policy decisions. The dynamic governance framework will be complemented with a Control Panel to measure the results, as well as the creation thematic monitoring groups, essential for the continuous improvement of the National Agrologistics Program.



<div>WG1</div> <div>An effective governance framework to discuss policies, development of technical solutions, and progress evaluations</div>		
TERM	ACTIONS	INSTITUTIONS
Short term	<b>1A. Establish the National Agrologistics Council</b> <ul style="list-style-type: none"> <li>Initiate policy discussions with the stakeholders and monitor the development of solutions</li> <li>Report their progress to the Office of the President every quarter</li> <li>Ensure continuity in order that their purpose may extend beyond the term of this government by means of legislative and regulatory structures</li> </ul>	Office of the President, SAGARPA
	<b>1B. Establish a Technical Agrologistics Secretary</b> <ul style="list-style-type: none"> <li>Manage the implementation of the policy decisions adopted by the National Agrologistics Council</li> <li>Provide support to those pilot projects selecting them based on technical criteria, depending on demand, and by means of transparent processes</li> <li>Use specially assigned resources, grouped in an Agrologistics Fund, that allows the performance of the studies that are needed to plan and implement these pilot projects</li> </ul>	SAGARPA
Medium term	<b>1C. Create a Control Panel to inform and evaluate</b> <ul style="list-style-type: none"> <li>Coordinate information sources, systematize existing information, developing a scalable system and address information ownership issues</li> <li>Develop a tool to access information (i) in order to evaluate the Program and (ii) understand the market</li> <li>Train users to apply this information in their decision-making processes</li> </ul>	Technical Secretary, SE, SCT

### 5.1.1 1A. Establish the National Agrologistics Council

SAGARPA shall submit the National Agrologistics Program to the Office of the President within the following three months as from its internal approval, which is scheduled for the third quarter of 2014. Based on that document, and on the systematization of knowledge acquired in previous experiences on similar counseling, SAGARPA shall establish the National Agrologistics Council in coordination with the Office of the President in the third quarter of 2014.

- The Council is to be comprised of not more than 19 representatives of key stakeholders in the agri-food value chain. The President of the Council shall have a casting vote.

- The Council will initiate policy dialogue, policy development and procedural alignment between critical stages of the agri-food value chain and report on progress to the Office of the President on a quarterly basis.
- The Council will be chaired by an independent personality of high standing. Two co-chairs will be elected on a rotational basis so that each stakeholder will have the opportunity to preside the Council.

This action is considered to be crucial to develop and achieve the Program's goals, so it is very important to adopt the necessary measures for its continuity beyond the political mandates and administrations.

The Agrologistics Cabinet is a first and necessary step for the creation of the National Agrologistics Council. The impulse from the Office of the President should be essential for an effective and continued coordination between Secretaries. For example, an Agrologistics Committee could congregate the Subsecretaries of the Ministries involved in order to develop policy framework agreements and any resource related with Agrologistics, within sufficiently ample executive terms, preferably associated with the horizon of Vision.

### 5.1.2 1B. Establish a Technical Agrologistics Secretary

A Technical Agrologistics Secretary shall be established to execute the decisions of the National Agrologistics Council, to carry out studies and implement pilot projects to improve the Agrologistics value chain, with a special focus on agro exports of fresh products. The Secretary may create specific Theme Groups<sup>17</sup>.

- The Technical Secretary shall be the administrative entity implementing policy decisions generated by the National Agrologistics Council.
- The Technical Secretary will support those selected pilot projects that provide innovation in Mexico's chain of exports and improve the value chain nationally. Their selection shall be based on technical criteria, according to the demand, and by means of transparent processes.
- The Technical Secretary shall be provided with especially assigned resources, grouped in an Agrologistics Fund<sup>18</sup>, that allows to perform the studies needed to plan and implement pilot projects and the Program in general. It is important that the Technical Secretary be established together with the development banks and the SHCP.

- The Technical Secretary may empower the main stakeholders to develop multi-year and multi-sector innovative practices, reducing bureaucratic limitations and moderating risk aversion.
- The Technical Secretary shall play an important role in demonstrating new business models and agreements of association to allow private capital to multiply public funds .
- The Technical Secretary is an instrument to address the concerns of the current administration to ensure continuity of the policies of the Program beyond its current political mandate.
- The Technical Secretary shall create a Thematic Group to anticipate and reduce export barriers, monetizing the costs of barriers as a first step to sensitize the stakeholders<sup>19</sup>.
- The Technical Secretary shall work with the Ministry of Communications and Transportation (SCT) and the Ministry of Agrarian Development, Territorial and Urban (SEDATU) to define the requirements of the transport chain and territorial aspects by means of an early identification of specific market needs.

Its implementation shall require the following tasks:

- Establish a clear mandate and competencies to support the Program, including long-term guarantees.
- Define its organizational location .
- Allocate resources for the fiscal year 2015.
- Establish clear protocols for coordination between different bodies, since the functions and members should represent diverse perspective.

<sup>17</sup> Theme Groups shall be promoted by the public sector, (i.e., SAGARPA, SCT, SE and state governments), and supported by the private sector, including small producers, commercial producers, corporations that handle large volumes, shippers, processors, exporting companies and retailers. In the same manner, the public sector shall have to identify members of the Ministries, agencies, entities and crucial state and local governments.

<sup>18</sup> See Action 3A.

<sup>19</sup> Specifically, the Thematic Group should identify the most significant bottlenecks; perform a cost-benefit analysis of the list of proposed solutions to ensure that the invested capital shall return properly; define which is the desired final result within a specific period for each solution; establish a mechanism to measure the degree of compliance or non-compliance with the goals and report regularly to the National Agrologistics Council.

### 5.1.3 1C. Create a Control Panel to inform and evaluate

One of the first tasks of the Council shall be to establish a system for adopting decisions and assessing the impact of the Program. Information is the indispensable factor for making the right decisions at the right time. As the agrologistics system is a tool to facilitate the flow of goods to markets and consumers, all those involved in their use and management require having quick access to good quality information. Compartmentalization of information and overload of information are risks to be addressed<sup>20</sup>. An integrated information source is required, but more important than compiling the information is making it accessible and knowing how to use it.

The Control Panel shall be based on proven and relevant facts and on demand projections of supplies for the crucial products in order to analyze the entire Agrologistics chain and associate these results to the policies, budgets and allocation of investments.

- Establish terms of reference by the National Agrologistics Council
- Provide resources to the Technical Secretary to hire and supervise the development of the Control Panel

- Create agreements with the agencies and entities that shall provide data
- Schematize existing information and integrate it with updatable sources
- Decide who is the owner of such data and where it shall be hosted
- Create a “big data” analytical tool to link market data, policies and budgetary allocations
- Create a tool to display information in an easy understandable way<sup>21</sup>
- Develop interfaces (To evaluate the Program for decision-making, to provide market information to producers)
- Train users and develop user guides
- Making information available to producers in different channels and devices<sup>22</sup> (for example, smartphones) and provide incentives to acquire such devices
- Establish progressive implementation stages including pilot projects

<sup>20</sup> The Bank of Mexico, INEGI, SAGARPA, CONEVAL, SEDESOL, SHCP, and SE, among others, produce and publish information on agriculture.

<sup>21</sup> For example, the Control Panel is an agile vehicle for disseminating departure information and prices.

<sup>22</sup> One of FAO's most effective programs for small producers in Africa was daily radio broadcasting of the prices of raw materials. For example, create agreements with mobile operators to offer free access to information on market trends, demand and prices.

## 5.2 Standardization of the chain based on quality

Streamlining of procedures is a means to build a reputation for quality and safety of food products in Mexico, in compliance with the highest international standards. Quality, an export pre-requisite, may be promoted through coordinated pre-approval systems, streamlining of procedures at border crossings, standardization of packaging systems, traceability systems and, in general, proactive risk management.

Improving quality will provide greater food safety, reduce waste, achieve higher yields and render higher margins.

Quality management cannot be a last moment idea to complement the design of the chain, but it must be thought from the beginning and integrate at every step of the chain. Trademark and communications campaigns regarding the importance of quality can support these efforts.

WG2	Standardization of the chain based on quality	
TERM	ACTIONS	INSTITUTIONS
Short term	<b>2A. Create a pre-approval system at points of origin or chain consolidation based on risk management</b> <ul style="list-style-type: none"> <li>• Integrate all sanitary and phytosanitary inspections and customs inspection processes in the same place at the same time</li> <li>• Set the control points in Agrologistics assets (E.g. Agroparks)</li> <li>• Prepare an operating model in which pre-approval costs are assumed by the private party, which fosters greater efficiency of public resources</li> <li>• Develop the legal and regulatory aspects, and allocate funds for them, as well as for training</li> <li>• Increase Single Window (SW) functionality</li> <li>• In the medium term, and under NAFTA, electronic exchanges shall be compatible with US-CBP</li> </ul>	SAGARPA, SENASICA, SE, SAT, SEDENA, National Standardization Council for Business Competitiveness
	<b>2B. Standardize the quality of packaging and traceability systems</b> <ul style="list-style-type: none"> <li>• Establish rules for standard packing and handling of products during their packing</li> <li>• Introduce Smart Tags and GS1 systematization</li> <li>• Perform the necessary regulatory changes</li> <li>• Link smart tags with SW databases, sanitary and custom inspections</li> </ul>	SAGARPA, SENASICA, SE
Medium term	<b>2C. Develop a standardization strategy</b> <ul style="list-style-type: none"> <li>• Apply and, in those cases, adapt the levels of international standard requirements to those of Mexico, such as GlobalGAP, Codex, and large chain restaurant establishments</li> <li>• Establish quality classes</li> <li>• Create a network of certified checking units, managed by the private sector under operating standards developed by relevant government agencies</li> <li>• Develop a mechanism to implement the standards and an identification system for those products that meet certification requirements</li> <li>• Develop campaigns to promote the demand of certified products</li> </ul>	SAGARPA, SENASICA, SE, COFEPRIS

### 5.2.1 2A. Create a pre-approval system at points of origin or chain consolidation based on risk management

The quality of fresh products depends on the continuity of the cold chain. Therefore, it is essential avoid breaking the supply chain as from its beginning until its destination. Once the load has been pre-cooled in the place of origin, whenever phytosanitary and customs inspections of the product are carried out simultaneously at the time of loading, the certified sealed product may be transported to its destination with minimal chances of interrupting the chain.

An approach based on risk management, which means that the exporting corporations are to be themselves responsible for the inspection of their products, shall improve the performance of the supply chain. Since the party assuming the risk of the product's rejection is the same corporation, this reduces the burden on the authorities. All pre-approval costs are therefore responsibility of the private party, and thus these schemes also ensure greater efficiency of public resources.

- The pre-approval system shall require that all national sanitary and phytosanitary inspections and customs inspection processes shall be integrated into a single framework of certification in the same place at the same time.
- The physical place where this inspection can be carried out may be inside the facilities of those corporations that count with TIF certification, where currently phytosanitary controls are carried out, or in the logistics nodes or strategically located consolidation points that can be used by large and small producers and corporations.
- Although a legal framework is available, it is necessary to design the regulatory aspects so that the requirements of SAGARPA, SENASICA, customs and other relevant institutions are completed simultaneously.

- It is necessary to design the financing mechanism in such a way that the activity is self-financed based on the savings that will provide to the stakeholders of the same chain.
- Creation of these inspecting and certificating systems requires high intergovernmental coordination.
- Homologation of quality standards with those of the North American Free Trade Agreement (NAFTA) countries and those most demanding countries shall be sought, for example using the Codex. Progress can be made by means of mutual recognition of standards in these countries, which shall help to build reputation and accelerate inspection processes regarding imports or exports.
- The action requires the allocation of funds to design the processes and training of supervisors and administrative personnel.
- Increase the Single Window's functionality with dynamic documentation<sup>23</sup>, facilitate document management taking into account inspection in origin, broadening operating hours or having more flexible operating hours.
- Develop capacity and authorize private operators, creating incentives for customs officers to carry out the inspections in one location and in one process in order to reduce waiting times and costs associated with the relocation among several checkpoints.
- Within a medium term, and within the framework of NAFTA, compatibility of electronic exchanges with US-CBP (United States Customs and Border Protections) shall be sought.

<sup>23</sup> Most of the information uploaded by the corporations consists of PDF files with images of paper documents, which limits their automated processing at the offices of the receiving government agencies.

### 5.2.2 2B. Standardize the quality of packaging and traceability systems

Suitable packaging of fresh products is essential to safeguard their quality. It is essential that the packaging protects the integrity of the product according to the highest standards available, and ensures the necessary conditions during their cold storage.

- Good packaging is essential to handle the products better, so that they preserve their quality.
- The standardization of quality standards in the packaging stage requires regulatory changes.
- The definition of these standards shall benefit from the participation of the stakeholders in the sector.
- For national markets, especially for the part of the chain that goes from wholesalers to retailers, use of standard plastic boxes<sup>24</sup> shall allow producers, traders, resellers and retailers to improve the handling of fresh products, maintaining product quality and reducing losses and waste.
- For international markets, homologation with the packaging standards of the main trading members is required, mainly United States but also GlobalGap, BRC (British Retail Consortium) and IFS (International Food Standard).
- Introduction of smart tags and GS1<sup>25</sup> systematization, establishing functioning links and use of information with VU, sanitary and customs inspections.

### 5.2.3 2C. Develop a standardization strategy

Alignment of product quality regulations in Mexico with the most demanding international standards shall allow the producers to be able to export immediately once these products have been certified. The following shall be followed to do this:

- Apply and in certain cases adapt the levels of demand of international regulations to those of Mexico, as for example GlobalGap, Codex, and large chains of restaurants.
- Establish quality classes.
- Create a network of certified verification units, managed by the private sector under operational standards developed by relevant public departments.
- Develop a mechanism to implement the standards and a system of identification for those products that meet certification.
- Campaigns to promote the demand for certified products shall be carried out.

## 5.3 Planning and construction of Agrologistics and multimodal assets in strategic locations

Creating a value chain of Agrologistics assets in strategic locations across the length and breadth of Mexico requires significant planning efforts. To make this planning effective, it must integrate both the territorial dimensions and the extent of its feasibility. The National System for Agroparks is the part of the National Agrologistics Program (PNA) that focuses on the process of building agroparks or other agrologistics assets. The National System should define and integrate different

kinds of assets, such as collection centers, agroparks, multimodal nodes and export points. It is essential that planning the system at a national level, and its implementation at estate level is to be coordinated with regional development and transport policies. The plan's development requires wide institutional coordination, and at the same time it will trigger better coordination between the participating institutions.

<sup>24</sup> Sturdy and foldable plastic boxes are widely used throughout Europe. In some countries they are color-coded for fruits and vegetables and other perishables. As containers, boxes are part of the group of equipment systems.

<sup>25</sup> GS1 is the reference international organization that designs and implements intelligent data codes (as code bars) for product identification and traceability in the supply chains. GS1 Standards are recognized in more than 250 countries.

## Agrologistics assets and their functions

	Collection centers	Agroparks	Distribution centers	Multimodal nodes	Export points
Production		✓			
Cold storage	✓	✓	✓	✓	✓
Packing	✓	✓			
Processing		✓			
Inspections and certification		✓			✓
Consolidation		✓	✓	✓	✓
Distribution		✓	✓		

- **Collection centers**, which need to be located as close as possible to the producers. This proximity is critical for product pre-cooling after it is packed and before being shipped. The existence of inspection facilities will help significantly to keep the continuity of the cold chain.
- **Agroparks**, which integrates productive, transformative, management and inspection functions and depending on their logistic location can also harbor logistics consolidation and distribution functions.
- **Distribution and consolidation centers**, in the proximity of large metropolitan areas in order to serve the domestic market.
- **Multimodal nodes**, where change of freight class is performed, including storage and handling in order to aggregate or disaggregate volumes. These will benefit from a location near the consumption areas or the corridors between production and consumption areas.
- **Export points**, such as ports, airports and border crossings for or road transport.

WG3			Planning and construction of Agrologistics and multimodal assets in strategic locations		
TERM		ACTIONS		INSTITUTIONS	
Short term		<b>3A. Prepare a comprehensive master plan, including project prioritization</b> <ul style="list-style-type: none"> <li>Joining territorial dimensions with feasibility dimensions</li> <li>Link the PNA with the National Infrastructure Program, seeking to add funding sources to the Agrologistics Fund</li> <li>Link the PNA with the National System of Logistic Platforms (SNPL)</li> <li>Make use of technical studies processed by SEDATU, SCT, SE, INEGI, SIAP, and ASERCA</li> </ul>		National Agrologistics Council, Technical Secretary, development bank, SHCP, SCT, SEDATU, state governments	
		<b>3B. Develop the building design and development and management models for Agrologistics and multimodal assets</b> <ul style="list-style-type: none"> <li>Prioritize resources to those assets that have proven their value through a business plan in order to prevent dysfunctional assets and monopolistic chains</li> <li>Coordinate different levels of government as well as the involvement of private stakeholders to multiply public resources</li> <li>Supervise the work of state governments who may entrust the building design of assets following SAGARPA definitions</li> <li>Promote pilot projects that will adjust the design and likewise demonstrate to the public sector the commitment to implement them in the short term</li> </ul>		Technical Secretary, development bank, state governments private organizations	
Medium term		<b>3C. Develop and implement framework agreements with state governments</b> <ul style="list-style-type: none"> <li>Create operating guidelines and standard procedures for state governments</li> <li>Provide technical support to state governments in order to create institutions for the execution of works and business models to manage assets, developing public-private associations</li> <li>Enter performance indicators</li> </ul>		National Agrologistics Council, state governments, private organizations	

### 5.3.1 3A. Prepare a comprehensive master plan, including project prioritization

Planning the value chain of Agrologistics assets requires a deep knowledge of the territorial conditions coupled with an accurate understanding of their economic viability. On this basis, the Program shall be able to establish implementation phases and therefore prioritize projects.

The comprehensive master plan shall provide the basis for an efficient Agrologistics value chain that responds to the Vision to place Mexico among the leaders of the sector worldwide. The plan is a dynamic tool that supports decision-making regarding investment programming in infrastructure and territorial development.

- In the territorial dimension, the plan must identify, at national levels, consumer areas, production areas, installations to process and handle the existing

products, already planned installations, available road and rail infrastructure and multimodal clusters as well as ports, airports and border crossings. It must consider a land reserve for installations and infrastructures needed in the medium and long terms, and identify a designated use of land compatible with SEDATU regulations.

- In the dimension of its feasibility, and based on current and future demands, the plan must identify business and management models for the assets; define criteria and incentives for those developers who build these assets; and requirements for those producers who make use of them. In addition to the scientific basis, a feasibility study should be carried out with contributions from the stakeholders through a participatory process<sup>26</sup>.

<sup>26</sup> For example, by implementing demand scenarios to be agreed with the corporations.



- It is necessary to link the National Agrologistics Program with the National Infrastructure Program, seeking to coordinate the provision of current and future Agrologistics infrastructures. In this way, it seeks to combine financing sources from several agencies. The creation of a common investment database allocated to projects related to Agrologistics assets should be an essential and practical first step.
- Creation of the Agrologistics Fund shall be the result of this budgetary integration. The multi-institutional approach shall allow other agencies besides SAGARPA to make contributions to the Agrologistics Fund.
- If successful, this budgetary coordination shall generate high political capital among the departments involved.
- The plan must establish a link between the National Agrologistics Program and the National System of Logistics Platforms (SNPL).
- The plan should take advantage of the technical studies of other already operating programs and data and information produced by government agencies such as SEDATU, SCT, SE, INEGI, SIAP, and ASERCA among others.
- Production of the plan requires considerable institutional coordination, and at the same time it can be a trigger for communications and coordination among the participating institutions<sup>27</sup>.
- Combination of the territorial dimension and feasibility is crucial to avoid the fragmentation that could result in case too many Agrologistics assets were developed in suboptimal locations.

<sup>27</sup> For example, in the case of SEDATU, mapping the location of agrologistics nodes can be a valuable tool to evaluate territorial development policies such as Urban-Rural Systems (URS) and Integrated Urban Development (DUI).

<sup>28</sup> Understood to be a “user manual” for assets.

### 5.3.2 3B. Develop the building design and development and management models for Agrologistics and multimodal assets

The executive project of the factors of the National Agrologistics Program shall define the different types of Agrologistics assets such as transforming centers including cold storage, selection, classification and pre-cooling facilities in production areas and multimodal nodes in distribution areas. The financing model shall determine return on investment needs, and how to manage and operate the assets.

- The large amount of financial resources required for the assets and the value chain constituted by them, points to the need to prioritize resources for those that have proved their value by means of a business plan. This shall inhibit investing in dysfunctional assets and monopolistic chains that deviate from the general interest.
- Construction of the system requires high coordination between different government levels, as well as the involvement of private stakeholders to multiply public resources. This coordination shall be achieved through the National Agrologistics Council and the Technical Secretary.
- The state governments may entrust the building design of the assets following the definitions of SAGARPA, who shall have the power to approve them, and determine which are eligible to receive public resources.
- The pilot projects shall allow to adjust the design and likewise to demonstrate to the sector and to the public opinion the commitment to implement them within a short term. A project may consist of improving an existing asset, and developing a new one. The selection criteria of the existing asset should be technical and transparent, as well as the location and technical specifications of the new asset to be built. Coordination with state institutions is essential in determining the selection criteria.
- The design process of the different types of assets shall include drafting an operating manual for each one of them.<sup>28</sup>

This action requires regulatory changes, but not legislative. Its impact, especially in relation to small producers, can be very high. While the design of the assets and their operating model is a short and medium term action, their full implementation and results shall be seen after a long term, by means of agreements with the state governments.

### 5.3.3 3C. Develop and implement framework agreements with state governments

Conferring competences and responsibilities to state governments is an important step to facilitate the execution of the National Agrologistics Program. This requires developing and implementing framework agreements based on the master plan, which identifies the needs of the Agrologistics system nationally; and based on the executive project of the assets that make up the system, which specifies how each one of them should be built and managed.

Since both instruments have been developed with the participation of state governments, this collaborative precedent shall facilitate the accountability of state governments.

- Take advantage of the existing regulatory framework or create instruments to enable the constructive design of the assets to be run at state levels .

- Create standard operating guidelines and procedures for state governments.
- Provide technical support to state governments in order to create institutions for the execution of works and business models to manage these assets, and developing public-private associations for this purpose.
- Ensure coordination through the National Agrologistics Council, the Technical Secretary and bilateral working groups with state governments, in order to remove or mitigate barriers causing lack of institutional and politic coordination.
- Enter crucial performance indicators.

## 5.4 Promote a business model based on demand, beneficial and open to all parties

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In order to transform the agri-food industry by means of the Agrologistics value chain, it is important that the Program may offer opportunities from an economic point of view to all the stakeholders, including the public sector, large companies, small producers and SMEs.

Combine the resources of government agencies and assign them efficiently to increase economic activity and

generate returns to the public purse; facilitate export processes to corporations that are already in position to do so, reducing barriers; and developing business models to make small producers able to develop entrepreneurial capacity are the general goals of this action, that also seeks to ensure transparent rules and procedures that shall open business opportunities to a broad group of stakeholders.

WG4	Promote a business model based on demand, beneficial and open to all parties	
TERM	ACTIONS	INSTITUTIONS
Short term	<b>4A. Multiply investment resources through special purpose entities and the Agrologistics Fund</b> <ul style="list-style-type: none"> <li>Establish the Technical Secretary as the coordinating and supervising body of different special purpose entities in the states and/or municipalities</li> <li>Define the competence of these special purpose entities, such as the building of the asset, or the building and operation of the asset, or others</li> <li>Adapt the Law of Public Private Associations to the definition of competencies</li> <li>Develop a model of procedures for acquiring entities investment for special purpose entities, to be added to public contributions</li> <li>Coordinate with development bank, SHCP, and SE</li> <li>Define the model of government of such institutions so that it encourages investment</li> </ul>	Technical Secretary, state governments, private sector, development bank, SHCP, SE
	<b>4B. Encourage business models and associations of small producers</b> <ul style="list-style-type: none"> <li>Encourage the development of cluster strategies of small producers with SMEs by means of incentives to allow them to create business models by themselves</li> <li>Incentives in order that the associations may use these Agrologistics assets, allowing them to be integrated into the value chain</li> <li>Streamline regulations in order to foster the creation and operation of associations</li> <li>Demonstrate results by means of pilot projects and the systematization and dissemination of best practices</li> </ul>	SAGARPA, development bank, local governments, associations of producers
	<b>4C. Establish auditable and transparent processes</b> <ul style="list-style-type: none"> <li>Define criteria to assign public resources to developers of Agrologistics assets</li> <li>Define a fast, transparent and homogeneous tender system, throughout the national territory for statewide contracting for the construction, operation and maintenance of Agrologistics assets</li> <li>Regular audits on the performance of logistics assets by the Technical Secretary</li> <li>Create a monitoring mechanism to control corruption coordinated with other efforts against corruption promoted by the Office of the President</li> </ul>	Technical Secretary, state governments

#### 5.4.1 4A. Multiply investment resources through special purpose entities and the Agrologistics Fund

The Agrologistics assets to be built in the states shall be developed by special purpose entities, which will multiply the public inversion by means of the private sector's contributions. These entities, because they focus on specific projects, shall have a greater efficiency in administrative and technical tasks.

- Establish the Technical Secretary as the coordinating and supervising body of different special purpose entities in the states and/or municipalities.
- Define the competence of these special purpose entities, such as building the assets, or building and operation of the asset, or others.

- Propose amendments to the Law of Public Private Associations regarding the definition of competencies.
- Develop a model of procedures for acquiring private investment for special purpose entities, to be added to public contributions and SAGARPA.
- Coordinate with development bank, SHCP, and SE.
- Define the model of government of such institutions, indicating specifically how the decisions shall be adopted, in such a way as to allow that the different parties' voices may be heard proportionally to their share. It is essential to consider that the business and management models must encourage investment.

#### 5.4.2 4B. Encourage business models and associations of small producers

The development of inclusive business models based on association comprises the definition of incentive packages for those producers who do not have enough cash flow to afford the possible costs of using the assets. If models are defined by small and medium producers, instead of being compelled by the government, they are more likely to be integrated into the value chain. Formulating business models that allow the use of Agrologistics assets is a critical goal for the Program. Public policy has to be clear and transparent, with decisions based on technical facts regarding costs of use and localization of the assets<sup>29</sup>.

- Encourage the development of cluster strategies of small producers with SMEs in order to create a critical mass that allows to deal with costs, offering helps linked to the yields.
- Coordinate with the banks of development incentives aimed to cause the use of Agrologistics assets by the associations of small producers and SMEs, especially consolidation centers, enabling them to become a part of the value chain, and eventually, to export.
- Generate regulatory, procedural and fiscals incentives, which ease for private organizations to create business models by themselves.
- Streamline regulations in order to foster the creation and operation of associations.
- Actively involve state and municipal governments to stimulate small producers.
- Motivate the leading corporations to assist the integration of small producers by transferring management capacity and by sharing technology and market knowledge.
- Demonstrate results by means of pilot projects and the systematization and dissemination of best practices.

#### 5.4.3 4C. Establish auditable and transparent processes

The starting point of ensuring that public and private money is well invested is to have a conception based on demand, which allows identifying markets with a high potential on imports and exports. Transferring the capital of the public inversion's private members and making the business model of Agrologistics assets advantageous for all the parties requires clear rules. This implies creating an auditable and transparent process for the development and operation of Agrologistics assets, opening business opportunities and diminishing any options for corruption and obscure decisions.

- Define the evaluation criteria to assign grants from public resources to developers of agrologistics assets.
- Define a fast, transparent and homogeneous tender system, throughout the national territory for statewide contracting for the construction, operation and maintenance of Agrologistics assets.
- Regular audits on the performance of logistics assets by the Technical Secretary.
- Consider the external factors such as corruption when evaluating the performance and therefore when granting resources.
- Create a mechanism to control corruption and a clear fining system coordinated with other efforts against corruption promoted by the Office of the President.
- Promote from the National Agrologistics Council a program of financial incentives for training, which will also help to fight corruption caused by low salaries.

<sup>29</sup> The National Agrologistics Program does not intend nor can substitute a rural poverty reduction program. Planning of infrastructure and installations must be carried out based on scientific grounds and with respect to products and markets, and producers and SMEs should prepare to group their activities among them.

## 5.5 Building of human capital and tools for dissemination and follow-up of information

Development of a knowledge activities portfolio is essential to achieve the vision and the goals of the Program. These activities must improve the capacity of entrepreneurs and government officials at every link of the value chain, as well as train professionals for the future development of Agrologistics. For the producers,

this knowledge must be transformed into tangible opportunities to innovate, in order that their products may become more competitive, for what it is needed to direct resources towards innovation. Creating a critical mass of Agrologistics specialists will develop innovating activities and establish excellence networks.

WG5	Building of human capital and tools for dissemination and follow-up of information	
TERM	ACTIONS	INSTITUTIONS
Short term	<b>5A. Establish a modular training program based on Extensionism Networks</b> <ul style="list-style-type: none"> <li>• Create a coordinating commission with universities and vocational centers</li> <li>• Supplement resources of the Agrologistics Fund with those of the training centers</li> <li>• Anticipate the need for teaching positions</li> <li>• Make use of tools for distance learning or e-learning</li> <li>• Develop short courses with specific contents for each of the chain's agent, offering them a Certificate</li> <li>• Establish links with the extensionism functions capitalizing on the experiences both of SAGARPA and INCA Rural, who are already operating programs in this field</li> <li>• Disclose concepts regarding marketing, distribution and postharvest handling</li> <li>• Publish the practical experiences of the producers</li> </ul>	SAGARPA, universities, vocational schools, IICA, INCA Rural
	<b>5B. Establish an inter-sectorial commission for supervising post-harvest losses and waste</b> <ul style="list-style-type: none"> <li>• Raise the discussion of its purposes and functions in Congress in order to help accelerate regulatory reforms for food security.</li> <li>• Develop benchmarks to measure improvements in Agrologistics performance</li> <li>• Align the work with the Global Food Loss and Waste Measurement Protocol</li> <li>• Send reports to the Office of the President.</li> <li>• Conduct highly visible activities to raise awareness and consensus</li> <li>• Obtain sufficient budget line</li> </ul>	National Council of Agrologistics, SAGARPA, SIAP, INIFAP, SEDESOL
Medium term	<b>5C. Create an Agrologistics Network of Excellence for postgraduate studies and innovation</b> <ul style="list-style-type: none"> <li>• Establish medium and long term agreements with CONACYT, research centers and private corporate leaders of the sector</li> <li>• Coordinate with SHCP financing incentives for innovation</li> <li>• Support the transition from small producers to entrepreneurs</li> <li>• Train young entrepreneurs</li> <li>• A Master's degree in Agrologistics, raising Agrologistics to a university level</li> </ul>	SAGARPA, CONACYT, academic institutions, private sector

### 5.5.1 5A. Establish a modular training program based on Extensionism Networks

Extending knowledge where it is needed in an accessible and pragmatic manner is a crucial task in developing and pursuing the Program's goals, especially to integrate small producers.

The training program seeks, by means of short courses, that all the stakeholders in the supply chain may be aware of the fact that their actions or inactions have a direct impact on product quality and value. This training shall be based on the evidences obtained from the use and analysis of objective data clusters. The national scope must be guaranteed and, at the same time, regional characteristics must be considered.

- Establish a coordination commission constituted by SAGARPA and the universities and vocational centers, especially those connected to the farming sector, proposing goals and the courses' design.
- Make use of distance learning or e-learning tools.
- Supplement resources of the Agrologistics Fund with those of the training centers.
- Establish links with the extensionism functions capitalizing on the experiences both of SAGARPA and INCA Rural, who are already operating programs in this field.
- In parallel to the innovation program, disclose concepts regarding marketing, distribution and postharvest handling.
- Act as a meeting point between different kinds of knowledge, not only in academic terms, but as a mechanism where the pragmatic experiences of producers can be exhibited.
- Establish short courses with specific content for each actor in the value chain. These include the decision makers from different government levels, members of parliament, producers, service providers and operators, entrepreneurs and personnel in charge of inspection activities<sup>30</sup>.
- Train young entrepreneurs, with innovation incentives specifically intended for this group.
- This formation shall grant a certification.

- It offers a global vision of the chain, highlighting the need of being acquainted with the Agrologistics as a complex system and the requirement of team work abilities. Provide tools to enhance the performance on each one of the components. Its result is a behavior change, whether of procedural nature, or about interpretation of rules, standards, and regulations for a quality product.
- The courses shall be taught in situ and/or online to enable its access.
- The Rural Development Districts managed by SAGARPA, which operate in municipal and regional levels, may be a useful channel to impart the courses.

### 5.5.2 5B. Establish an inter-sectorial commission for supervising post-harvest losses and waste

The supply chains of fresh products in Mexico are characterized by relatively high deficits between the harvest and the markets and they equal, in general terms, to the waste in the food supply chain. This matter is so important that it requires special attention.

- The National Postharvest Waste Supervision System shall establish specific reference points to measure the performance improvement of the Agrologistics in Mexico.
- The System can be created by means of a decree or an agreement. However, if its purposes and functions are deliberated in the Congress, it will help to accelerate the regulatory amends required to regulate food safety .
- The System shall work in accordance with the Global Food Loss and Waste Measurement Protocol. The Government of Mexico may play a leading role in the application of the Global Food Loss and Waste Measurement Protocol. This can benefit from international experiences, including intergovernmental organizations, multinational food and agro-industry corporations, academic institutes and research centers.

<sup>30</sup> Even though the federal government policies are important triggers, it is essential to involve all of the agents that operate at local level regarding general product handling, as well as those who work at the cross borders, for example, the custom officials from legal and operative departments, SAGARPA personnel related with sanitary inspections, SCT personnel, Federal Police agents and military's agents who inspect the roads. The work of these agents does not relate directly with the product itself, and because of this it may not be a priority in product quality considerations.

- The System shall prepare reports based on evidences and shall send them to the Office of the President. The Council shall have the right to issue its points of view about the political consequences and about decision making as an appendix to the report. The report may be broadcasted through the available media channels.
- The activities of the System must be highly visible in order to generate awareness and consensus regarding waste and food safety concerns in social and political sectors. Therefore, it is advisable to address them to be discussed in Congress.
- Because the System operation has a national scope and the supervision is expensive, specific and sufficient budgetary items must be required.
- It is expected to begin in the short term, but its operation and impacts are foreseen for the medium and long terms.
- Coordinate with SHCP financing incentives for innovation.
- Support the transition from small producers to entrepreneurs or producers-corporate<sup>34</sup>.
- Foresee the need to generate teachers and new Agrologistics departments in educational centers.
- Create a Master's degree in Agrologistics<sup>35</sup>, raising Agrologistics to a university level. This can be a specialization within the framework of a course on farming economy or any other relevant course providing a degree.
- Since Agrologistics is a field that encompasses many other fields, the curricula shall be designed to impart basic knowledge regarding the different subject areas that are included<sup>36</sup>.

### 5.5.3 5C. Create an Agrologistics Network of Excellence for postgraduate studies and innovation

Implementing the vision shall require capacity for innovation from all Agrologistics chain stakeholders. This innovation consists in transforming their knowledge into specific products and services, and it is most probable that they may need incentives to bring about their application. Creating a critical mass of researchers is the first step, and creating a specialized Agrologistics Master's degree shall be an important step in this sense.

The Network of Excellence will have the mission to provide a specific framework to the innovation program, as well as to represent it legally and administratively, also managing innovating incentives. The base of the program's contents shall be provided by a reflection group<sup>31</sup>, which shall include agendas for specific product research in each of the crucial issues of the Agrologistics chain<sup>32</sup>.

- Establish medium and long term agreements between SAGARPA, as promoting entity, the National Council of Science and Technology (CONACYT), other organizations and research centers (INCA Rural, National Institute of Forestry, Agriculture and Livestock Research - INIFAP), academic institutions and the leading private corporations of the sector.
- Identify applied subject area research by means of contributions from the stakeholders so they can be developed by academic centers<sup>33</sup>.

<sup>31</sup> Similar to a "think tank".

<sup>32</sup> These research protocols must be guided by the demand and shall involve multidisciplinary groups including studies of business, public administration, engineering, economy, sociology and other subjects that led to the creation, implementation, follow-up and permanent improvement of the different agents of the agrologistic systems.

<sup>33</sup> The Engineering Institute of the National Autonomous University of Mexico (s), the Department of Economy of the Postgraduates College, the Rural Development Department of the University of Chapingo, the Financial Economy Department of the Faculty of Administration of the National Autonomous University of Mexico (UNAM) and the Public Policies Center of the Technological Institute for Higher Studies of Monterrey (ITESM) are examples of institutions that may carry out applied research activities.

<sup>34</sup> In a traditional production concept, the role of the producers ends after harvesting, placing in the hands of other stakeholders the task of adding value. This has benefited the intermediaries especially. To be a producer does not only mean creating goods; it also implies taking them to the market.

<sup>35</sup> There are no agrologistics careers or training for customs operators. In the City of Mexico there is only one small private school that offers a Bachelor's degree in Customs Practices (School of Customs Procedures). The most prominent Bachelor's degree is the one offered by the National Polytechnic Institute (IPN) in International Business.

<sup>36</sup> It has been assessed that design of the curricula can be achieved within a six month period. The University of Chapingo, the Postgraduates College, the University of Veracruz, the University of Colima, the Autonomous University of Sinaloa, the Technological Institute for Higher Studies of Monterrey (ITESM) and the National Autonomous University of Mexico (UNAM) can be the initial providers of contents.

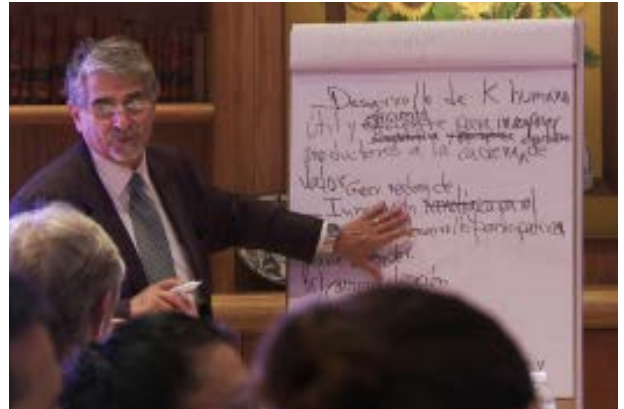


## 6 Annexes

### Annex 1: Pictures of the Vision Workshop on 22 May 2014







## Annex 2: Program of Vision Workshop

### MAY 22 2014 PROGRAM

START	END	SESSION	DESCRIPTION
15:30		Registration	
16:00		Start of the session	
		Welcome	Introduction of the Project for the National Agrologistics Program <b>Lic. Ricardo Aguilar Castillo</b> Undersecretary for Food and Competitiveness
16:15	16:25	Presentation	Presentation of the participants and workshop methodology <b>MSc. Pablo Vaggione</b>
16:25	16:40	Summary of the Diagnosis Report	Presentation of the key findings of the diagnosis <b>Ing. Peter Ravensbergen</b> Project Leader of the National Agrologistics Program in Mexico, Wageningen UR
16:40	16:50	Summary of economic and legal analysis	Conclusions from the economic analysis and legal framework <b>MSc. Rodrigo Gallegos</b> Project Director of IMCO
16:50	17:00	Summary of the consultation phase	Relevant aspects collected during interviews with key players and analysis of public policies <b>MSc. Olga Vázquez</b> Coordinator for Team of Wageningen UR-Mexico
		Opening	<b>Lic. Enrique Martínez y Martínez</b> Secretary of Agriculture, Livestock, Rural Development, Fisheries and Food
17:00	18:00	Technical presentation by experts	Presentations by international experts, highlighting key issues and opportunities for improvement regarding to international best practices <b>Joost Snels, Yao-Hua Tan, Joris Tenhagen, Onno Roelofs, Gagan Khurana, Nicholas You.</b>
		Replies of the Expert	<b>Roberto Escalante Semerena</b>
18:00	18:30		<b>COFFE BREAK</b>
18:30	18:45	Introduction to the Exercise of the Vision	Description of the methodology and expected result <b>Nicholas You, Facilitador</b>
18:45	19:45	Work Groups	Working in sub-groups to draft a vision statement <b>Nicholas You, Facilitador</b>
19:45	20:15	Presentation of Drafts	Each sub-group appoints a representative who will present the draft vision proposed the large group
20:15	20:30		<b>COFFE BREAK</b>
			During the coffe break, representatives of the sub-working groups and facilitators consolidated draft in a final collective statement (University of Wageningen)
20:30	20:45	Announcement of the Vision Statement	Consolidated statement of Vision and Objectives for the National Agrologistics Program <b>Lic. Ricardo Aguilar Castillo</b> Undersecretary for Food and Competitiveness
			<b>DINNER</b>

## Annex 3. Institutions that participated in the Vision Workshop

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- Presidency of the Republic
- Ministry for Agriculture, Livestock, Rural Development, Fishery and Foods (SAGARPA)
- Ministry for Communications and Transportation (SCT)
- Ministry of Economy (SE)
- Ministry for Finance and Public Credit (SHCP)
- Ministry for Agrarian, Territorial and Urban Development (SEDATU)
- Ministry for Environment and Natural Resources (SEMARNAT)
- Ministry of Energy (SENER)
- National Service of Agro Alimentary Health, Safety and Quality (SENASICA)
- Agency for Trading Services and Development of Agricultural Markets (ASERCA)
- Promotion of Mexican International Business. Investment and Trade (PROMEXICO)
- Trust Funds for Rural Development (FIRA)
- The Capitalization and Investment Fund for the Rural Sector (FOCIR)
- Shared Risks Trust (FIRCO)
- National Agricultural, Rural, Forest and Fishing Development Financing
- Food and Agriculture Organization of the United Nations (FAO)
- Inter-American Development Bank (IADB)
- Inter-American Institute for Cooperation on Agriculture (IICA)
- World Economic Forum (WEF)
- National Association of Importers and Exporters of the Mexican Republic (ANIERM)
- National Association of Supermarkets and Departmental Stores (ANTAD)
- National Confederation of Supply Center Traders Aggrupation, A.C. (CONACCA)
- Federal Regulatory Improvement Commission (COFEMER)
- Confederation of Customs Agent Associations of the Mexican Republic (CAAAREM)
- Mexican Association of Agricultural Development Secretaries (AMSDA)
- National Agricultural Council (CNA)
- Autonomous University of Chapingo (UACH)
- Postgraduates College (COLPOS)
- National Association of Private Transport Agents (ANTP)
- Mexican Association of Shipping Agents, A.C. (AMANAC)
- Mexican Railroad Association (AMF)
- Confederation of Industrial Chambers of the United States of Mexico (CONCAMIN)
- General Warehouses Association, A.C. (AAGEDE)

## Annex 4. Profiles of the Panel of Experts and Moderators

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### Nicholas You

Currently the Chairman of the Steering Committee of the World Urban Campaign of the UN and Assurance Group for Urban Infrastructure of the World Business Council for Sustainable Development. Regularly advises national and local governments, and leading technology companies on politics and institutional strategies for sustainable development. Prior to his current position, he worked as Senior Policy Advisor of the United Nations Human Settlements Program, where in a period of 20 years, he helped national and local governments in the realization of reforms to improve institutional capacity and training programs and leadership development. During the period 2008–2010 he was responsible for developing and implementation of a strategic and institutional plan within six years for UN-Habitat.



### Joost Snels

Worked as a researcher at the Ministry of Transport and Water in the Netherlands in the area of “vital chains”. At Wageningen University he is the coordinator of management of the supply chain and is a project manager for the design of cold chains at an international level.



### Yao-Hua Tan

Professor of Information Technology and Communication at the University of Delft and eBusiness at the Vrije University of Amsterdam. He has been visiting professor at the Wharton Business School of the University of Pennsylvania. He is specialized in engineering services and governance; contracting and negotiation facilitated by ICT and in models for developing procedures in international trade. His research field covers technical aspects and policy and relations between the two, applicable in international projects, many of them in the field of trade. He has participated in projects for the European Union and the United Nations in Geneva, and in the Trade Committee for the Division for Sustainable Land Management.



### Joris Tenhage

Was manager of the Program NV Regio Venlo 2009–2011, creating a program for Innovation of 27 projects with 120 organizations (logistics, service providers, transporters, intermodal terminal, customs, regional authorities, major ports, universities). In the ports and logistics field of the main interior work, with projects such as Single Window for Customs, Harbour Railway Connection and optimization projects of the supply chain for global customers.





## Onno Roelofs

Started his career as a strategy consultant at Arthur Andersen Real Estate, followed by Re-Creations, a company that primarily serves end-users and objectives of the commercial establishment. He later worked in the management of processes BM (acquired by Royal Haskoning) as a consultant in the real estate sector and the area of corporate development. In late 2007, the Port of Rotterdam hired him as manager of business development for the port.



## Gagan Khurana

Head of Field Operations and associations of Grow Africa in the World Economic Forum. Grow Africa works with governments and associate companies to facilitate the conversion of almost \$5 billion in committed investments for field projects. Gagan has a deep understanding of supply chains and models of participation of small producers. He has worked extensively in Asia, Latin America and Africa in the last two decades in rural supply chains, of sustainable use of water and land, economic issues related to rural development and social programs. Before his move to Grow Africa, he worked for McKinsey & Company in Latin America, where he led their agriculture and related work with water. He has extensive experience in Mexico.



## Dr. Roberto Escalante Semerena

Secretary General of the Union of Universities of Latin America. PhD in Agricultural Economics and Rural Development, Doctor Honoris Causa by the Catholic University Los Angeles of Chimbote, Doctor in Rural Development at the University of London (Wye College). He completed his Masters in Agricultural Development at the University of London (University College London) and his BA in economics from the Faculty of Economics at the National Autonomous University of Mexico. Furthermore, he has served as a researcher in the lines of Environmental Economics, Agricultural Economics and Rural Development.



## Pablo Vaggione

Specialist in strategic planning and development. He has extensive experience in leading technical teams, advising decision makers and performing knowledge management activities for operational purposes. He has been a consultant to the Asian Development Bank, Inter-American Development Bank, The Latin American Development Bank and the World Bank. He is the author of the guide ONU-HABITAT "Urban Planning for Leaders", one of the most successful publications of the organization.



### PRESS RELEASE

Mexico, D.F., May 22, 2014

NUM. 394 /14

**Mexico boost the National Agrologistics Program to reduce losses and increase competitiveness.**

- **SAGARPA performed a thorough evaluation of the agri-food sector to define the needs of agrologistics material and generate public policies for solutions, stated by secretary Enrique Martínez y Martínez, at the opening of the Leaders Workshop of the National Agrologistics Program.**
- **20 years after the North American Free Trade Agreement (NAFTA) came into force, Mexico required to have systems and processes that restore competitiveness and will contribute to the development and positioning of the Region of North America in a global context, he said.**
- **The undersecretary for Food and Competitiveness of SAGARPA, Ricardo Aguilar Castillo, stated that the system will contribute to regional development of producers, since it will provide more choices to increase their productivity and profitability.**
- **The National Agrologistics Program aims to maximize the potential of the agri-food sector in Mexico based on a more efficient management and distribution of its products, after the harvest.**

The Secretary of Agriculture, Livestock, Rural Development, Fisheries and Food, Enrique Martínez y Martínez, announced that he is working to develop a comprehensive agrologistics system for Mexico, in cooperation with other agencies of the Government of the Republic, with the objective to increase the competitiveness of the agri-food sector, as well as contributing to food security

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During the opening of the Leaders Workshop of the National Agrologistics Program, the head of SAGARPA indicated that the agency performs a thorough evaluation of the agricultural, livestock and fisheries sector of the country, to define the needs for agrologistics material and its solutions.

He emphasized that an advanced agrologistics network including the creation of agroparks, may streamline the distribution of food from the production to the end consumer, providing added value.

He explained that in a globalized context, the country needs to have streamlined distribution systems to deliver perishable goods, such as fruits, vegetables and meat, among others, to the different markets, both domestic and international.

Martínez y Martínez pointed out that one aspect of an agrologistics system is the development of the economic potential of horticulture; for this, he added that a world-class agrologistics system is required to reduce transportation times and losses and waste in production, which may be as high as 40 percent.

He also pointed out that the importance of the issue is included in the agrologistics as a major theme in the groups of analysis, which are carried out within the framework of the Reform for the Transformation of the Country.

He added that 20 years after the North American Free Trade Agreement (NAFTA) came into force, Mexico needs to have systems that restore competitiveness and contribute to development and positioning of the Region of North America in a global context.

In his participation, the undersecretary for Food and Competitiveness of SAGARPA, Ricardo Aguilar Castillo, stated that the Program will contribute to regional development of producers, since it will provide more and better options to increase its productivity and profitability.

With this agrologistics vision, he stated, the basis for developing productive and economic potential of the Mexican food industry is created.

In this system, he said, the public, private, academic and social sectors of the country are involved, aimed towards new marketing alternatives and added value.

For his part, the leader of the Project for the National Agrologistics Program of Mexico, of the University of Wageningen (The Netherlands), Peter Ravensbergen, explained that at a worldwide level there is an increasing trend for the demand of products with high added value, which is why our country should choose to satisfy this requirement of an international market.

He added that Mexico has strengths in fruits and vegetables, which is required to reinvigorate and exploit the market potential this sector represents.

He also added that connectivity is reached with an efficient agrologistics system, also contributing to participation of this country with more strength in growth markets such as Asia and Latin America.

It is noteworthy that the National Agrologistics Program aims to maximize the potential of the agri-food sector in Mexico based on a more efficient management and distribution of its products after harvest.

This will offer new opportunities for producers of all sizes to connect to the national and international markets. The program aims to reduce transportation costs and the time to reach the consumer, while meeting the quality demands of the market.

The project began last year with an initial workshop and a diagnostic study, developed by a multinational technical team and coordinated by the University of Wageningen of the Netherlands, which is a benchmark in the field of applied research on the efficiency of the food chain.

This contributes to the promotion of the use of global best practices in national food chains.

The workshop was attended by the Undersecretary for Competitiveness and Regulation of the Ministry of Economy, Rocío Ruíz Chávez; the General Coordinator of Strategic Planning of SAGARPA, René Villareal Arrambide; the Director General of Logistics and Food, Julio César Albarrán, the Director General of the Postgraduate College, Jesús Moncada de la Fuente; the Director General of Phytozoosanitary Inspection of SENASICA, Arturo Calderón Ruanova; the Head of the General Administration of Customs, Alejandro Chacón Domínguez; the Director General of FOCIR, Luis Alberto Ibarra Pardo; the Agricultural Counselor of the Kingdom of the Netherlands in Mexico, Gabrielle Nuytens; the General Manager of the Mexican Association of Secretaries of Agricultural Development (AMSDA), Octavio Jurado Juárez, and the Director General of Trust Funds for Rural Development (FIRA), Rafael Gamboa, among others.

International experts in agrologistics also participated: Nicholas You, Pablo Vaggione, Joost Snels, Yao-Hua Tan, Joris Tenhagen, Onno Roelofs, Gagan Khurana and Roberto Escalante Semerena.

[www.sagarpa.gob.mx](http://www.sagarpa.gob.mx)



## Annex 6. Notes from the Working Tables

<b>Working Table</b> <b>1</b>	RAPPORTEUR	Ricardo Aguilar Castillo
	FACILITATOR	Manuel Molano

### VISION

Mexico will be a leader in the export of perishable goods, guaranteeing domestic demand, by the year 2030.

We will achieve this vision through high value products and high quality at a competitive price.

### SUCCESS FACTOR

Validated.

Create a space that houses all actors and to facilitate dialogue for the implementation.

### SHORT TERM ACTIONS

Create a National Council for Agrologistics

- No more than 10 representatives
- Rotating
- Elected by each sector represented
- Covered by a fund for analysis and detection of opportunities
- Independent external body which follows up and evaluates
- That encourages the inclusion of the producer in the chain
- Which will follow up on agrologistics issues created by presidential decree
- Taking into account the regional consensus
- Private sector and the specialized financial sector must participate
- The links of demand and agrologistics
- With specific objectives
- Independent and regularly report to the President of the Republic
- For the various participants, especially for producers to appropriate this shared vision under the leadership of President of the Republic.

1. RAISE INITIATIVE TO PRESIDENTIAL AGREEMENT.
2. DEFINE A TIMEFRAME FOR THE VISION AND PRESENT IT TO THE PRESIDENT.
3. POSITION AGROLOGISTICS AS THE AXIS TO REFORM THE AGRICULTURE SECTOR.

Who:

- Head of SAGARPA

When:

- In the next 3 months

### MEDIUM TERM ACTIONS

Create an independent reporting and assessment system. Special Purpose Entities for generating pilot projects.

Who:

- The National Agrologistics Council

When:

- In the next 3 years

### LONG TERM ACTIONS

Ensuring an institutional framework to generate continuity beyond this government.

Who:

- 3 Powers and Productive Sector

When:

- As soon as possible

<b>Working Table</b> <b>2</b>	RAPPOREUR	José Luis Fuentes Pochat
	FACILITATOR	Rodrigo Gallegos

## VISION

...

## SUCCESS FACTOR

Standardization and inspection process.

## SHORT TERM ACTIONS

What:

- Harmonize the Regulations and Conformity Assessment with international standards and express its fulfillment in each checkpoint (Import / Export) with one document and only one inspector or verifier with a focus on risk control.

Who:

- Presidency of the Republic.
- National Standardization Council for Business Competitiveness (6 Ministries, 6 Private Organizations), chaired by the President of the Republic..

How:

- Simplify the process of issuing standards.
- Delegate to entities the private verification (accredited by the responsible authorities).
- Start with most important rules for the Private Sector.
- Harmonization Program jointly with the United States and Latin America.
- Ensure that every rule has its own conformity assessment procedure.
- Trustworthy Importer / Exporter.
- Obtain a CODEX Committee Chairperson on Fresh Fruit and Vegetable. June 2014.
- Incorporate into the National Standardization Program 72 NOM (Official Mexican Standard) and NMX (Mexican Standards), to analyze them together.
- Simplify the process of elaboration and revision of standards.

## MEDIUM TERM ACTIONS

...

## LONG TERM ACTIONS

...

## ADDITIONAL NOTES FROM THE RAPPOREUR

The working table misunderstood the success factor as drafted and decided to change it according to two principles that contribute to the same cause: Standardization and inspection process.

In this way, the working table proposed that the inspections should be reduced to a single step, not only through sharing facilities and to have these in a single place, but to a single person and processing instead of 6 as it is performed nowadays. For this purpose, being a private acceptance and all shall charge for the service (similar to what happens in inspection mechanisms to mitigate emissions reduction).

On the other hand, a risk-based approach is suggested. There are experiences that show progress by allowing the companies themselves to be responsible for inspections of the merchandise and that the authority recognizes this. This is done when companies have to comply with the standards proposed by the authorities as well as being reliable. Because the venture has the risk that the product is not accepted in the end by the company itself, which eliminates the risk of losses by the authorities. In this sense we can advance both for the mutual recognition between companies as well as between governments and create a kind of registry or census for reliable companies. For example, for milk imported from the Netherlands to China, due to an agreement that was reached between the two governments, the Dutch company already has pre-authorization for the milk based on quality standards in China. The cost of the verification is the responsibility of the private whereby these schemes make these processes more efficient.

On the other hand, the working table further discussed the inspection process itself, concluding that an advance is to be made for the mutual recognition of standards between countries to accelerate this process. Therefore, it was suggested to harmonize the regulatory framework by aligning standards with other countries, for example with Codex and advance to a regulatory equivalence. Furthermore, one could start with fruits and vegetables taking advantage of the presidency of Mexico in Codex to advance this agenda. The norms or standards must contain at least the minimum standards suggested by the industry and should begin by the most important for marketers of agricultural products as well as for those products in which we are more competitive.

Another way to advance in this regard is that the standards of inspection already come from the issuance of the NOMs for which they must be included in the NOM, and contains commentaries of US and Central America, our main trading partners.

Cofemer/ Sagarpa/Senasica/ Economy/Customs need to work jointly, as well as with the private sector.

Therefore, it is suggested that the work has the leadership of the Presidency in the workgroup, since it incorporates all of these dependencies in the National Standardization Council for Business Competitiveness. If all work together, the time will be reduced, because Cofemer for example, may approve in an expeditious manner because they who know the process from the beginning.

<b>Working Table</b> <b>3</b>	RAPPORTEUR	José Antonio Delgado Núñez
	FACILITATOR	Pablo Vaggione

#### VISION

We validated the mission.

#### SUCCESS FACTOR

Infrastructure and reliable connectivity to intermodal nodes in suitable locations.

#### SHORT TERM ACTIONS

What:

- Define what is a “right location” and mapping of nodes, both existing and new, as a collegiate body
- Perform a viability plan including the business model of intermodal nodes and incentives for developers.

#### MEDIUM TERM ACTIONS

What:

- Develop a pilot project, which is to improve an existing node, and create a new one, both aligned with the Vision.

Who:

- Relevant agencies, which create basic conditions for the development of the nodes by the private sector.

#### LONG TERM ACTIONS

What:

- To have a “seamless” agrologistics system<sup>1</sup>, among the 20 most efficient in the world.

Who:

- Presidency leading relevant agencies.

<sup>1</sup> Without interruptions from the point of production to the consumer.

Working Table 4	RAPPORTEUR	Jose Arturo Martínez Lara
	FACILITATOR	Olga Vázquez

#### VISION

To triple the volume of export of perishable goods by 2030 (based on the growth rate in 2013, 8.92%)<sup>2</sup>

#### SUCCESS FACTOR

Development of infrastructure and related strategies that will facilitate logistics performance:

- Market orientation (keyword: WHERE)
- Orientation to interagency coordination on specific projects (for example: master plans for ports and airports)

#### SHORT TERM ACTIONS

Mapping of the agrologistics infrastructure needs of the industry.

Who:

- SAGARPA

When:

- In 6-12 months

Synchronization of all public policy programs that deal with the provision and coordination of the agrologistics infrastructure

Who:

- Specialized Office “Prosperous Mexico”, Technical Secretariat of the Presidency Secretaría Técnica de la Presidencia.

When:

- In 6-12 months

Examples:

- National System of Logistics Platforms
- National Infrastructure Program

#### MEDIUM TERM ACTIONS

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#### LONG TERM ACTIONS

...

Working Table 5	RAPPORTEUR	Edna Miranda Monroy
	FACILITATOR	Omar Ahumada

#### VISION

Mexico shall be a leader in the production and export of perishable foods by 2025, guaranteeing food security. This is done through high value products and high quality at a competitive price.

#### SUCCESS FACTOR

...

#### SHORT TERM ACTIONS

Propose a pilot plan to develop the Soconusco region, through the involvement of producers, SAGARPA and the Development Bank. This plan develops pilot models for the association of producers and to incorporate support programs of the different institutions in order to improve the chances of success in the region.

Who:

- SAGARPA shall take the leadership of this project and schedule the first working meeting in June.

#### MEDIUM TERM ACTIONS

Develop business models and partnerships that include the small and medium producers, in particular which integrate the chain to those producers who have the potential, but did not or have not been able to do so due the lack of scale or infrastructure.

<sup>2</sup> Note: This is an indicator of fulfillment of the Vision.

<b>Working Table</b> <b>6</b>	RAPPORTEUR	Dr. Jaime Arturo Matus Gadea
	FACILITATOR	Roberto Escalante

#### VISION

To have a world-class agrologistics system to attend to the internal and external market which shall contribute to food security in Mexico.

#### SUCCESS FACTOR

Integrate a national value chain, with knowledge of the international market regarding opportunities and risks.

#### SHORT TERM ACTIONS

What:

- Providing comprehensive information throughout the value chain.

Who:

- Public-private partnerships in the three levels of government.

#### THE ACTIONS IN STAGES

- Promote associative organizations based on market opportunities
- Develop useful and efficient human capital to incorporate producers to the chain of fair value, in particular to promote the existence of young entrepreneurs.
- Create innovation networks and participatory development to deal with marketing constraints.
- Availability of funding.
- Availability of infrastructure and logistics
- Organization, training and creation of value for producers and staff.

Who:

- Public-private partnerships in the three levels of government.

## Annex 7. Rapporteur's report for the whole day

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- Working conference with leaders from different sectors to present the National Agrologistics Program held at the Bankers Club.
- It was carried out in 2 sessions, one in the morning where only the team of international experts participated with the project leaders.
- In the afternoon, the presentation of the National Agrologistics Program and a workshop were held to define the objectives and scope thereof; at this conference government officials, businessmen, academics and rural producers participated.

1.- The day began in the morning with a working meeting in which the panel of international experts and project leaders rehearsed their respective parts of the presentation for the afternoon. During this rehearsal, the time and the content of the presentation were adjusted. Observation and comments were made among the participants, which served for each one of them to improve the material to be presented in the afternoon.

2.- The afternoon meeting, with leaders and representatives of the sectors involved in agrologistics, began with a detailed presentation of the objectives and scope of the Program and the methodology used to define these. Subsequently, six working tables were set in which the leaders made their contributions to further define the objectives and actions so that the National Program Agrologística can be executed.

3.- **Ricardo Aguilar Castillo, Undersecretary for Food and Competitiveness of SAGARPA:** The objective of agrologistics is to obtain the correct product, at the right place and at the right time with right quality and the lowest cost.

4.- The National Agrologistics Program represents areas of opportunity for producers to improve their harvest, storage of their products, packaging, distribution and a better way to reach the consumers. It also represents an opportunity for the processing industry and service providers.

5.- At the moment a group of leaders is created for development and monitoring of the program, therefore all sectors should be represented, including both public and private. The PNA contemplates two strategic aspects: 1<sup>st</sup>, Infrastructure, service and logistics intelligence. 2<sup>nd</sup>, Institutional development, innovation and knowledge transfer.

6.- The National Agrologistics Program is one of the pillars for the Reforma y Modernización del Campo, announced by President of the Republic and the creation of the National System for Agroparks.

7.- **Peter Ravensbergen, leader of the group of international experts.** At this moment there are 120 million Mexicans, but in a few years the number will reach 150 million, and also the level of urbanization will continue to increase, which already implies that changes are a fact in the consumption patterns of the population, especially for those living in cities, which also means that they will consume more protein. In the last 40 years the consumption of high protein foods has increased, which indicates that production should address this change in demand. It also requires more value-added convenience products, prepared and processed, because they shall be consumed in large quantities.

8.- Mexico holds an important position in the export of fresh fruits and vegetables, such as the tomato, where its exports generate \$700 million USD annually, and also avocado, lemon, mango, strawberries, cauliflower, walnuts, are products with a high demand. However, we do not see that they are given added value. Meat is also exported in substantial quantities and is sent to markets in the United States and Japan after processing.

9.- We analyzed the supply chain of 7 selected products and we could localize the bottlenecks in each one of them, plus their shipping times and costs.

10.- The demand is increasing at international and national level for products like egg, dairy products, meat, cooked and processed food, caused to the increased urbanization. Mexico is very competitive in export of fruits and vegetables, but what is sent abroad is of a low added value. There are other potential markets such as meat for Asia.

11.- Analyzing the infrastructure of highways, one needs to conclude that they are of poor quality, especially for the transport of perishable goods, which are delicate. Few agricultural products are transported by the railroad, only the grains. There is limited connectivity between some states and production regions with the consumer markets.

12.- Airfreight is not significant for the transport of agricultural products. We found 84 intermodal hubs in Mexico, but we have no information on how they work. There is plenty of storage for grains, but there not enough refrigerated storages. The cost of agrologistics competitiveness is very high in Mexico, it is 1.5 times higher than in the United States. This is caused, among other things, by the high cost of toll roads. There is a shortage of trucking fleets during peak production season. The average quality of the infrastructure is poor and causes damage to sensitive products, such as perishables.

13.- The railroad is insufficient, the connectivity is moderate, there are regions in the north and south of the country, which are not connected, and , the distances from the production regions to the ports are long. On the level of Information Technology there has been progress but improvements are needed. There are too many procedures and revisions, besides theft by lack of adequate security.

14.- The exports to the United States are important and are also increasing, and business should therefore stay strong in this sector, so that such it grows and continues to develop. This is a big challenge, as well as the export to Asia. There needs to be more organization in the supply chain, a better coordination with producers, wholesalers and retailers in order for the chain to function well, and to create a solid chain from the producer to the consumer.

15.- The logistics costs are high, but for some Mexican products still fairly competitive. There is limited nodal network, cold storages are required in the production areas. Meanwhile, the infrastructure must be aligned with the customs procedures for sanitary inspection.

16.- **Enrique Martínez y Martínez, head of SAGARPA:** Conducts the presentation of the National Agrologistics Program and Workshop for the construction of such Plan.

17.- The future of the North American market is in the logistics. After 20 years of the Free Trade Agreement almost all agricultural and livestock products are already liberated, very few products are missing, so the tariff issue has already passed. Right now the question is: how can we integrate as a region to recover the lost time?

Because in the last two decades the region has lost 5-6 points in its positioning in the international market.

18.- The secret lies in logistics, we need to improve our ports, airports, our customs, etc. In the case of agricultural products even more, because they have a short life span. Our logistics must be more specialized to avoid 33% of food products lost due to waste to deficiencies such as lack of a solid chain or intrusive commercialization, which is a shame in a society, which requires more food.

19.- We are obliged to improve our internal logistics system. There are niches for beef and pork, where we need to take advantage of the potential we have to expand our markets. Mexico occupies important positions in avocado production, papaya, beef, pork and poultry, berries, mangoes and guava, whereby the horticultural produce is the one with greater growth opportunities in the market.

20.- **Rodrigo Gallegos, Mexican Institute for Competitiveness IMCO:** The logistics sector in Mexico is expensive, its cost represents between 15 and 20% of GDP, against 9% on average with member countries of the OECD. The cost of logistics is higher in the agri-food sector than in manufacturing and other services. SMEs of all types spend 13% of their income on logistics.

21.- In Mexico customs are expensive. Cost effectiveness and product traceability is poor, and the use of Information Technology is low. Customs offices are not aligned with the inspections. There is an additional cost for insecurity. The roads are an important part of the agrologistics infrastructure and the pavement is of poor quality.

22.- The railroad lacks diversity, and has a truncated cold chain, but also the multimodal chain and at the main ports, like Manzanillo, is permeated and is very focused on grain imports, especially corn. The average speed of the railway is 30 kilometers per hour, when it should be 50 and has an elevated number of accidents.

23.- We have problems with the warehouses, there are states that have no warehouses. We have a truncated cold network that is not used for one half of the perishables, and it has become one of the limitations of fresh dairy products, also because there are entities that have no refrigeration chambers.

24.- There are 24 laws and 28 regulations at the federal level, more than 75 Mexican Official Standards, 10 National Committees for Standardization and 12 federal programs and none of them have an agrologistics vision or clear sense of direction. The federal regulations do not involve the private sector for a joint regulation.

25.- **Olga Vázquez:** She presented the results of the consultation phase of the National Agrologistics Program and the First National Workshop on the subject. The most frequently mentioned topics are: confidence, long-term vision and leadership. Also infrastructure, cold chain, health and finance. Furthermore the deficiencies in planning and the lack of leadership was discussed. It was mentioned that one should invest in human capital and the development of an overview on the topic and develop a new agri-food policy.

26.- Questions with regard to the strengths, weaknesses and areas of opportunity in the agrologistics sector, what we should learn from past policies, which priorities we must assume and what we should avoid, were asked. The most mentioned by participants was the institutional alignment with 36%, the connectivity and the connection between supply and demand.

27.- The detected strengths are the production potential that the country has and its natural resources. The most frequently mentioned weaknesses were the disconnection between production and market. In areas of opportunity the coordination between government actors was mentioned.

28.- The National Agrologistics Program was developed based on three pillars: Development of an efficient and competitive logistics infrastructure. A strong institutional development of the sector, a legislative reform, design of interagency agreements, and administrative simplification. Also development and knowledge transfer, with the creation of a qualified sector and labor.

29.- **Nicholas You:** A first factor of success of the Program is that it should be based on international best practices. The government just does not have the ability to launch a world-class agrologistics chain, it has to engage other actors.

30.- There is no alignment between laws, therefore gaps are formed in the agrologistics chain. There are critical issues that must be countered; for example, encourage public-private partnerships, because that coordination is not so strong. If private initiative does not coordinate, it will hinder the task the government. Changes are needed to align public with private and private with private.

31.- We need to create a space that houses all sectors and that facilitates dialogue among the actors involved.

32.- **Joss Snels:** Mexico is a country of great opportunities. There is loss of food due to poor management. A shortcoming we found is that certain fruits and vegetables are commercialized, contaminated with pesticides, therefore food safety is an issue that must be taken care of.

33.- The cold chain must not be interrupted at any time, if that happens a serious problem is caused. The cold chain is interrupted in transportation many times for inspections at roadblocks, based on the law.

34.- When perishable products are exported to large retail chains, which have very strict regulations regarding food safety, we should promote an adequate management of products throughout the cold chain.

35.- **Yaohua Tan:** Mexico occupies the 70th place of 160 countries in customs procedures, and that's a problem because it should be in the top 40.

36.- In Mexico, one already operates the Digitalized Window, which currently faces some problems. It will take 2-3 years for the system to stabilize, but in the end it will be a success. Customs must have locations to inspect the goods without interruption of the cold chain.

37.- If there was more control in the supply chain from the moment the goods are packaged until they reach their destination, this may reduce the number of inspections, since it would gain more trust with the government entities that make such revisions.

38.- In the Netherlands and UK very large companies that export and apply rigorous inspection systems, both customs and phytosanitary. This requires a lot of education and training to move to a level of sophistication in the inspections. This also requires quality and control in the supply chain.

39.- **Joris Tenhagen:** Mexico has big potential for intermodal transport, for export to Europe or other destinations, either for sophisticated or agricultural products with the use of refrigerated systems.

40.- There are several challenges in terms of intermodal transport; one of them deals with inadequate infrastructure, which must be improved, because it represents 40% cost savings. Another challenge deals with the location of intermodal systems, which should be close to the production areas and consumers and which should be linked with ports.

41.- The railway system is increasing but should be better organized. There are two operating companies; one in the east and one in west of the country, which should be different. For a good intermodal system we must base it on connectivity and reliability, because without these elements such a system does not work and Mexico will lose opportunities abroad.

42.- **Onno Roelofs:** There are several challenges at the ports of Mexico, one of them is the imbalance between the interests of the port and its customers.



43.- The expansion project of the port of Veracruz could be a success. They are seeking security, financing and technical feasibility, however, we have to investigate more regarding the port operator, the safety, the feasibility and the business model they plan to carry out.

44.- In the port of Manzanillo we found that transport is a bottleneck, it also operates at a third of its capacity due to lack of adequate logistics, which represents losses of USD 300 million.

45.- Logistics requires space and time to develop and one should encourage public-private partnerships.

46.- **Gagan Khurana:** It is necessary that all producers benefit from an agrologistics chain, because in Mexico 72% of them produce solely for their own consumption. Of the 4 million producers in the country, only 6% exports, and one challenge is the inclusion and competitiveness in this chain. There is need for incentives for small producers to participate in this chain.

47.- One of the challenges is for small producers to benefit from export. For example, a producer whose products are of high quality, but who has no way to send it abroad, is excluded from opportunities to sell its product for two dollars a piece on the European market. What can we do to incorporate these producers in this chain? The solution I propose is to outsource and replicate this scheme among small producers.

48.- Another success factor is to ensure a clear business model for each of the actors and create a world-class agrologistics system, which includes all producers.

49.- **Roberto Escalante:** It is very complex to set an agrologistics system in motion, therefore it requires human expertise of the complex reality. These individuals should be permanently trained in agrologistics systems, with plenty of information on the subject, all with the aim of converging the supply and demand.

50.- We need to create centers of excellence, where different industry players will converge and conduct a number of reflective exercise for reflection, research, and to bring forward ideas that can be implemented. There is plenty knowledge inside and outside of universities, we must combine this knowledge and apply it to agrologistics.

51.- Since Mexico signed the NAFTA the horticultural production has been profoundly transformed and has also grown tremendously. Therefore, for every dollar of imported fruit and vegetables, we export nearly 6; this is paradoxical and remarkable if we consider that Mexico does not have a world-class agrologistics system.

52.- Our terms for trading fruits and vegetables are decreasing and to maintain the value of our exports our volume has to grow every day. To do so we need a world-class agrologistics system.

53.- **Nicolas You:** Explains the dynamics of the 6 working tables of the Workshop to define the scope of the National Agrologistics Program.

54.- We have chosen six challenges on which we will focus, these are 6 key success factors, which involve policy changes, the standards, the procedures, the attitudes, the behaviors and ways of working. To change something is very difficult to achieve, and the government does not like changes, so today we're going to take that first step.

55.- The vision that we will put together has several purposes. To serve as a work guideline to build the National Agrologistics Program, and to implement it during a certain period. Your vision will provide guidance to international experts.

56.- Our vision is that Mexico will become the world leader in export of perishables in 2030 with quality products, of a high value and competitive price. The methodology is that each of the six working groups develop a theme and will discuss who are the key players to achieve the objective, among other aspects to be analyzed; What will we do to start acting? How can we do it and who is going to do it? All this should be resolved in the next 12 to 18 months, before next year's elections. To achieve the proposed vision we have to determine the short, medium and long-term actions, which we have to execute.

57.- Presentation of the conclusions obtained in each of the working groups:

58.- **Working Table 1, rapporteur: Ricardo Aguilar Castillo:** We validated the view in which Mexico is a leading exporter of perishables and guarantees the domestic demand by 2030, with products of value, quality and at competitive prices. One of the success factors to achieve this is the creation of the National Agrologistics Council, composed of 10 members, which shall be representatives of each of the sectors involved in the subject. Short term actions: To position agrologistics as one of the pillars of the Reforma y Modernización del Campo, in the medium term we should count with a reporting and evaluation system that is independent, in the long term should be ensured the institutional framework that goes beyond the present government to ensure continuity of the project.

59.- **Working Table 2, rapporteur: José Luis Fuentes:** To achieve the proposed vision we need to harmonize regulations, evaluate them in accordance with international standards and express its fulfillment in each checkpoint, either for import or export, with one document and only one inspector or verifier, with a focus on risk control. We suggest that the National Standardization Council for Business Competitiveness accepts these issues and raises the regulatory framework for the Government and the private sector working together on the project. We also propose to jointly develop a program of harmonization with the United States and countries of Latin America. Short term actions: Start with an exercise with Customs and SENASICA, to consider reliable exporters and importers.

60.- **Working Table 3, rapporteur José Antonio Delgado:** Our vision is to have a reliable infrastructure and connectivity with intermodal nodes in the right places. The actions for the short term: Define the right place and map these intermodal nodes, but also create new ones, all of the above should be done in close cooperation. Create incentives to provide legal certainty for investment. In the medium term create a pilot project, which consists of improving an existing node, and create a new alignment with the vision. Over the long term we propose to develop a seamless intermodal system, with Mexico located among the 20 best in the world.

61.- **Working Table 4, rapporteur Arturo Martínez:** The vision has to be more realistic in our opinion and be kept within the capabilities of the country. That's why we decided modify it and propose that Mexico will triple the current volume growth of exports, which was 9% in 2013, we even estimate that this growth could be quadrupled. We propose the creation of a master plan for ports and airports. Short term actions: To map the needs of the agrologistics industry. Synchronize all programs with regards to agrologistics, for example the National System of Logistics Platforms, the National Infrastructure Program and the National Agrologistics Program and the ones developed by each agency in terms of infrastructure, as the National Program of Roads, Ports and Airports.

62.- **Working Table 5, rapporteur Edna Miranda:** We propose cutting back the vision for Mexico to be the leading exporter of perishable in 2025, guaranteeing food security and domestic consumption. The success stories should be those in which the fair distribution of benefits is given among all actors in the agrologistics chain, from the producer to the consumer. Short term actions: Within the next 18 months we should develop a pilot program in the Soconusco region, in Chiapas, that promotes 2 or 3 products in this area, in which the development bank participates. We also propose to define a strategy based on regionalization and according to logistical vocations in the country, allowing prioritizing investment according to specific economic corridors.

63.- **Working Table 6, rapporteur Jaime Arturo Matus:** We start from the assumption of having a righteous Mexico. Our vision is to have a world-class agrologistics system to serve the external and internal markets, which provide food security to the inhabitants of the country. Success factors should be: Integration of a national value chain with knowledge of the international market in terms of opportunities and risks, since they are not two markets, but one with different products and different consumers. Focusing on one would imply losing economic development opportunities. We must develop useful and efficient human capital, to incorporate producers to an equitable value chain, especially encouraging young producers. We also propose to train public officials so that they have a vision of a better Mexico. Involve the whole private sector and the three levels of government.

64.- **Final conclusion by Ricardo Aguilar Castillo:** Mexico is a leader in the export of agro-food products in 2030. We will achieve this through a strategic, harmonic, innovative and measurable system that will promote high quality products through an efficient logistics network, which responds to the particular territorial conditions, simplifying business processes and ensuring food security.

## Annex 8. Attendance list of the Vision Workshop

Category	N°	Title	Name	Paternal Surname	Maternal Surname	Position	Actors
Federal Government Departments	1	Lic.	Ricardo	Aguilar	Castillo	Undersecretary of Food and Competitiveness	Ministry of Agriculture, Livestock, Rural Development, Fisheries and Food (SAGARPA)
	2	Lic.	Oscar Gustavo	Cárdenas	Monroy	Undersecretary for Planning of Rural Property	Ministry of Agrarian, Territorial and Urban Development (SEDATU)
	3	Lic.	Alejandro	Chacón	Domínguez	Holder of the Customs General Administration of the Ministry of Finance	Ministry of Finance and Public Credit (SHCP) Customs
	4	Lic.	Guillermo	Deisler	Mateos	Head of the Maritime Ports Strategic Planning Unit	Ministry of Communications and Transportation (SCT). General Coordinator of Ports and Merchant Marine
	5	Lic.	Roberto	Padilla	Domínguez	Technical Secretary of the Cabinet of the Presidency of the Republic	Presidency of the Republic / Technical Secretary
	6	Lic.	María del Rocío	Ruíz	Chávez	Undersecretary for Competitiveness and Regulation	Ministry of Economy (SE)
	7	Lic.	Alberto Ulises	Esteban	Marina	Director General of Standards of the Ministry of Economy	Ministry of Economy (SE)
	8	Mtro.	Juan José	Linares	Martínez	Director General for Agri-food Standardization	Ministry of Agriculture, Livestock, Rural Development, Fisheries and Food (SAGARPA)
	9	Lic.	Carlos Gerardo	López	Cervantes	Director General of Planning and Evaluation	Under secretariat for Food and Competitiveness
	10	Lic.	Dina	Madrid	Rosas	Manager of Customs Operational Control	Ministry of Finance and Public Credit (SHCP) Customs
	11	Dr.	René Patricio	Villareal	Arrambide	General Coordination of Advisors of the Secretary	Ministry of Agriculture, Livestock, Rural Development, Fisheries and Food (SAGARPA)
	12	Mtra.	Janet	de Luna	Jiménez	Coordinator of Advisors	Ministry of Agrarian, Territorial and Urban Development (SEDATU)

Category	N°	Title	Name	Paternal Surname	Maternal Surname	Position	Actors
Federal Government Departments	13	Lic.	Julia	Flores		Assistant for Tropical Regions	Under secretariat for Food and Competitiveness
	14	Lic.	Horacio	Martínez			Ministry of Agrarian, Territorial and Urban Development (SEDATU)
	15	Mtra.	Norma	Munguía	Andaraca	Director General of Primary Industry and Natural Resources	Ministry of Environment and Natural Resources (SEMARNAT)
	16	Lic.	Efraín	Villanueva	Arcos	Director General of Sustainability	Ministry of Energy (SENER)
	17	Dr.	Manuel	Hernán	Villareal		Ministry of Communications and Transportation (SCT)
	18	Lic.	Arturo	Martínez	Lara	Sector Director of Presidential Commitments	Presidency of the Republic
	19		Antonio	Pérez	Rodríguez	Deputy Director General of Renewable Energy	Ministry of Energy (SENER)
	20	Lic.	Alexandro	Zendejas	Vázquez	Director General A. Civil Aviation Technician	Civil Aeronautics (SCT)
	21	Lic.	Sergio Ángel	Baz	Ferreira	Director General of Presidential Commitments	Presidency of the Republic
	22	Mtro.	Oscar Octavio	Olivares	Plata	Managing Director of Risk Management	Under secretariat for Food and Competitiveness
	23	Lic.	Ignacio	Gómez	Trapala	Deputy Director General of the Government Information System	Ministry of Agriculture, Livestock, Rural Development, Fisheries and Food (SAGARPA)
	24	Lic.	David	López	Victoriano	Coordinator of Advisors of the Undersecretary for Food and Competitiveness	Ministry of Economy (SE)
	25	Lic. and Eng.	Gabrielle	Nuytens		Agricultural Counselor of the Embassy	Royal Netherlands Embassy
	26	Lic.	Ana Lilia	Cruz	Salinas	Deputy Directorate General of the Government Information System	Ministry of Agriculture, Livestock, Rural Development, Fisheries and Food (SAGARPA)
	27	Lic.	Ana Lilia	Cruz		Advisor of the General Coordination of the Secretary Advisors	Ministry of Agriculture, Livestock, Rural Development, Fisheries and Food (SAGARPA)

Category	N°	Title	Name	Paternal Surname	Maternal Surname	Position	Actors
Federal Government Departments	28	Sr.	Mark	Horstman		Advisor and Expert in Logistics and Infrastructure of the Royal Netherlands Embassy	Royal Netherlands Embassy
	29	Lic.	Juan Carlos	Leal	Barcenas	Private Secretary to the Undersecretary	Under secretariat for Food and Competitiveness
	30	Lic.	José Isaac	López	Estrada	Administrative Coordinator	Under secretariat for Food and Competitiveness
	31	Lic.	Amanda	Ortega		Advisor of the General Coordination of the Secretary Advisors	Ministry of Agriculture, Livestock, Rural Development, Fisheries and Food (SAGARPA)
	32	Lic.	Armando	Ortega	Márquez	Deputy Directorate General of the Government Information System	Ministry of Agriculture, Livestock, Rural Development, Fisheries and Food (SAGARPA)
	33	Lic.	Erika	Ruíz		Advisor of the General Coordination of the Secretary Advisors	Ministry of Agriculture, Livestock, Rural Development, Fisheries and Food (SAGARPA)
	34	Lic.	Silvia Dolores	Urbina	Hinojosa	Assistant Director of Assessment	Under secretariat for Food and Competitiveness
Decentra- lized organs	35	MVZ.	Enrique	Sánchez	Cruz	Chief Director of the SENASICA	National Service of Agro Alimentary Health, Safety and Quality (SENASICA)
	36	Eng.	Francisco Javier	Giussepe	Camargo	Director of Agribusiness and Food	Promotion of Mexican International Business. Investment and Trade (PROMÉXICO)
	37	Lic.	Arturo	Calderón	Ruanova	Director General of Phytosanitary Inspection of SENASICA	National Service of Agro Alimentary Health, Safety and Quality (SENASICA)
	38	Lic.	Armando César	López	Amador	Director of Inspection in Ports, Airports and Borders of SENASICA	National Service of Agro Alimentary Health, Safety and Quality (SENASICA)
	39	Lic.	Horacio	de Luna	Orozco	Director General of Political Marketing ASERCA	Agency for Trading Services and Development of Agricultural Markets (ASERCA)

Category	N°	Title	Name	Paternal Surname	Maternal Surname	Position	Actors
Development Bank	40	Eng.	Víctor	Velázquez	Cortés	Director of Investment Banking of FOCIR	Capitalization and Investment Fund for the Rural Sector (FOCIR)
	41	Sr.	Miguel	Coronado		Interamerican Development Bank (BID)	Interamerican Development Bank (BID)
	42	Lic.	Luis Roberto	Llanos			Trust Funds for Rural Development (FIRA)
	43		Edna	Miranda		Interamerican Development Bank (BID)	Interamerican Development Bank (BID)
	44	Lic.	Gabriela	Robles	Ibarra	Secretary of the Chief for Risk and Operations	National Agricultural, Rural, Forest and Fishing Development Financing
	45	Lic	Enrique	Soto	Guerra		Trust Funds for Rural Development (FIRA)
Multilateral Organization	46	Lic.	Enrique	Merigo	Orellana	Non-governmental representative of WEF in Mexico	World Economic Forum (WEF)
	47	Eng.	Mauricio	García de la Cadena	Ramírez	Technical Director of FAO in Mexico.	Food and Agriculture Organization of the United Nations (FAO)
	48	Dr.	Francois Yvon	Michel	Boucher	International Expert in Agri-food System Located in the IICA Office in Mexico	Inter-American Institute for Cooperation on Agriculture ((IICA)
	49	Lic.	Silvia	López	Nova	Consultant for IICA	Inter-American Institute for Cooperation on Agriculture (IICA)

Category	N°	Title	Name	Paternal Surname	Maternal Surname	Position	Actors
Civil Society Organizations	50	Lic.	Héctor	Padilla	Gutiérrez	President of the Mexican Association of Secretaries of Rural Development	Mexican Association of Agricultural Development Secretaries (AMSDA)
	51	Lic.	Eugenio	Carreón	Rodríguez	Director General of Government Relations	National Association of Supermarkets and Department Stores (ANTAD)
	52	Lic.	Julio Cesar	Rocha	López	General Coordinator of Regulatory Improvement of Sectors	Federal Regulatory Improvement Commission (COFEMER)
	53	Sr.	Arturo Salvador	Fernández	Martínez	President of the National Executive Committee CONACCA	National Confederation of Supply Center Traders Aggrupation, A.C. (CONACCA)
	54	A.A. C.P.	Víctor Hugo	Gamas	Luna	President of CAAAREM.	Confederation of Associations of Customs Agents of the Mexican Republic (CAAAREM)
	55	Lic.	Valente Oscar	Sánchez	Hernández	Chairman of the Supervisory Committee of the National Association of Importers and Exporters of the Mexican Republic	National Association of Importers and Exporters of the Mexican Republic
Academic Institutions	56	Dr.	Reyes	Altamirano	Cárdenas	Director General of Research and Graduate Studies	Chapingo Autonomous University (UACH)
	57	Dr.	Rodrigo	Diez	de Sollano	Specialized Consultant Bio world economy	Postgraduate College (COLPOS)
	58	Dr.	Jesús Ma.	Moncada	de la Fuente	Director General of the Postgraduate College	Postgraduate College (COLPOS)
	59	Dr.	José de Jesús	Brambilia	Paz	Full researcher, Professor of Postgraduates in Economics	Postgraduate College (COLPOS)
	60	Dr.	Javier	Hernández	Morales	Assistant Director of Campus Liaison Montecello	Postgraduate College (COLPOS)
	61	Dr.	Jaime	Matus	Gardea	Coordinator of Postgraduates in Economics	Postgraduate College (COLPOS)

Category	N°	Title	Name	Paternal Surname	Maternal Surname	Position	Actors
Transport and Cargo Sector	62	Eng.	Leonardo	Gómez	Vargas	Director General of the ANTP	National Association of Private Transport Agents (ANTP)
	63	Lic.	Rogelio	Hernández	Vega	Corporate Communications	Mexican Railroad Association (AMF)
	64	Lic.	Marco Antonio	Cervantes		Manager of New Projects	Mexican Railroad Association (AMF)
	65	Lic.	Francisco	Orozco	Mendoza	President of AMANAC	Mexican Association of Agents Shipping, AC. (AMANAC)
	66	Lic.	Miguel Ángel	Andrade	Gómez	Director General of the Association	Confederation of Industrial Chambers of the United States of Mexico (CONCAMIN)
	67	Lic.	José Luis	Fuentes	Pochat	President of the Commission for transport of CANIMOLT	Confederation of Industrial Chambers of the United States of Mexico (CONCAMIN)
	68	Lic.	Felipe de Javier	Peña	Dueñas	Executive Vice President of CANIMOLT	Confederation of Industrial Chambers of the United States of Mexico (CONCAMIN)
Logistics Services	69	Arch.	Ernesto Ramón	Niembro	Rocas	Airports and Auxiliary Services	Civil Aeronautics (SCT)
	70	Lic.	Raúl	Millán		Executive Vice President of AAGEDE	General Warehouses Association, A.C. (AAGEDE)
	71	Lic.	Lidia	Valencia	García	Deputy of the Committee and Attorney of the Association	General Warehouses Association, A.C. (AAGEDE)





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