THE GEORGE WASHINGTON UNIVERSITY

MINERVA PROGRAM

ECONOMIC DEVELOPMENT PROGRAM FOR
THE OTOMÍ-TEPEHUA COFFEE ZONE IN HIDALGO

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# Contents

Introduction 3

Chapter 1. Economic and social context of the Estate of Hidalgo. 4

1.1 Geographic situation. 5
1.2 Agricultura Branches of economic activity. 8
1.3 Objective. 9
1.4 Methodology. 9
1.5 Focus of the Analysis. 9
1.6 Background. 11
1.7 Estimated Costs. 12

Chapter 2. Context. 15

2.1 Relevant strategies in the Otomi-Tepehua coffee zone. 15
2.2 Plans Developed. 15
2.2.1 Municipal Development Plans. 15
2.2.2 Hidalgo Development Plan. 18
2.2.3 National Development Plan in Mexico and Millennium Development Goals. 19
2.2.4 Challenges arising from political, social and economic environment. 20

Chapter 3 Analysis of the context. 21

3.1 Main problems. 22
3.2 Actors Identification and Justification. 23
3.3 Logical Framework. 24
3.4 Economic Factibility Analysis. 26
3.4.1 Program Description. 26
3.4.2 Program's Market Research. 27
3.4.3 Program's Technical Study. 27
3.4.4 Program's Financial Analysis. 27

Chapter 4 Evaluation and Monitoring. 29

4.1 Context. 29
4.1.1 Social Issues. 32
4.1.2 Project Proposal. 32
4.1.3 Weaknesses. 32
4.1.4 Strengths. 33
4.2 To Evaluate. 33
4.2.1 Technical Dimension. 33
4.2.2 Social Dimension. 33
4.2.3 Economic Dimension. 34
4.3 Key Indicators. 34
4.4 Indicators Starting Data. 35
4.5 Expected Results. 37
4.6 Program Monitoring. 38
4.7 Evaluation Process. 40
4.8 Results Reporting. 43
4.9 Using experience to improve the analyzed problem. 43
4.10 Developing M&E system to make it sustainable and continuous. 44

Conclusions. 46

Bibliography. 49
Economic Development Program for the Otomi-Tepehua Coffee Zone in Hidalgo.

Introduction

Hidalgo is the eighth poorest state in Mexico due to the problems in economical, educational and social matters. According to the CONEVAL (National Council of assessment of political and social development) Hidalgo has a population of 2,665,018 inhabitants, 30% of which are in extreme poverty conditions, and 56% in poverty. Hidalgo has three metropolitan regions in a geographical frame of 84 municipalities. In the last census, Yahualica, Tlanchinol, Tenango de Doria, Huehuetla y Calnali are the municipalities in extreme poverty conditions.

The intention of developing economic program is to sharing a different point of view of how the social and economical conditions of the State of Hidalgo may be benefitted through the creation, support and strengthening of the Otomi-Tepehua coffee zone.

These changes could allow new employment opportunities, development and regionalization of the industry for communities in poverty that through the participation of the State with clear public policies and strategies to aid the transparency of budgets and expenses, will set the State in a position of competitiveness. This will avoid the migration phenomenon by supporting ethinical communities directly and reducing poverty indicators, reactivating agriculture. Some changes are necessary in economical, social, political and educational matters, this in order to create a viable model, accurate for each region in need.

It is necessary to run some factibility and operation studies in four levels:

- Market Research.
- Technical Study.
- Financial analysis.
- Social analysis
Chapter I. Economic and social context of the Estate of Hidalgo.

Hidalgo, officially free and sovereign State of, is one of the 31 states which, with the Federal District, comprise the 32 Federal Entities of Mexico. It is divided in 84 municipalities and its capital city is Pachuca de Soto.

According to the latest available census (INEGI, 2010) the state has a total population of 2,665,018.2 2.3% of the national total. Of these 1,379,796 are women and 1,285,222 are men. The distribution of population is 52% urban and 48% rural. There Hidalgo indigenous 546,029, equivalent to 23.27% of the total population.

The state has a number of relatively intact native cultures such as the Otomi. There are also two notable immigrant cultures, those of the descendents of Cornish miners in the 19th century and a small Jewish enclave which claims to be descended from Sephardi Jews which came to New Spain in the 16th century.

The state contains a number of ecotourism, cultural and archeological attractions including the Huasteca area, the ruins of Tula, natural hot water springs, old haciendas and mountain ranges.

The state several indigenous groups which have managed to maintain a relatively strong independent cultural identity since the Conquest. These ethnic groups include the Nahua, the Otomis and the Tepehuas, each still speaking their own language. The largest group is the Otomi, which has over 250,000 speakers in the state. The total number of people who speak an indigenous language of any kind was estimated at 320,029 in 2005.

According to the measurements of the National Council for the Social Policy Evaluation, in 2008 23.9% of the population was still living below the breadline, by 2010 that figure increase to 29%. In 2008 the institution was in place number eight on the scale of poverty, due to serious deficiencies in the economic, educational and health. The most recent data show that 56% of Hidalgo were multidimensionally poor, 34% vulnerable to falling into hardship and social...
deprivation only 10% of people were not poor, around 250,000 persons.

In the period 2008-2010, according to "Measuring Poverty 2010 for Municipalities", municipalities with greater social marginalization were: Yahualica, Tlanchinol, Tenango de Doria, Xochiatipan, Tepehuacán of Guerrero, Huehuetla, Calnali, The Mission, Huazalingo, Acaxochitlán, Tianguistengo, Jaltocan, San Felipe Orizatlán, Nicholas Flores and Pisaflores. Most of these municipalities are located on the Otomi Tepehua Zone and Huasteca Hidalguense.

The precarious living conditions in certain communities living motivate internal and external migration of the population because of this, the 2000 census found that 27 people out of every thousand emigrated to the United States in search of better opportunities. This position in the 5th place of international migration with the Mexican states of Aguascalientes, Jalisco, Nayarit and Guerrero.

In 2009, 71,384 people were unemployed, a factor that measures poverty is migration state internacional. According to 2005 statistics, the state government estimated that more than 250,000 U.S. residents Hidalgo, mainly located in Arizona, California, North Carolina, South Carolina, Florida, Georgia, Illinois, Nevada, New York, Texas, Indiana and Arkansas.

1.1 Geographic situation.

It is located in the central-eastern Mexico. With the coordinates: north, 21 ° 24 ', south 19 ° 36' north latitude, on the east, 97 ° 58 ', west, 99 ° 53' west longitude. Ranked by size 26th place within the republic taking 1.1% of the national territory. Bordered on the north by the states of San Luis Potosi and Veracruz, on the east by the state of Puebla, on the south by the states of Tlaxcala and Mexico and west by the state of Querétaro.
The terrain of the state is very rugged. At its lowest point it is only a few meters above sea level and it is over 3,300 meters above sea level at its highest. The state is divided into three geographical regions: the Coastal Plain, the Sierra Madre Oriental, and the Altiplano Meridional, which contains the highest peaks. Each of these regions are distinct from each other. The north of the state has the lowest elevation and the hottest climate. It is also the smallest region of the state. The second region averages about 800 meters above sea level and is more temperate in climate. The coldest climates at the highest areas are the most populated and average about 2,000 masl.

There are three main climates in the state. The lowlands are hot with temperatures rising as high as 44°C in the summer in places such as the municipality of Pisafloros. Temperate regions can have hot days but often the temperature is moderated by cooler winds and clouds. Cold climates dominate the highest altitudes where freezing temperatures at night are not uncommon. Rainfall varies widely from as low as 250mm per year to as high as 2,800mm per year. The main indicator of climate type is altitude.

Most plants are either of the desert type with pines and holm oak in the higher
mountain areas. A small area is the Huasteca region is highland rainforest. Wildlife includes thirty one species of serpent, thirteen species of duck, six of doves, three of falcons, as well as mammals such as skunks, spider monkeys, wild boar, anteaters and gray foxes.

In addition to the three main geographic/climate regions, the state subdivides into a number of sub-regions. Sub-regions include the La Huasteca area. This extends like a green sash across part of the state, and altitude does not exceed 800 masl. It is mostly located near the goalf coast and receives a significant amount of rainfall from this body of water. The Huasteca is highland rain forest with plants blooming nearly year-round. Forests contain species such as “tlacuilo,” holm oak, Copaifera, “zuchiate,” mahogany, white cedar and many others. The area has one of the widest varieties of wild birds including eagles, hummingbirds, wild turkeys and more. Reptiles include a wide variety of snakes and mammals include coyotes, bobcats, wild boar, spotted deer, rabbits and more. Tropical crops are raised here including sugar cane, coconuts, pineapple, bananas, mamey, tamarind and more.

The Sierra Alta region is part of the Sierra Madre Oriental. Some of Hidalgo’s main peaks are located here such as the Cerro del Aguila, Cerro del Santo Roa and Cerro de Agua Fria. There is also a volcanic cone by the name of Cerro la Aguja de Calnali. Many of Hidalgo’s caves, such as Texcatete in Zacualtipan, Texcapa in Tepehuacan and Tecamachal and Villacastla in Molango, are located here. This mountain range is part of the temperate climate zone of the state. The Sierra Baja is also located in the Sierra Madre Oriental and is characterized by small plains surrounded by stony peaks. There are five major canyons located here, oriented from south to north, which take their names from the rivers that form them: Amajac, Meztitlan, Amolon, Mezquititlan and Tolantongo. Although lower than the temperate Sierra Alta, it still has a temperate climate due to strong, moist winds which flow from the northeast. The Sierra Gorda is a branch of the Sierra Madre Oriental which crosses northwest Hidalgo and ends in San Luis Potosí. These are mostly mountains of volcanic origin. The Tula and Moctezuma Rivers meet
here, whose waters then cut the Moctezuma Canyon, which has walls up to 480 meters high.

The Sierra de Tenango begins to one side of the Valley of Tulancingo and extends down to the Huasteca region of Puebla and Veracruz. It is also called the Sierra Norte de Puebla and the Sierra de Huayacocotla. These are low lying mountains with a humid, cloudy temperate climate with frequent rain in the summer. Two of Hidalgo’s main dams, the Tejocotal and the Omitemetl are located on the rivers here, and are part of the Necaxa hydroelectrical system.

The Valley of Tulancingo has a temperate climate with an average year round temperature of 15°C. It is bordered by the Sierra de Tenango and the highlands of Apan. It is a large fertile valley with extensive agriculture.

1.2 Agricultura Branches of economic activity.

They are classified as primary: agriculture, livestock, forestry, fisheries, mining, etc. The state has a small contribution to state GDP and occupying nearly half of the economically active population. According to the INEGI statistics, in 2010 the GDP of the primary activities totaled 243.9 million pesos 439 corrientes.

Hidalgo's territory has an area of 2.1 million hectares of which 29% are used in agriculture, 39% for cattle, 22% are forest areas, 9% are urban areas, roads, facilities, etc; and only 1% is occupied by bodies agua. The rural area is 1.9 million hectares (90%) and the city of 0.2 million hectares (10%). The population working in primary sector activities is 184 thousand people, is less than 25% of the EAP estado.

In agriculture the cultivation of cereals (maize, barley, wheat, etc.) is the principal, also cultivated chili, tomato, avocado and highland areas, bananas and coffee. As for the main fruit is the apple and peach.

Hidalgo is national first: production of mead, barley grain and alfalfa verde.188 agriculture area is the largest river bathed in Tula. The production of nontraditional crops for the production of novel products such as: Preparations
of amaranth and honey maguey.178 xoconostle

The 25% of the agricultural land is irrigated and 75% is in the entity exist temporal. 298,309 rural production units, of these 52% of farms are less than two hectares, 31% are between two and five hectares, 14% between five and 20 acres and 3% over 20 hectáreas. Of these units, 69% are used to produce corn, 10% for barley and other crop.

1.3 Objective.

Create an Economic Development Program for the Otomí-Tepehua Coffee Zone to generate employment, development and regionalization of the industry in marginalized communities who have extreme poverty and through state involvement with public policy, and clear mechanisms that aid in accountability and transparency of accounts so they can position the state competitive opportunities, avoiding the phenomenon of migration, directly supporting indigenous communities declining indicators of poverty, creating jobs and revitalizing the field that is capable of inoperability.

1.4 Methodology.

The methodology use is based in the government information and search of information about the Development of the Otomí-Tepehua coffee zone.

1.5 Focus of the Analysis.

Analyze the economic, political and social development of the Otomí-Tepehua coffee zone.

Hidalgo state is characterized by a high proportion of indigenous inhabiting it as this has kept a strong independent cultural identity since the Conquest. These ethnic groups are the Nahua, Otomi and Tepehuas, each still speaking their own dialect and preserve their traditions and customs.
The largest indigenous group is the Otomi, which has over 250,000 speakers in the state. The total number of people who speak an indigenous language of any kind was estimated at 320,029 in 2005.

According to the measurements of the National Council for the Evaluation of Social Policy, in 2008 23.9% of the population lives in poverty levels, by 2010 figure increased to 29%.

In 2008 the state of Hidalgo, has serious deficiencies in health, economic and education due to various factors such as deficiency in road network, services, telecoms, etc..

Recent data show that 56% of the population are poor multidimensional Hidalgo, 34% vulnerable to falling into poverty and social deprivation, only 10% of people who were not poor, around 250,000 people.

In the period 2008-2010, according to "Measuring Poverty 2010 for municipalities", municipalities with greater social marginalization were: Yahualica, Tlanchinol, Tenango de Doria, Xochiatipan, Tepehuacán of Guerrero, Huehuehtla, Calnali, The Mission , Huazalingo, Acaxochitlán, Tianguistengo, Jaltocan, San Felipe Orizatlán, Nicholas Flores and Pisafloros. Most of these municipalities are in the area and Huasteca Hidalgo Tepehua Otomi.

The precarious living conditions in some of these communities have led to increasing internal and external migration of the population because of this, the 2000 census revealed that 27 people out of every thousand emigrated to the United States in search of better opportunities. Hidalgo is on the 5th place of international migration.

In 2009, 71,384 people were unemployed, a factor that measures poverty is international migration state. According to 2005 statistics, the state government
estimated that more than 250,000 U.S. residents Hidalgo, located primarily in Arizona, California, North Carolina, South Carolina, Florida, Georgia, Illinois, Nevada, New York, Texas, Illinois and Arkansas.

- **Economic analysis**: create an optimal development program for the region's growth, production, marketing and export of coffee through the implementation of this program.

- **Political Analysis**: analyze the political context of the region to see which are the channels of communication between government both national, state and city they have created for the proper transmission of resources and public policy approach.

- **Social analysis**: analyze why is the phenomenon of migration growing and giving priority to indigenous groups.

**1.6 Background.**

According to CONEVAL (National Assessment of Social and Political Developments) Hidalgo is the eighth poorest state in Mexico due to lags in economic, educational and social. It has a population of 2,665,018 inhabitants, 30% of whom are in extreme poverty, and 56% in poverty. Because of these extreme poverty Hidalgo is one of the states with the highest rates of migration to the United States.

Agriculture is a major economic activity in the state expecting a small contribution to state GDP and occupying nearly half of the economically active population. In 2010 the GDP of the primary activities reached 439,243.9 million current pesos. (INEGI, 2010)

Hidalgo's territory has an area of 2.1 million hectares of which 29% are used in agriculture, 39% for cattle, 22% are forest areas, 9% are urban areas, roads, facilities, etc. and only 1% is occupied by water bodies. The rural area is 1.9 million hectares (90%) and the city of 0.2 million hectares (10%). The population
working in primary sector activities is 184 thousand people, less than 25% of the labor force in the state.

The state of Hidalgo and especially the Otomí-Tepehua Area through the creation of an Economic Development Program of the coffee zone of this region will benefit economically and socially, as it may create new employment opportunities, development and regionalization of the coffee industry for communities living in poverty, that through state participation with clear policies and strategies to help the transparency of budgets and expenditure, shall state in a competitive position. This will prevent the phenomenon of migration by supporting ethnic communities directly and reduce poverty rates, the revival of agriculture.

1.7 Estimated Costs.

- Number of producers benefited: 600
- Estimated Total Cost: 30 million pesos
- Timeframe: 6 years

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## Proceso de Monitoreo del programa

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<td>Subprogram: productivity</td>
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<td><strong>Annual program operation.</strong></td>
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<td><strong>Meeting with the evaluation gabinet.</strong></td>
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<td>20,000.00</td>
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<td><strong>Evaluation results of years two and three consulting tendered.</strong></td>
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<td>2016 - 2018</td>
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Chapter 2. Context.

2.1 Relevant strategies in the Otomí-Tepehua coffee zone.

The ONU Millennium Development Goals set eight well-defined goals\(^1\), such as universal education, gender equality, reduce child mortality, improve maternal health, combat HIV, promote global partnership, environmental sustainability, and of course, eradicate poverty.

The correlative to the ONU Millennium Development Goals, is given, since coffee producers in the Hidalgo Huasteca live, according to the studies of the subject, in poverty, therefore it is necessary to consider the plan system to promote a comprehensive management program for the development of the coffee producers in Hidalgo, particularly in the Otomí area.

This social program management for coffee, needs better planning, correct errors, complement strategies and enhance the successes. Convene all stakeholders: municipal, state and federal governments, civil society organizations both national and international.

2.2 Plans Developed.

2.2.1 Municipal Development Plans.

The set of public policies that are developed in Mexico should obey objectives and criteria drawn from the various plans and programs of government's own regulatory framework. Whether at the federal, state or local, or in the various production sectors, the institutional framework respects hierarchies, and these plans should be the essence in the performance of public administration.

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Particularly, the agricultural sector of our country has had in recent years serious challenges in meeting its objectives, has been less dynamic in the national economy, thanks to sponsorship issues and technological innovation, climate change, natural disasters, migration, lack of training, appropriate rules to boost production, among other factors that make the field in Mexico, an economy urgent care area.

The social program management aims, promote projects that help to solve problems in a given community. Thus, for the case study referring to the Tepehua-Otomí coffee zone in Hidalgo, it is important to consider the most relevant strategies than the different actors involved with the issue.

The Otomí-Tepehua coffee zone, involves the generation of development policies at all three levels of government, social groups interested in promoting trade and coffee culture in Mexico. There are also researchers and scholars who have studied the case, proposing alternative social and governmental actions for this coffee region comprising the municipalities of Agua Blanca de Iturbide, Huehuetla, San Bartolo Tutotepec and Tenango de Doria.

As for the optics of this chapter, which refers to programs and plans involved in triggering economic growth of the coffee zone, it is important to note that of the four municipalities mentioned, only a government that is San Bartolo Tutotepec considers in the Municipal Development Plan, public policies designed specifically for producers of coffee in town.

It is noteworthy that this activity in San Bartolo, not only is well covered in the diagnosis of Municipal Plan, including coffee production is considered as a key element of their identity.

As for the definition of economic policy in the area of main sectors, products and services of the municipality, the Plan covers:
The municipality has 6,250 hectares; the main crops that are harvested are cyclical crops as corn with a planted area of 2,977 hectares, and beans with 333. Special mention to coffee cultivation, which to date is very important because they generate profits, and a large percentage of production statewide, with a planted area of 3.25 hectares.

Municipal public policies to follow set by the Plan, in addition to the general strategies to boost agriculture:\(^2\):

- Modernization of agriculture with development policies involving different government institutions, to add value to products of higher production, occupying first the coffee growing, which has great potential for growth within Otomí-Tepehua region.
- Enhance and promote the commercialization of our coffee products in the national market.

The other three municipalities in this region, doesn’t mention specifically the coffee sector, even though the region has preponderance in this economic activity widely recognized by the state government. This is the way in which these municipalities address this item.

Strategies to develop agriculture in Agua Blanca:\(^3\):

- Develop and implement, in coordination with Federal and State Government sustainable rural development programs.
- Promote programs for the infrastructure and equipment rehabilitation and modernization.
- Encourage technical and rural financing advice in municipality.

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Economic development program for the Otomí-Tepehua Coffee Zone in Hidalgo.

Strategies to develop agriculture in Huehuetla⁴:

- Sensitize producer organizations that through appropriate mechanisms, hire specialized technical assistance for crop management.
- To promote the productive infrastructure and agricultural sector collection modernization.
- Encourage the production and productivity through technical assistance activities, encouraging the use of certified seed and proper use of inputs.

Finally, in Tenango de Doria⁵:

- Manage resources for machinery, equipment and basic infrastructure support for agriculture, encouraging a higher productivity.

Although this is a primordial sector in Hidalgo, as it constitutes one of the population primary activities (mostly indigenous), demonstrating that local authorities does not, from the planning perspective, promotes economic policies leading to coffee producers growth, records show only 6 from the 725 data, reported by Pablo Perez Akaki, in his book small coffee producers in the Otomí-Tepehua region, its problems and its alternatives⁶.

2.2.2 Hidalgo Development Plan.

As for the Development Plan for Hidalgo, we can see on Axis 2, called, Competitiveness for sustainable economic development, boarding a number of strategies to promote agricultural development in the state, on the subject at hand, these are the policies to develop from that Plan⁷.

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⁴ Plan municipal de desarrollo 2012-2016 de Huehuetla http://intranet.e-hidalgo.gob.mx/siieh/Planes%20Municipales/HUEHUETLA.pdf
⁶ Los pequeños productores de café de la región Otomí-Tepehua, su problemática y sus alternativas, Editorial UNAM FES Acatlán, 2009.
An analysis of the coffee industry with an integrated approach and to link regional coffee growers with another crop and/or activities that allow them to supplement their income.

Boost the equipment and rehabilitation of wet and dry benefits for the organic coffee production.

These two lines of action, added to all the general strategies when referring to state productive sectors. As support for training, promotion and financing to small and medium enterprises.

In strategic planning matter, it is often a very general document addressed to one who is destined to a particular sector, this is the case, so the State Development Plan, resulting in a master plan for the coffee production in Hidalgo, where addresses the diagnosis and proposals for developing this agricultural sector in the state.

This document is presented by the Hidalgo Coffee Council 2011-2016, where generally the main lines of action relating to the state coffee registry update, to train and provide technical assistance to producers, to improve producers infrastructure in machinery and equipment, also improve the coffee plant production, since 99% of farmers in Hidalgo, of course we include the Otomi-Tepehua area, do not use fertilizer on their land, marketing support and distribution, among other important actions in this government level.

2.2.3 National Development Plan in Mexico and Millennium Development Goals.

The National Development Plan is general and their strategies are binding to a series of sectorial, programs and actions, so it is better for purposes of this

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chapter refer to the SAGARPA Coffee Renovation National Program 2009-2020, in which establishes a serious and deep diagnosis of the coffee industry in Mexico, as well as national and international context\textsuperscript{10}.

2.3 Challenges arising from political, social and economic environment.

The main objectives to reach in the search of an institutional policy to favor coffee producers in the Otomí-Tepehua area can be presented in three major aspects.

Politically, it is necessary to harmonize the municipal development plans to be specific to the sector in coffee producers serving, not only understanding, but stating them in order to reach a comprehensive common policy.

In Mexico is true that municipal association, is not very common as public policy, clearly in Hidalgo the four municipalities that cover this coffee zone, have the same challenges and problems, for which, intends to implement a municipal association in production, promotion, training and marketing for the Otomí coffee area.

Undoubtedly, with this figure, more power and more resources in promoting their products will be handled, managing a better and wider market to both state and federal government.

Socially, the main challenges are related to integration of producers in the region. Usually, these are not organized nor believe in collective projects, not attend counseling and trainings offered, there is a lot of migration, especially young people leaving the plots have not been able to create a strong association to represent their interests to intermediaries and thus defend from

swindlers, they should make social workshops to share experiences, strategies and activities for the benefit of their own work. These scenarios do not exist even among coffee producers in Hidalgo.

Undoubtedly, the main challenges are economic in nature, as they cover issues such as funding for pest control products, producer incentives when coffee prices low, resources to improve road infrastructure, not forgetting that these farms are in high relief, resources to improve the tools and working machinery in coffee plantations and funding for seed changing and shade trees planting.

Chapter 3. Analysis of the context.

The coffee cultivation in Hidalgo is generally characterized by low productivity, a sharp price fluctuations dependence on the international market, and the fragmentation of the production units, not exceeding 2 hectares on average. The complex problems associated with these phenomena require implementing actions with less simplistic approaches and more attached to reality.

This proposed program arises from the process of selecting professional service providers which conducted a training workshop and thus technical personal joined to achieve the goals. Selected technicians were summoned to work through regional meetings and defined the Municipalities and Communities in which the fieldwork was developed.

To transform the current coffee culture in function of these structural opportunities arising in the coffee market, the government should raise a Strategic Plan to allow competitive coffee restructuring, focusing on the development of quality, under efficiency and sustainability conditions, promotion and marketing of this quality by taking advantage of niche markets. Parallel, competitive conversion of coffee growing emphasizes diversification and promotion of coffee production systems that are sustainable to develop
certification mechanisms that generate credibility, the auditing and transparency in the process of production, processing and export.

3.1 Main problems.

The problem with coffee in Hidalgo has already been addressed and thoroughly studied by the SAGARPA as reflected in the tree then thrown by the Sectorial Problem Diagnosis developed in 2010.

3.2 Actors Identification and Justification.

- Federal Government: is the main actor in charge of managing the federation expenditure budget to allocate financial resources to the various programs that are managed nationally. His interest to reduce the backlog in food and also has the political interest to care unprotected classes.
- State Government: is responsible for proposing the allocation of state budget expenditures to municipalities. Politically want to address his supporters mainly relying on this program.
- Municipal Government: is responsible for the functions and utilities which direct the municipality. Few resources are managed by the municipality and this program means approaching citizenship and especially capitalize politically.
- Citizenship: the beneficiaries of the programs and those who choose their rulers with their vote. By necessity are forced to join or participate in any political party.
- Coffee Population: The population in which most economic source is due to industry, coffee marketing.
- Coffee Committee: The committee in charge of the operation, promotion and distribution in regards to the coffee industry.
- Attention to Coffee Producers Institution: an institution that gives advice on the strengthening of producers in the coffee industry.
- State Auditor: in charge of the review, inspection and enforcement of state and local resources. Depends on the state government so is within its interests this establish the executive’s will.
- Comptrollership Secretariat: in charge of the review of the proper application of state resources.
### 3.3 Logical Framework.

The following is the logical framework matrix summarizing the project to be implemented with these elements, we apply the planning tool for the actions and practices in production technology, which contribute to increase productivity, with low environmental impact or contribute to the conservation of natural resources.

<table>
<thead>
<tr>
<th>LOGICAL FRAME</th>
<th>Project’s Basic Elements</th>
<th>Objectively Verifiable Indicators</th>
<th>Verifying Sources</th>
<th>Assumptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Goal</td>
<td>Increasing coffee quality through certification. Achieving with project implementation period at least 5 certifications by region. Increase land fertilizer through training, so at least 70% make its own fertilizer. Encourage the expansion of the production chain in the area with the creation of at least one marketing cooperative region. Increase by 30% the number of tree nurseries for quality seed production. Increase by 20% the acre/ton coffee production. Increase the payment value per ton by 3% per annum for 6 years period, assuming annual inflation.</td>
<td>Report of the Comptroller, INEGI statistics, National Council of Social Development Policy (CONEVAL), Strategic Assessment of Nutrition and Supply, Private Evaluation Reports, Reports from SAGARPA, SEDESOL and Economy Secretariat.</td>
<td>Lack of productivity and quality in Hidalgo’s coffee. There are economic resources. No disposition from State Government and mayors. Beneficiaries require the program. With the program it is possible to increase the quality and productivity, regardless of the price payable per ton of coffee worldwide.</td>
<td></td>
</tr>
<tr>
<td>Specific Goal</td>
<td>A municipal inter-institutional committee to operate program municipally. 100% of beneficiaries qualify. 10% maximum delay for allocated resources. A planning document</td>
<td>Committee Report Audits conducted by the Comptroller.</td>
<td>There is no communication or coordination between different levels of government and institutions involved.</td>
<td></td>
</tr>
</tbody>
</table>
### Economic development program for the Otomí-Tepehua Coffee Zone in Hidalgo.

**Minerva Program**

<table>
<thead>
<tr>
<th>Results</th>
<th>20 certifications during the program execution. It is expected that at least 24,497 farmers produce their own fertilizer. Have at least 4 operating cooperatives. It is expected to have at least 4 tree nurseries functioning properly. It expects to increase to 26.1 tons/he on average. Is expected to have an average payment of 4464.90 per ton, representing an increase of 18% real gain in the future.</th>
<th>Surveys to beneficiaries</th>
<th>There will be economic stability. Existing financial resources and technical capacity to produce and social to organize. Interest from future beneficiaries.</th>
</tr>
</thead>
</table>

### Activities

<table>
<thead>
<tr>
<th>Costs</th>
<th>Medium</th>
<th>$ 87,166,000.00 pesos Agreement. 70% Federal contribution. 20% State. 10% Municipalities.</th>
<th>There is political will to sign the agreements. Exists professional staff to develop programs. Socially it is feasible.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activities</td>
<td>1. - Sign agreements 2. - Form committee 3. - Issuing Rules 4. - Channeling resources 5. - Hiring operational staff 6. - Train operating staff 7. - Apply programs 8. - Reports 9. - Audit</td>
<td>1. - Authorities + Political Will 2. - Assign Professionals + initial resources to operate 3. - Committee + State Congress + D.O.E. 4. - Committee + Resources of the governments. 5. - Committee + Governments Resources + Operating Staff Hiring 6. - Operating Staff Recruitment + Staff Training 7. – Operating Staff + Beneficiaries + Government Resources. 8. - Committee + Operational Staff 9. - State Congress, governments involved</td>
<td></td>
</tr>
</tbody>
</table>

---

For each program to perform.
3.4 Economic Factibility Analysis.

3.4.1 Program Description.

The feasibility study is the analysis of the project we are proposing which will serve us to determine:

- If the coffee industry project will work or not, and what conditions must be developed to make it successful.
- Feasibility is the extent to which it is possible to achieve something or has the potential to be achieved.
- Starting a project to produce or strengthen resources means investing time, money, raw materials and equipment.
- Since resources are always limited, it is necessary to make a decision, good decisions can only be taken on the basis of evidence and correct calculations, so as to have high confidence that the business will perform correctly and produce profits.

3.4.2 Program's Market Research.

One feature of the coffee regions of our country is the diversity of culture, in the case of Hidalgo over 70% of farmers growing coffee belong to an ethnic group (20% Otomí, 45% Nahuatl, 5% Tepehua); in Hidalgo 28% of the coffee producers are women and the remaining 72% men, the coffee harvest begins in the second half of October and ends in late March, the species grown in Hidalgo are 100% Arabica. Most of the producers are the primary sector, 78% in the man is head of household, illiteracy close to 30%.

Hidalgo has 84 municipalities, in 25 of them coffee is grown, so we can deduce that in 30% of the municipalities have coffee. Spraying of the land is heavily influenced by the prevailing low funds and possession of units dedicated to coffee production, as more than 64% of the producers only have less than 0.50
hectares and 33% has a maximum of 5.0 hectares. This fact is very important to analyze because justifies the need to organize the duties in the different coffee communities and improve administrative schemes of existing organizations.

3.4.3 Program's Technical Study.

Importantly, the technical problems are numerous, but there are five that deserve special attention, which should be emphasized that focus on old orchards, cultural tasks that are not performed in coffee plantations and land changes in coffee ground to pasture, which are closely related and reflects the coffee abandonment in recent years of economic crisis, as the high cost of agricultural inputs and the low price of grain, do not allow the producer to reach an economic equilibrium.

One of the most serious social issues are the swindlers. In the economic factor highlights the financial problems.

Finally it should be noted that as environmental problem encompasses climate change, by producers of the region is translated as seasonal droughts, more frequent frost and temperature changes that directly affect the formation of fruit.

3.4.4 Program's Financial Analysis.

No doubt the coffee industry in the state is and will remain a great economic importance, despite variations presented the international market, we depend on, but it's time to go promoting and creating policies that truly assist in the conduct of rural regions of the country, within which are embedded the coffee regions of the state, and take advantage of increased consumption per capita, which has been increasing in recent years.

Moreover, coffee production may occur as an activity associated with shadow management, different farming systems prevailing in the state and across the
country, as a product that enhances agro-ecological biodiversity, and is an adjunct in environmental recovery, which is so necessary to preserve our agro-ecosystems and natural scenes in general.

To see if the project is feasible, we must notice these four factors, which will give us the pattern if they meet the program expectations, although not find a particular economic interest, it is intended to give a better life quality for local residents in Hidalgo, by taking the best of the natural resource (coffee), by giving them the necessary training, budget and how it will go handling the proceeds to reinvest and in turn meet the cost of the project itself.

1. Project Investment Budget and Investment Financing Structure
2. Costs and Expenses Project’s Budget
3. Financial Proform Statements
4. Project’s Financial Ratios
5. Project’s Breakeven

Chapter 4 Evaluation and Monitoring

4.1 Context.

According to CONEVAL (National Assessment of Social and Political Developments) Hidalgo is the eighth poorest state in Mexico due to lags in economic, educational and social. It has a population of 2,665,018 inhabitants, 30% of whom are in extreme poverty, and 56% in poverty. Because of these extreme poverty Hidalgo is one of the states with the highest rates of migration to the United States.

Hidalgo has three metropolitan regions in a geographical frame of 84 municipalities. In the last census, Yahualica, Tlanchinol, Tenango de Doria, Calnali and Huehuetla located in the Sierra Huasteca in Hidalgo, resulted to be the extreme poverty municipalities (CONEVAL).
Agriculture is a major economic activity in the state expecting a small contribution to state GDP and occupying nearly half of the economically active population. In 2010 the GDP of the primary activities reached 439,243.9 million current pesos. (INEGI, 2010)

Hidalgo's territory has an area of 2.1 million hectares of which 29% are used in agriculture, 39% for cattle, 22% are forest areas, 9% are urban areas, roads, facilities, etc. and only 1% is occupied by water. The rural area is 1.9 million hectares (90%) and the city of 0.2 million hectares (10%). The population working in primary sector activities is 184 thousand people, less than 25% of the labor force in the state.

From this context, and considering what strengths and weaknesses this region has, we can realize that one of the main sources of employment is agriculture. The main crops are corn, barley, wheat, pepper, tomato, avocado and in its uplands, mainly bananas and coffee cultivation being Hidalgo the seventh-highest coffee producer in Mexico as seen in the following table.

<table>
<thead>
<tr>
<th>State</th>
<th>Production (Tons)</th>
<th>Performance Ton/He</th>
<th>Production Value (Thousand Pesos)</th>
<th>Production ECV/1Ton</th>
<th>Production ECV/60 kg Bags</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chiapas</td>
<td>545,936.54</td>
<td>2.24</td>
<td>3,206,893.78</td>
<td>100,507</td>
<td>1,675,115</td>
</tr>
<tr>
<td>Veracruz</td>
<td>335,483.00</td>
<td>2.34</td>
<td>1,848,846.09</td>
<td>61,762</td>
<td>1,029,374</td>
</tr>
<tr>
<td>Oaxaca</td>
<td>156,941.09</td>
<td>1.23</td>
<td>596,387.01</td>
<td>28,893</td>
<td>481,548</td>
</tr>
<tr>
<td>Puebla</td>
<td>100,292.50</td>
<td>1.87</td>
<td>589,143.34</td>
<td>18,464</td>
<td>307,731</td>
</tr>
<tr>
<td>Guerrero</td>
<td>49,558.69</td>
<td>1.05</td>
<td>190,226.46</td>
<td>9,124</td>
<td>152,063</td>
</tr>
<tr>
<td>Nayarit</td>
<td>46,138.18</td>
<td>2.30</td>
<td>232,487.55</td>
<td>8,494</td>
<td>141,567</td>
</tr>
<tr>
<td>Hidalgo</td>
<td>27,541.73</td>
<td>1.05</td>
<td>81,940.90</td>
<td>5,070</td>
<td>84,507</td>
</tr>
<tr>
<td>San Luis Potosí</td>
<td>14,203.84</td>
<td>0.77</td>
<td>11,345.94</td>
<td>2,615</td>
<td>43,582</td>
</tr>
<tr>
<td>Jalisco</td>
<td>6,077.18</td>
<td>1.53</td>
<td>30,003.45</td>
<td>1,119</td>
<td>18,647</td>
</tr>
<tr>
<td>Colima</td>
<td>2,627.05</td>
<td>1.04</td>
<td>14,240.68</td>
<td>484</td>
<td>8,061</td>
</tr>
<tr>
<td>México</td>
<td>1,425.49</td>
<td>3.89</td>
<td>7,415.73</td>
<td>262</td>
<td>4,374</td>
</tr>
<tr>
<td>Tabasco</td>
<td>928.00</td>
<td>0.89</td>
<td>4,832.50</td>
<td>171</td>
<td>2,847</td>
</tr>
<tr>
<td>Morelos</td>
<td>336.80</td>
<td>3.51</td>
<td>1,308.24</td>
<td>62</td>
<td>1,033</td>
</tr>
<tr>
<td>Querétaro</td>
<td>104.30</td>
<td>0.35</td>
<td>625.80</td>
<td>19</td>
<td>320</td>
</tr>
<tr>
<td>Michoacán</td>
<td>48.30</td>
<td>3.45</td>
<td>181.12</td>
<td>9</td>
<td>148</td>
</tr>
</tbody>
</table>
The coffee industry in Hidalgo is performed in four coffee regions, composed of 24 municipalities and 740 communities, with 24,123.36 hectares of production and 34,996 indigenous coffee producers (Hidalgo Coffee Council).

First, the Hidalgo Huasteca is composed by the following municipalities: Huejutla, San Felipe Orizatlán, Huautla, Yahualica, Atlapexco, Huazalingo, Jaltocán and Xochiatipan being 240 communities with 5412.90 hectares with 10,922 coffee producers, the Otomí-Tepehua area formed by the municipalities of San Bartolo Tutotepec, Huehuetla, Tenango de Doria and Agua Blanca taking 155 communities, and 7164.37 hectares and 7,308 coffee producers, then the area comprising Chapulhuacán, Pisaflores, La Misión and Tlahuitlèpa with 129 communities, 3012.70 hectares and 4,051 coffee producers, and finally the area comprised by Tlanchinol-Calnali, Tepehuacán de Guerrero, Lolotla, Tianguistengo, Molango, Zacualtipán and Xochicoatlán municipalities, being 216 communities, 8533.39 hectares and 12,715 coffee producers.
The importance of public policy intervention in this region is limited to the following:

- They are located in areas with highly rugged reliefs
- Indigenous population
- The area is in extreme poverty
- In farming, Coffee is to be the most profitable

4.1.1 Social Issues.

There are several factors that affect productivity (Tons/Hectares) and the price of coffee, some intrinsic to the production and commercialization. Some of
these factors are the lack of investment in new technologies that enable farmers to develop better crops, lack of training, lack of marketing opportunities surrounding areas at regional and national level, among others.

4.1.2 Project Proposal.

Therefore it is important to develop and implement strategic actions to make sustainable (greater stability) coffee as an economic activity in the four regions listed above, seeking among other things, avoiding the phenomenon of migration by supporting ethnic communities directly and reduce poverty rates by reviving agricultural production with a comprehensive program that brings together coffee farmers into groups by region, helping with fertilizer, seeds, training and equipment, generating marketing agreements for their product.

4.1.3 Weaknesses.

- Most producers don’t fertilize their lands
- Low ton/hectare performance
- Low knowledge about productive innovation
- Distant communication channels and poor conditions in large population centers
- Community nurseries shortage
- Increase leadership and organization in peasant groups
- Production, productivity and coffee quality level increase
- Increase technicians ability to support producers and disseminate validated technology
- Producers lacking of organization to get credit access and marketing.

4.1.4 Strengths.

- Region 900 meters above the sea level
- Climate
- Continuous rains
- Farmland in optimal conditions
- Excellent quality coffee cultivation
- Government programs and support
- Coffee production potential to generate jobs in the region

4.2 To Evaluate.

The purpose is to assess the results of the social program implementation in three dimensions: technical, social and economically. Within these dimensions, have topics to be considered for an objective, same as listed below:

4.2.1 Technical Dimension.

Includes activities directly related to the production and coffee cultivation.

- Design scale coffee production
- Design for coffee crop classification
- Cultivation design according to international quality standards
- Producers training policy design

4.2.2 Social Dimension.

Participation including farmers, government and society.

- Creating a farmers cooperative in Hidalgo
- Design of channels and links between producers and government
- Public policy design for citizen participation
- Design policies to reduce migration rates

4.2.3 Economic Dimension.
Includes activities directly related to the coffee procurement, distribution and marketing.

- Support to increase coffee production
- Design coffee distribution programs not only nationally but internationally
- Design of marketing programs and positioning Hidalgo Coffee

### 4.3 Key Indicators.

Among the key indicators that we considered to verify the program impact and effectiveness, we have established 6, considering each of the above listed dimensions. Should be mentioned that used indicators have been linked to the pursued objectives by the project: defining them in the following table.

<table>
<thead>
<tr>
<th>Evaluation Program Indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dimension</strong></td>
</tr>
<tr>
<td>Technic</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Social</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Economic</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>
4.4 Indicators Starting Data.

**Quality coffee certifications in the area:** Currently there is no certificate for any of the producers or the same company on the quality of coffee produced.

**Producers using fertilizer on their land:** From interviews made to producers, the 99.07% out of 34,996 don’t use fertilizers to regenerate the land where they cultivate coffee.

**Marketing cooperatives in the region:** So far there are only individuals who market the product, having many swindlers buying it, the lack of proper organization to establish a cooperative for collection and marketing results in price detriment perceived from coffee.

**Installing breeding tree nurseries:** Currently there are three tree nurseries operating in the region and they don’t provide all producers.

**Production per hectare:** According to AMECAFE, as stated above, Hidalgo has a production rate of 1.05 tons/hectare, against an average of 1.8 of domestic production. The municipality that more production per hectare is to report is Calnali, the production rate is 1.6, being Agua Blanca de Iturbide who reports less productivity rates 0.60.

<table>
<thead>
<tr>
<th>Municipality</th>
<th>Sown Sur. (Hectare)</th>
<th>Harvested Sur. (Hectare)</th>
<th>Production (Ton)</th>
<th>Performance (Ton/He)</th>
<th>PMR ($/He)</th>
<th>Production Value (Thousand Pesos)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Economic development program for the Otomí-Tepehua Coffee Zone in Hidalgo.

Minerva Program

<table>
<thead>
<tr>
<th>Municipality</th>
<th>Amount</th>
<th>Amount</th>
<th>Amount</th>
<th>Amount</th>
<th>Total</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agua Blanca de Iturbide</td>
<td>25.00</td>
<td>25.00</td>
<td>15.10</td>
<td>0.60</td>
<td>5,470.19</td>
<td>82.60</td>
</tr>
<tr>
<td>Atlapexco</td>
<td>509.00</td>
<td>509.00</td>
<td>509.00</td>
<td>1.00</td>
<td>3,850.00</td>
<td>1,959.65</td>
</tr>
<tr>
<td>Calnali</td>
<td>1,206.70</td>
<td>1,206.70</td>
<td>1,930.72</td>
<td>1.60</td>
<td>2,000.00</td>
<td>3,861.44</td>
</tr>
<tr>
<td>Chapulhuacan</td>
<td>2,309.00</td>
<td>2,309.00</td>
<td>1,962.65</td>
<td>0.85</td>
<td>2,000.00</td>
<td>3,925.30</td>
</tr>
<tr>
<td>Huautla</td>
<td>756.00</td>
<td>756.00</td>
<td>756.00</td>
<td>1.00</td>
<td>3,850.00</td>
<td>2,910.60</td>
</tr>
<tr>
<td>Huazalingo</td>
<td>694.00</td>
<td>694.00</td>
<td>1,041.00</td>
<td>1.50</td>
<td>3,400.00</td>
<td>3,539.40</td>
</tr>
<tr>
<td>Huehuetla</td>
<td>4,265.00</td>
<td>4,265.00</td>
<td>2,772.00</td>
<td>0.65</td>
<td>2,098.12</td>
<td>14,131.99</td>
</tr>
<tr>
<td>Huejutla de Reyes</td>
<td>2,440.00</td>
<td>2,440.00</td>
<td>3,660.00</td>
<td>1.50</td>
<td>3,400.00</td>
<td>12,444.00</td>
</tr>
<tr>
<td>Jaltocán</td>
<td>458.00</td>
<td>458.00</td>
<td>687.00</td>
<td>1.50</td>
<td>3,100.00</td>
<td>2,129.70</td>
</tr>
<tr>
<td>La Mision</td>
<td>357.00</td>
<td>357.00</td>
<td>303.45</td>
<td>0.85</td>
<td>2,000.00</td>
<td>606.90</td>
</tr>
<tr>
<td>Lolotla</td>
<td>446.06</td>
<td>446.06</td>
<td>624.48</td>
<td>1.40</td>
<td>2,000.00</td>
<td>1,248.96</td>
</tr>
<tr>
<td>Molango</td>
<td>335.00</td>
<td>335.00</td>
<td>469.00</td>
<td>1.40</td>
<td>1,900.00</td>
<td>891.10</td>
</tr>
<tr>
<td>Pisaflores</td>
<td>2,997.00</td>
<td>2,997.00</td>
<td>2,547.45</td>
<td>0.85</td>
<td>2,000.00</td>
<td>5,094.90</td>
</tr>
<tr>
<td>San Bartolo Tutotepec</td>
<td>2,730.00</td>
<td>2,730.00</td>
<td>1,770.00</td>
<td>0.65</td>
<td>3,180.79</td>
<td>9,170.00</td>
</tr>
<tr>
<td>San Felipe Orizatlan</td>
<td>770.00</td>
<td>770.00</td>
<td>1,155.00</td>
<td>1.50</td>
<td>3,100.00</td>
<td>3,580.50</td>
</tr>
<tr>
<td>Tenango de Doria</td>
<td>639.00</td>
<td>639.00</td>
<td>408.00</td>
<td>0.64</td>
<td>5,433.82</td>
<td>2,217.00</td>
</tr>
<tr>
<td>Tepehuacan de Guerrero</td>
<td>465.75</td>
<td>465.75</td>
<td>698.63</td>
<td>1.50</td>
<td>2,000.00</td>
<td>1,397.26</td>
</tr>
<tr>
<td>Tianguistengo</td>
<td>226.03</td>
<td>226.03</td>
<td>293.84</td>
<td>1.30</td>
<td>1,850.00</td>
<td>543.60</td>
</tr>
<tr>
<td>Tlahuiltepa</td>
<td>77.73</td>
<td>77.73</td>
<td>101.05</td>
<td>1.30</td>
<td>1,900.00</td>
<td>543.00</td>
</tr>
<tr>
<td>Tlanchezqué</td>
<td>3,714.56</td>
<td>3,714.56</td>
<td>4,828.93</td>
<td>1.30</td>
<td>1,850.00</td>
<td>8,933.52</td>
</tr>
<tr>
<td>Xochiatipan</td>
<td>120.00</td>
<td>120.00</td>
<td>120.00</td>
<td>1.00</td>
<td>3,850.00</td>
<td>462.00</td>
</tr>
<tr>
<td>Xochicoatlán</td>
<td>257.73</td>
<td>257.73</td>
<td>335.05</td>
<td>1.30</td>
<td>1,900.00</td>
<td>636.60</td>
</tr>
<tr>
<td>Yahualica</td>
<td>488.00</td>
<td>488.00</td>
<td>488.00</td>
<td>1.00</td>
<td>3,800.00</td>
<td>1,854.40</td>
</tr>
<tr>
<td>Zacualtipan de Angeles</td>
<td>46.70</td>
<td>46.70</td>
<td>65.38</td>
<td>1.40</td>
<td>1,950.00</td>
<td>127.49</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>26,333.26</strong></td>
<td><strong>26,333.26</strong></td>
<td><strong>27,541.73</strong></td>
<td><strong>1.05</strong></td>
<td><strong>2,975.15</strong></td>
<td><strong>81,940.90</strong></td>
</tr>
</tbody>
</table>

**Pay per hectare:** According to coffee intake database (www.cafe.gob.mx), payment per ton had an average price of 2975.15 pesos from a report of 24 municipalities. In this report, Agua Blanca de Iturbide obtained per hectare the payment of 5470.19 pesos and was Xochicoatlán the one with the lowest payment for this item, the report 1900 pesos.

4.5 Expected Results.
The goal will depend on the project intervention period, the program in which it is inserted and activities. It also depends on the type of intervention, since certain changes take longer than others (ex. changes in agricultural practices are sustainable over the long term, while the immediate attention in emergencies will be a short-term goal). It is important to notice that while social development is a long-term process, the inclusion of specific targets in project indicators allows those involved to identify change signals or a wider impact.

<table>
<thead>
<tr>
<th>Program Expected Results Quantification</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dimension</strong></td>
</tr>
<tr>
<td><strong>Technic</strong></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td><strong>Social</strong></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td><strong>Economic</strong></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>
4.6 Program Monitoring.

The collection of information is necessary at various points of the project. First, in the design stage, to obtain baseline data, during project implementation, to develop specific monitoring activities (monthly, semi-annual, annual), to complete the project on specific events or activities, after project closure to determine the impacts and sustainability in the long term.

Based on the monitoring system strategy, concentrate the information collected in accordance with the following items. First, the analysis will involve the four regions seeking to develop the program. The sample procedures will be given periodically. The instruments we use to collect information and the frequency in which they take place, will be through productivity indicators to be presented by the state and national level on a monthly basis, measuring the quality of the product and the behavior in the increase or decrease in marketing and report monthly results will be required for different groups to assess their development.

Those who collect information and implement the results monitoring and evaluation, will be a group consisting of producers representatives, government departments and agencies involved in the program development, in order to be efficient and clear information. Importantly, the data that is required for the indicators comes from agencies and specialized research centers as either INEGI, database registered as government agencies like SAGARPA or state level, in addition to the existing in each of the different municipalities.

The program monitoring frequency to be presented in the following table, is subdivided in individual and general monitoring.

Particularly is given in terms of continuous and detailed monitoring in function of individual beneficiaries of the program and the progress thereof and involves two main implementing institutions. General monitoring involves more analysis
time, intervention and support of other units to have greater input elements. The following summarizes the frequency of monitoring the program.

<table>
<thead>
<tr>
<th>Phase</th>
<th>Timing</th>
<th>Particular: Program beneficiaries</th>
<th>General: As a part of the whole program</th>
</tr>
</thead>
<tbody>
<tr>
<td>Start</td>
<td>Year 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intermission A</td>
<td>Years 2,3</td>
<td>Bimonthly: SAGARPA and SEDESOL</td>
<td></td>
</tr>
<tr>
<td>Intermission B</td>
<td>Years 4,5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Closing</td>
<td>Year 6</td>
<td>Quarterly: SAGARPA and SEDESOL</td>
<td>Semiannual, annually and every 6 years: SAGARPA, SEDESOL, municipalities and State Government</td>
</tr>
</tbody>
</table>

The following is the temporality to perform the program monitoring.

![Semiannual Monitoring](image)

![Bimonthly Monitoring](image)

4.7 Evaluation Process.

The evaluation target is to permanently monitor the processes and the program operation way, in order to identify problems and they can be solved in time effectively to meet the expected results.
For the specific case of the program we are proposing, we require first, assessment help us build consensus on the problem causes and how to respond, because there are programs that are managed independently that would generate greater benefits conjoined.

Considering the above, we suggest taking the Meta-evaluation, with which we can establish the criteria and procedures of the previously made assessments for similar projects such as those that handle SAGARPA, SEDESOL and even state government agencies and municipalities.

An assessment process to analyze what has been the development of the plan from the beginning, a study analysis of cost/benefit to results generated by the program, the actual changes that have occurred in the environment and in the target population.

Additionally, there will be an evaluation of effectiveness to assess whether the program is still viable to achieve the goals set. For this, we will have meetings with related parties on a regular basis in order to have constant feedback on the progress of the program, counting in addition the above indicators.
### Economic development program for the Otomi-Tepehua Coffee Zone in Hidalgo.

**Minerva Program**

#### Monitoring Program Process

<table>
<thead>
<tr>
<th>Phase</th>
<th>Activity</th>
<th>Responsible</th>
<th>Timing</th>
<th>Expected Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial</td>
<td>Accordance Meeting with the program basis</td>
<td>SAGARPA, SEDESOL, State Government</td>
<td>Review Meeting Agreement</td>
<td>Date to sign the agreement</td>
</tr>
<tr>
<td></td>
<td>Agreement Signing</td>
<td>SAGARPA, SEDESOL, State Government</td>
<td>60 days after agreement technical revision</td>
<td>Agreement Signing</td>
</tr>
<tr>
<td></td>
<td>Program operator committee integration meeting.</td>
<td>SAGARPA</td>
<td>30 days after agreement signing</td>
<td>Assistance Document and agreements.</td>
</tr>
<tr>
<td></td>
<td>Inception Report</td>
<td>SEDESOL, SAGARPA</td>
<td>90 days after agreement signing</td>
<td>Inception Report</td>
</tr>
<tr>
<td></td>
<td>Coordination meetings with producers</td>
<td>SAGARPA, SEDESOL, State Government and producers</td>
<td>Every 2 months after agreement signing</td>
<td>Reunion Document and agreements</td>
</tr>
<tr>
<td>Intermission A</td>
<td>Evaluation results of the first year for consulting</td>
<td>Tendered consulting</td>
<td>Evaluate the year two and three at the end of each year.</td>
<td>Variables and program progress report</td>
</tr>
</tbody>
</table>
### 4.8 Results Reporting.

Results reporting is critical because it has to determine what, when and to whom they report. For the project we propose, results monitoring and evaluation in different levels helps us, showing citizens and other stakeholders that the

<table>
<thead>
<tr>
<th>Project’s 2nd and 3rd Year</th>
<th>Coordination meetings with producers</th>
<th>SAGARPA, SEDESOL, State Government and producers</th>
<th>Every 2 months after agreement signing</th>
<th>Reunion Document and agreements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assessment cabinet meeting</td>
<td>SAGARPA, SEDESOL, State Government</td>
<td>Every 6 months since second year</td>
<td>Work Minutes</td>
<td></td>
</tr>
</tbody>
</table>

| Intermission B | Evaluation results for the fourth and fifth year by consulting | Tendered consulting | Evaluate the year four and five at the end of each year. | Variables and program progress report |

<table>
<thead>
<tr>
<th>Project’s 4th and 5th Year</th>
<th>Coordination meetings with producers</th>
<th>SAGARPA, SEDESOL, State Government and producers</th>
<th>Every 2 months after agreement signing</th>
<th>Reunion Document and agreements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assessment cabinet meeting</td>
<td>SAGARPA, SEDESOL, State Government</td>
<td>Every 6 months since fourth year</td>
<td>Work Minutes</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Closing 6th year of the Project</th>
<th>Coordination meetings with producers</th>
<th>SAGARPA, SEDESOL, State Government and producers</th>
<th>Every 2 months after agreement signing</th>
<th>Reunion Document and agreements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Evaluation results for the fourth and fifth year by consulting</td>
<td>Tendered consulting</td>
<td>Evaluate the year six at the end</td>
<td>Report and results</td>
<td></td>
</tr>
<tr>
<td>Evaluation by dependencies</td>
<td>SAGARPA, SEDESOL, State Government</td>
<td>Evaluate the entire program and keep a record.</td>
<td>Final report and results</td>
<td></td>
</tr>
<tr>
<td>Program report gathering and results.</td>
<td>SAGARPA, SEDESOL, State Government and producers</td>
<td>At the end of the program’s 6th year</td>
<td>Closing Event and photo shooting</td>
<td></td>
</tr>
</tbody>
</table>
project works and in turn, attract others to participate in the program, and likewise helping to have more support in the development and promote it.

As for whom the information will be given, since it has to make known to different audiences such as beneficiaries, citizens, government and stakeholders especially in the marketing process, the communication strategy used is critical, so it is understandable for each. It is essential we include relevant data such as income and expenses, percentages, statistics, geographic, demographic and customer satisfaction scale and productivity performance in each group.

4.9 Using experience to improve the analyzed problem.

The integration of the actors involved in coffee production, derived from a call issued by professional service providers selected to participate in the Innovation Strategy, after integration and location of producers on the list of eligible for this strategy. For the groups development participating in the program had their own locations as venues where producers reside, invited via the local municipal authority and/or organizations integrated with interference in these towns.

The analysis of the problem is given by the service providers and is to gather information the coffee producers, on the current situation in which coffee growing develops locally, the internal and external elements that influence the way to produce coffee and production system active in the community. Once done this we proceeded to make an objective analysis of primary production, with the context of reflection and development, prevailing issues, the causes of this problem and the possible solutions in the medium and long term, emphasizing innovation actions that could be developed to mitigate the risks in productive activity. In Hidalgo diagnostics were developed without drawbacks, thus involving more producers scheduled to attend.
Using the results and experiences will help us meet different objectives, showing citizens the program meets the demands are requiring coffee producers in the areas defined, which will get the confidence not only from audience but the recipients will be motivated to improve the quality of their products. Similarly, to justify the program budget, as a highly relevant factor to increase and enhance support.

In order to present the results, we propose to use the media, not just traditional radio and television, but new technologies such as the Internet and social networks. Moreover, it is extremely important to take advantage of Transparency and Access to Information, to promote the achievements and while citizens can see resources are used properly.

4.10 Developing M&E system to make it sustainable and continuous.

The current crisis of the world coffee market impact on the rural economy of small farmers, who have been in the coffee activity as the only way to survive, forcing them to seek new production and marketing in which revolves around the majority production system in Hidalgo.

The Innovation Strategy in the coffee production in Hidalgo, allowed to systematize identified technical problems affecting coffee production, as well as, the social, economic and environmental, generated where this activity takes place. The prioritization of issues and alternatives, along with the data by region, are the basis for the planning for innovations in the state.

In the proposed Innovation Plan were used all methodological tools in reach, in order to obtain reliable results in short, medium and long term. Stressing also the active participation of producers who contributed with their time and willingness to activities developed by the technical team, which similarly conducted their activities with professionalism, for which they were selected.
The diagnoses in the innovation strategy expose the complicated situation for producers, both technical, economic, social and environmental, and summarized in old plantations with low production, pests and diseases, poor infrastructure and capitalization, among other factors, and coffee perspective, this translates into low productivity.

In spite of all these difficulties the producers have the ability and experience to produce and risk to continue cultivating coffee, with these opportunities in use to improve productivity and competitiveness of coffee sector in Hidalgo.

In this state, the coffee not only is important in cultivated area, or in the economic sphere that represents, but also has a high degree of significance in the social and environmental matter.

**Conclusions.**

Through the creation of an economic development program for the coffee zone Tepehua Otomí will generate jobs, development and regionalization of the industry in marginalized communities who have extreme poverty. To achieve
this it is necessary to harmonize the municipal development plans that are specific to the sector in serving coffee producers, not only understand, but state them in order to derive a comprehensive common policy.

An evaluation of effectiveness to analyze whether the program is still viable to achieve the goals set.

The most Important Challenges and Obstacles

One of the major obstacles is the disruption given within the program because of the state bureaucracy and inequality in income distribution.

**Challenges:**

- Create and develop the market for coffee growers in this area. Develop better infrastructure, better communication channels
- Economic and social policy integration: Complementarity. Providing services and commodities to the community to further generate a group mechanism where there is an association for the implementation, execution and program development
- Information and training: Keeping the beneficiary community informed about the process to be held, integrate them into the program development to generate a sense of belonging and with commitment in implementing strategies and achieving goals to their benefit. Generating new jobs, human capital formation and sustainable development
- Funding and sustainability: Funding needs to be constant, therefore, the main investment must be made in the formation of qualified and sustainable human capital. To ensure economic growth and therefore have a positive impact on poverty reduction

**Success Probabilities.**
One of the key elements for a successful social program is monitoring it. Ongoing progress monitoring in implementation compared to the initial objectives, let you know if you are accomplished in a timely manner. That is, if the plan's beneficiaries are receiving the supplies or services for which the project is designed.

Also, the evaluation will determine the performance, efficiency and impact of the program related to the objectives established at the beginning.

Compliance criteria will be established to evaluate the program. Through these, you define whether the project is worthwhile, whether to continue, or making changes, the problems that may appear and alternative solutions to be implemented.

The probability that the project succeeds will depend on the extent of the achieved effects expected, and its profitability.

**Recommendations and Learning**

Social programs directly contribute to economic prosperity, solidarity and sustainable development. It's not just a production matter in indigenous areas, but the problem is addressed through a comprehensive policy that combines the productive, basic infrastructure and social policy issues.

By supporting a community in its development, is also achieved social integration among beneficiaries. Which is important, because the changes do not happen overnight. It requires good teamwork, viable proposals, good market conditions, correct strategies and support of all staff involved.
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