



Research Article

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# Portfolio of Agricultural Financing Options, a Funding Strategy. Mexico Case



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## Abstract

The agri-food sector represents one of the most dynamic sectors in the Mexican economy, for the development of business projects requires the flow of resources that guarantees its viability. In this sense, 11 projects were analyzed of which the main components that integrate the business projects were identified, as well as two moments: the one before the operation, which we call installation, and the moment of the operation itself, where before reaching the equilibrium point, negative flows are generated and, after this point, the company operates via positive flows. In this respect, funding sources are identified, which include: the subsidy, the flow of generated resources, the venture capital participation and financing (subsidized or not); finding a combination of contribution from resources that guarantee the viability of the business is the basis of a feasible business, so directed funding at which different concepts of spending and their source of financing are recognized by developing the strategies that allow to manage resources in the most efficient way represents a business strategy that guarantees the feasibility of the company. In this sense, identifying funding sources based on the concept of expenditure represents a tool that allows the agricultural manager to recognize and seek to obtain resources in a timely manner and at the lowest cost.

**Keywords:** Portfolio of options; Financing, Agriculture; Funding

## Introduction

### Introduce the problem

Much has been discussed in recent decades about the best financing options for the agricultural sector. In the recently passed, decade there has been a significant evolution in agricultural and rural development strategies, which has signaled the total abandonment of policies governed by the local, state and national directions and interventionism, in addition to trade-union elites or leaders, in favor of a more liberal and market oriented proposal. This liberalization of the financial sector has included the elimination of regulated interest rates and directed credit programs, as well as the restructuring or closing of state banks of agricultural development Klein, Meyer, Hannig, Burnett and Fiebig [1]. This reality prevails in the year 2019, even though this sector is strategic for the national economy of our country. Lack of access to formal credit and comprehensive financial intermediation services prevents agricultural development and hinders initiatives aimed at mitigating rural poverty. Precisely because of this, this proposal here is presented.

### Development

The agricultural sector is a strategic sector for the national economy. The evolution of this sector has brought the country to represent the twelfth power in agribusiness exports worldwide, with a sustained growth greater than 6% of GDP until 2018 Expansion [2]. In order to maintain this economic rhythm, it is required a flow of resources that guarantees so, for which the existence of a specialized development bank in which the Central Bank (Banco de México) intervenes through the Trusts Established in Connection with Agriculture and the National Financial for Agricultural, Rural, Forestry and Fisheries Development (FND [by its acronym in Spanish]) out stands, as well as a commercial banking and non-banking credit institutions in a scheme of second floor attention (development banking) and first floor commercial banking as well as products specialized by non-banking credit institutions (credit dispersers) associated with organizations and sector companies Romero Torres, Estrada Carrillo, & Mendoza Hernández, [3]. This first factor represents

the financing capacity of the different business factors, from land, infrastructure, personnel and other operating costs, as well as intangible resources such as financial planning, and market positioning. All of it being localized in the different stages of the business, from primary production, stockpiling, to mass and retail marketing transformation, integrating the different sections in the value chain. The development strategy is complemented by the subsidy policy that mainly benefits the primary sector of the agricultural business chain. This subsidy policy aims to protect the most sensitive link in the business through the distribution of income Romero Torres, Pérez Mayo, & García Jiménez, [4]. Moreover, the development strategy is complemented by the fiscal miscellaneous in the sector in which, depending on the link and the associative figure, seeks to establish a fiscal strategy that guarantees the tax distribution throughout the chain Servicio de Administración Tributaria. SHCP [5].

To establish a strategy that combines resources in order to finance the sector which guarantees the best financial conditions on the use of the different components of support programs for agricultural activity in a field of competitiveness, represents a basic competitive strategy. For the funding, in such strategy, the subsidy to different components of the sector are contemplated, as well as the subsidized financing, coming from the development bank as well as funding via venture capital. In order to develop this project, the operating rules issued by the federal government with the purpose of funding subsidies to the agricultural sector were analyzed. Different credit channels via development bank were also analyzed, taking into account the first-floor actors as well as the conditions in which participation occurs via venture capital. Among the revised rules are: The operating rules in the agriculture promotion program of the Department of Agriculture and Rural Development Sader [6] Secretaría de Agricultura y Desarrollo Rural [7-8], together with the operating rules of the Institutional Trusts in relation to agriculture [FIRA, by its acronym in Spanish] and the National Development Finance Secretaría de hacienda y Crédito público [9], Operating guidelines of the Social and Sustainable Euromarkets Program for the fiscal year 2019 (Secretaría de Agricultura y Desarrollo Rural [7-8], [in addition to] Operating Rules of Agri-food Health and Safety Program Sader [6].

This information was then contrasted with projects submitted to SEDAGRO Morelos, integrating 11 projects, of which, in the business plan, the sectors to be financed that are integrated into different factors of financing are extracted, and those are divided into chapters. Considering that from the development of the business plan, it must be considered the participation of the different factors in which the combination of subsidy, financing, and contribution of partners is optimized. For that purpose, the capital factors were subdivided into components by means of chapters based on their liquidity: land, buildings and infrastructure, machinery and equipment, materials and supplies, working capital, professional and organizational services, technology, financing, interests and cost of money, taxes, selling expenses and market share, brand development and certification,

project development and, as special factors, living organisms Sedagro [10], Miel de abeja azteca SPR de RL [11], Hortalizas Amayuca [12] Sociedad Rastro TIF Morelos SA de CV [13], Consejo Estatal de Productores de Cítricos AC [14], Frufrimor S.C [15]. Tlaquilacteos de Morelos SA de CV [16], Granos y forrages del oriente de Morelos- GRAFOM SPR de RL [17], Productos Naturales Agromor SPR de RL [18], González González [19], Arroceros de la región Sur del Estado de Morelos USPR de RL [20].

Furthermore, three critical moments are recognized:

- a) Moment of installation or pre-preparation, this will require financial financing with capital from partners, venture or financial way.
- b) Moment of operation with negative flows, before the breakeven point is reached and that requires contribution from venture capital or financing
- c) Moment of operation with positive flows, where the flow of the operation in the organization including the deferred.

### In relation to the possible funding source for each of the chapters:

**Land:** The different federal government subsidy programs were reviewed. However, no program was found to fund the acquisition of land. Therefore, this section must be funded via the contribution from partners or credit.

**Buildings and infrastructure:** During the revision of the operating rules in the different programs, it was considered that the subsidy must capitalize on the company, mainly by acquisition of goods which may guarantee the durability of the company in the business. Thus, these types of assets are the main objective of these programs. It is important to mention that, depending on the sum and type of organization, funding may require the beneficiary's contribution of 10 to 50% of the component (not the project). This must be covered by the beneficiary via contribution of partners or seek credit with development banking. In the same way, for post-harvest management using the Productive and Aerologists Assets component: Agribusiness that promotes value aggregation, Federal Inspection Type Establishments (TIF [by its acronym in Spanish]), certificates, Cold Rooms (units up to 1,000m<sup>2</sup>). From the Shared Risk Component: Direct incentives for investment in shared risk assets whose executing agency will be FIRCO [by its acronym in Spanish]. From the social and sustainable Euromarkets program; From the Infrastructure Incentives Component of Grain Storage and Information Services for Agricultural Competitiveness: Construction of a new center for storage (including equipment); Rehabilitation (expansion/improvement), and/or new equipment for existing grain warehouses. This support is subject to the presentation of a business plan, in which it is guaranteed that the base of the company capitalization will be the sale of grains. Therefore, the support considers the logistic requirements for the development and operation of the plan, which includes the analysis of present and future market. Machinery and equipment: This type of items also represents a priority for the programs

because they represent the basic factor for the increase in value of a good. In their funding, subsidy programs contemplate this type of goods. Usually, depending on the type of organization and the funding sum, agencies will request 30 to 50% participation from the beneficiary of the total cost of the component. From the Sader, Productive Improvement of Soil and Water component: Sprinkler Irrigation Systems, by micro sprinkler and drip methods. From the Shared Risk Component: Direct incentives for investment in shared risk assets for which FIRCO will be the executing agency.

**Materials and supplies:** This type of goods is only funded through subsidy in special programs mainly by programs from the state, such as the acquisition of soil improvers or fertilizers. Therefore, by the time the business plan is developed, what must be firstly considered is the acquisition of a credit through development banking. It is important to analyze that, for the materials of consumption by productive cycle, the recovery should not exceed such cycle; otherwise those will be dragged as direct charges in subsequent cycles. Specifically, the financing with subsidy contribution by the Agricultural Productive Capitalization component is recognized: Acquisition of vegetative material and certified seed, agricultural nutrition inputs and risk management with registration to COFEPRIS, Infrastructure and storage equipment, machinery, equipment and implements for conventional and/or precision agriculture for all phases of the production process and postharvest (preferably machinery plants). Protected agriculture: macro tunnel, shade mesh, anti-hail mesh and greenhouses; through the Comprehensive Agricultural Public Policy Strategies component. Acquisition and establishment of plants produced in accredited community nurseries and produced using genetic material certified by the competent authority. Productivity improvement for small producers (Nutritional inputs and conventional organic fungicides, as well as minor post-harvest handling equipment such as pulping). Social promotion along with training, technical assistance and training of credit subjects with small coffee producers. A certification that adds value to small producers' harvest. From the Productive Improvement component of soil and water: Acquisition of agricultural bio-inputs; acquisition, establishment, and incorporation of soil improvers and green manures; leveling and drainage in farming lands. From the Renewable Energy component: Establishment or maintenance of seedlings and/or cash crops for the production of biomass for bioenergetics, solar thermal systems, interconnected photovoltaic systems, autonomous photovoltaic systems, and other renewable energy projects (photovoltaic, biomass, gasification, wind, geothermal and/omnihydraulic). From the Shared Risk component: Direct incentives for investment in shared risk assets whose executing agency will be FIRCO.

**Working capital:** In this entry, salaries and perceptions of staff stands out. For this, we do not find a fund via subsidy for its funding. Therefore, it ought to be heed obtaining cash flows, generated during the activity of the company. In case of requiring a line of credit, look in the first floor banking agencies such as SOFOM, Credit Unions, or FINCAS, among others associated

to the product systems that guarantee special conditions for opportunities, since this type of resource is required immediately and for support via first floor development banking. Professional and organizational services. Strengthening of Productive Chain component: Administration. Payment of professional services, mainly for the facilitator or manager; assistant and accountants services, business services. Recruitment of studies, diagnostics, market information analysis services, among others, aimed to strengthening the productive chain. Professionalization and Communication. Expenses for contracting services for congresses, forums, conventions, assemblies, symposium, work tables and workshops, in order to communicate to the parts of the chain, advances or decisions of different order that favor it; and in order to transmit new knowledge, or to discuss specific problems. Inherent Expenses to the Operation. Those derived from the general operation of the Sistema Producto Agrícola Nacional Committees, such as tickets, lodging and food, among others.

**Technology:** This one seeks the generation of competitive advantages based on technological advantages and their impact on the productivity of the sector. In this sense, support from subsidies is encouraged through the Agricultural research, innovation and technological development component: Bio-input production, Feasibility studies (in the market), and Executive project.

**Financing, interests and cost of money:** This section must be funded directly by the flow of resources generated by the operation of the company. In some occasions, the state governments establish subsidy programs for the presentation of the liquid guarantees required by the beneficiaries to obtain credits in the development banking or commercial banking. From the access to financing component: Guarantee Service as well as the reduction of the Financing Cost through the FND and FIRA, Harvest, livestock, aquaculture or fisheries catastrophic insurance, Direct support to noninsured, attention to agricultural, livestock, fishery and aquaculture producers with access to insurance, Strengthening to Agricultural and Rural Insurance Funds. In relation to the support of the Institutional Trusts Related to Agriculture (FIRA [by its acronym in Spanish]) and the National Development Financier (FND [by its acronym in Spanish]). These last ones are integrated in the form of subsidized financing in the training and monitoring for non-bank credit institutions that function as credit dispersers. Through the Support for the producer organization and the structuring of projects for financing in training component, advisory, consulting training, management, processing and registration services for legal figures, services for the Formulation, Management and Monitoring of Projects. From Support for business equipment and articulation and value networks component. Training Services: National and Abroad Training, Training Stays, Demonstration Events, Commercial or Technological Missions National or Abroad. Advisory Services: Advisor, Technical Consultant, General Manager; Expansion of Structures from Specialized Service Providers, Technical Structures of Para financial Companies; Consulting Services, Services for Formulation, Project Management and Monitoring. Support to

expand the coverage of financial services. National and Abroad Training Services, Consulting Services, Financial Intermediary Structures Expansion Service, Para financial Companies, Credit Entities and Financial Entities, Reduction of financial costs (interest rate), Guarantee Service Price: This support applies to new credits for working capital, Fixed asset loans and finance lease operations for fixed investment covered with FEGA guarantee. Opening of Attention Centers of Non-Banking Financial Intermediaries and Financial Entities, Correspondents: Support to Banking Financial Intermediaries, SOFIPO and SCAP that operate directly with FIRA, Financing support: For the formation of financial instruments to support credits, granted to producers dedicated to primary activities, Support for the Acquisition of Coverage of Prices.

**Taxes:** Taxes must be funded through the flow of resources generated by the business operation. Considering that in Mexico this is a priority activity, it must make the most of the obligations presented by the fiscal miscellaneous for the agricultural sector, that marks a special treatment for this sector.

**Selling expenses and market share:** There are some sources of subsidy for advertising and signing of contracts, in the case of future advice and support obtaining them. For export in the participation in national and international fairs and exhibitions. For direct selling expenses, these must be funded directly by the flows of resources generated by the company. Price coverage as a strategy to mitigate the risk faced by producers, buyers and marketers when buying or selling an underlying one, with the objective of mitigating the risk for Price Coverage Through "PUT" (which ensures a minimum price, usually used by sellers) and "CALL" (which ensures a price limit, usually used by buyers) option contracts that are acquired in stock exchanges recognized by brokerages. To have a price insured, through an option contract, one must pay a premium, as it is done in traditional insurance. These are supported with subsidy through the SAGARPA in the productive chain strengthening component and by ASERCA through the marketing incentives component for the following products: Corn, sorghum, wheat, rice, barley, beans-pasta-soy oil, coffee, cotton, oats, cattle and pigs. From the social and sustainable agreement program, with the purpose of reducing risk and improving income through the Marketing Incentives Component. Crop Marketing Incentives: Price Risk Management; Complementary to Objective Income; Emerging Marketing for Attending specific problems of Marketing and Beans Marketing. Incentives for Training and Specialized Technical Assistance for Marketing: Modality I. Training courses; and Modality II. Services and Specialized Technical Assistance. Brand development and certification. For this sector, both in SAGARPA and in Economy there are support for the development of brand and labeling as well as for its positioning. Through the Comprehensive Strategies of Agricultural Policy component: Training, Brand Generation, commercial Promotion. Agro-Food Certification and Standardization Component: Product Certification, Process Certification, and Personnel certification, Laboratory equipment for health, safety and agricultural quality recognized by SENASICA.

From the Agricultural Productive Capitalization Component: Certification in general. From the social and sustainable agromarket program of the Marketing Incentives Component: Incentives to Quality Certification Process, Certification of the Collection Center in Origin (which includes infrastructure for collection and benefit), Product Quality Certification (for the buyer). Although the health issue directly impacts productive efficiency, support is directed to the health of populations (outside the organization) as well as in the certification in the minimum risk for other organisms (plants or animals), impact on ecology and food safety (consumer risk). From the Epidemiological Surveillance of Quarantine Pests and Diseases Component, from the Epidemiology Inspection and Surveillance of Regulated Non-Quarantine Pests and Diseases Component, from the Phytozoosanitary Campaign Component, From the Food Safety, Aquaculture and Fisheries Component Sader [6].

**Project development:** Depending on the program, but higher funding sum. In special programs such as that of the aeroparks that FIRCO or FOCIR fund, support via subsidy for the elaboration and management of the project before the financing instances was found. Specifically, from the Sader, Productive Improvement of soil and water component: Integral projects of soil and water conservation and management. From the social and sustainable Argonauts program; From the Infrastructure Incentives from Grain Storage and Information Services for Agricultural Competitiveness Component. This support is subject to the presentation of a business plan, in which it is guaranteed that the sale of grains will be the basis of capitalization in the company; thus, the support considers the logistics requirements for the development and operation of the plan, that includes present and future market analysis.

**Special factors:** Living organisms: In this case, it must be analyzing the permanence of the organisms in the company. If they endure for a single productive cycle, they are considered materials and inputs; therefore, the source of funding should be via credit, preferably from first-floor banking or non-bank credit institutions with development banking resources or through the generation of the flow of resources generated by the company. If the organisms are maintained for several cycles, such as brood stock or perennial trees, are considered capital goods of infrastructure. Thus, some components, mainly from the state, allow funding via subsidy in a mixture that goes from 10 to 50% of the beneficiary's contribution. This contribution must be obtained from credit institutions of non-bank or development bank loans that guarantee special conditions of opportunity and / or cost of the fund. In general, in federal funds (of subsidy) there is no funding proposal, in some cases state and municipal funds attend it.

### Conclusion

In the development of the agricultural investment project, we recognize two moments: before the operation which we call installation, and the moment of the operation itself, in which, before reaching the equilibrium point, negative flows are generated and

after this, the company operates via positive flows. In this way, it can be identified the generation of positive and negative flows of resources throughout the organization. In it, periods of negative flows represent an imminent risk to its viability, mainly in the moment of installation. The directed funding where different concepts of expenditure and their source of financing developing strategies, that allow managing resources in the most efficient way, represent a business strategy that guarantees the viability of the company. In this sense, identify the funding sources based on cost concept represents a tool that allows the agricultural manager to recognize and seek to obtain resources in a timely manner and at the lowest cost. In relation to subsidy, the main sources of the subsidy and the concepts they finance are presented. It is important to recognize the sum of participation since most of them require a contribution from the organization, which can be capitalized via partner contribution, credit via commercial or development banking, or through the positive flows generated by the operation. In the field of credit, it is important to guarantee its recovery through the analysis of the generation of cash flows, via sales in the preponderant business activity, which determines the conditions of the payment of capital and debt service. This will determine, in turn, the financing agency whether commercial that disperse development funds or non-bank credit institutions with specific conditions and associated with the value chain. The contribution of partners (direct, not credit), will be the financial base since the subsidy for average and high producers requires the contribution mainly one by one, and the obtaining of credits having liquid guarantees and/or pledge, so that the contribution either liquid or pledge is basic for business financing.

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