4. CHAPTER IV: DATA ANALYSIS AND STRATEGIC PLAN

In this chapter, a strategic plan for the association of dry bean producers in Las Palmas, Puebla, is developed step by step, based on analysis, organization and interpretation of the information that has been gathered in precedent investigations. As described in the previous chapter, the strategy is crafted after defining mission and vision, setting objectives and examining internal and external environment of the association. Different methods of strategic planning are applied during this process. Concrete measures recommended to be taken by the different functional areas are presented.

The theoretical fundaments for the development of the strategic plan are the phases of strategic management described in Chapter 2.

4.1. DEFINITION OF MISSION AND VISION

To manage a business successfully it is indispensible to have a clear idea of where the company sees itself in the future (vision) and what is its reason to be (mission) and to formulate these in understandable and memorable statements.

4.1.1. MISSION STATEMENT

The final report of the investigation in cooperation of UDLAP and PRODUCE provides the necessary information about the present business scope and purpose of the association that is needed to formulate a mission statement (Rodal Arciniega & Rodríguez Durán, 2010):

Who they are: They are an association of producers of dry beans in the village Las Palmas, in the region of Ciudad Serdán, Puebla, Mexico. 16 of them were interviewed to gather data about their situation. Over 80% of the producers have more than 20 years of experience.

What they do: Those producers cultivate dry beans for auto consumption and for commercialization. In 2008 they harvested 5700 kg, in 2009 only 3200 kg due to the scarce rainfalls that year. Each of them sells independently mainly to wholesalers (but also in smaller ranges to agricultural associations and relatives/friends/acquaintances)

Why they are in the market: They participate in the satisfaction of the regional and national demand for dry beans as this crop is a basic aliment of the Mexican population. They need the income generated by selling beans as an important contribution for subsistence as it accounts for 25% to 50% of their total annual income.

Customer needs they strive to satisfy: In general, they help to satisfy the demand of customers for this basic aliment and in particular, they satisfy demand wholesalers selling to companies that pack or process the product, as well as local markets. In a smaller range they supply directly to final customers (relatives/friends/acquaintances).

Customer groups and markets they serve: Direct customers are wholesalers, indirect the packing and processing companies and the supply centers and local markets. They supply a few regional customers for consumption.

Resources and technologies deployed to please customers: The broad majority of the producers cultivates between one and two hectare each. They use traditional crop growing methods without using technology, improved seeds or irrigation. They have no store houses but use space in their private houses for this purpose. Only two producers own a pickup truck to transport crops.

This information should be summarized in a more concise mission statement, like the following:

> The mission of the Association of Dry Bean Producers in Las Palmas, Puebla is to produce high quality dry beans in order to contribute to the satisfaction of the demand for this basic aliment in the Mexican market. We sell mainly to wholesalers, but also to final customers and agricultural associations. We are dry bean farmers with many years of experience growing crops with traditional methods.

4.1.2. VISION STATEMENT

The most important topic to consider when creating the strategic vision are the challenges and deficiencies that have been detected in the research done by UDLAP and PRODUCE (Rodal Arciniega & Rodríguez Durán, 2010) and also in the other former research projects (see Chapter 2), as many conditions that affect the state of Puebla or other regions also apply to the cultivation in Las Palmas.

Major challenges and deficits in production and commercialization:

- Because of the instable and unfavorable climatic conditions, the amount of harvest fluctuates greatly from year to year.

- The cultivated areas have a low yield because there are no irrigation systems, little and/or inadequate fertilization is used and the producers do hardly have any technological cultivation equipment. This also has negative effects on crop quality.
- Each producer cultivates relatively small fields (generally only 1-3 hectares).
- There is little use of improved varieties.
- Producers have difficulties to get good, fair buyers and they usually have to accept bad prices. Each of them heavily depends on one or two big buyers.
- The producers show resistance to change, mainly due to long years of doing things their way and having observed several failing improvement attempts. Furthermore, they have little entrepreneurial spirit.
- They do not have facilities for storage, and hardly any means for transporting the beans to buyers.
- The producers agree on the benefits of a possible cooperation in selling the beans but only one has actually experienced it already. The resistance is mainly based on lack of confidence in the association.

Overcoming those obstacles or at least minimizing their impact should be the general ambition of each strategic approach.

Based on the above listed challenges and deficiencies, the following vision of where the association sees itself in the future has been developed:

- The impact of unfavorable climatic conditions is minimized by the use of irrigation systems.
- Fertilization, technological equipment, and improved varieties are used more and adequately, constantly evaluating potential of improvement (yield, profit, quality) in comparison with their costs.
- Small-holdings are joined to form bigger fields that can be worked more efficiently.
- Storage and transportation facilities are created and/or expanded if this is economically reasonable to obtain a better negotiating position when interacting with (potential) buyers.
- The customer base is more extensive and diversified and offers convenient conditions.
- Crops are sold in conjunction to take advantage of synergies and increased negotiating power.

To effectively communicate this strategic vision and to easily keep it in mind, it is recommendable to summarize it in a short and concise slogan, like this one:

> We are an important regional producer of high quality beans: cooperative, productive and fostering rural development. We overcome external and internal challenges successfully.

The following analysis shows that this slogan coincides with the characteristics of effectively-worded vision statements, defined by Thompson et al. (2006). (see Table 4.1)

Characteristics of an Effectively Worded Vision Statement

Trait	Explanation	Analysis of the Slogan
Graphic	It paints a picture of what kind of company is intended to be created and what should be its market position.	Yes, the statements talks about a high-quality producer with regional importance.
Directio-nal	It states something about the company's destination and signals necessary business changes on this journey.	Yes, it stated that they head towards high quality, regional importance, cooperation and productivity. To get there, changes in all of these aspects are necessary as these goals are not or only partly achieved at the moment.
Focused	Specific enough to be a basis for decisions and resource allocation.	Yes, it defines clear priorities that can serve as guidance in decision-making.
Flexible	It is not a statement for evermore but can be adjusted to changing circumstances.	Yes, the slogan is a starting point for strategic planning and of course, but it can be adjusted to the situation in the course of the years.
Desirable	Appeals to the long-terms interests of stakeholders, especially employees and customers.	Yes, because the producers would improve their bargaining power with customers (quality and quantity) and could start to make more constant and higher profit because of increased productivity. Customers benefit from higher quality and higher amounts of crop.
Feasible	It is within the reach of the company in the defined amount of time.	Yes, if the producers start to take advantage of the benefits of joint effort and of the support available (financial, strategic and technological) they can achieve this goal in the next years.
Easy to com-municate	It can be explained in 5 to 10 minutes and can be reduced to a simple slogan.	Yes, the idea is straightforward and the goals are clear. The slogan is short and memorable.

Table 4.1 Own compilation, based on Thompson et al. (2006, p. 16)

Having defined mission and vision, we can move on to the next phase of strategic planning.

4.2. Setting Objectives

The progress on the way to achieve the goals that have been determined in the vision statement needs to be monitored. The correct measures (indicators, KPIs) need to be identified, taking into consideration that the association belongs to the agricultural sector and is relatively small in terms of its amount of production. The necessary data is obtained from the precedent investigations. The opinions of the experts Sebastian García and Sara Marengo were asked for and are considered in the development of this section.

Firstly, the principal objectives are derived from the vision statement:

- Become an important regional provider of dry beans.
- Improve crop quality.
- Foster cooperation among the members of the association (cultivation and commercialization).
- Increase productivity.
- Create positive impact on the community.

Additional objectives derived from the broader strategic vision:

- Implement an irrigation system.
- Foster adequate use of fertilization.
- Expand the use of technological equipment.
- Foster the use of increased varieties.
- Increase the average of size of cultivation area (join fields)
- Build storage facilities.
- Enhance means of transportation of crops.
- Increase and diversify the customer base.

It may be necessary to define more objectives to support the mentioned ones; especially, when the objectives at company level are translated into even more concrete objectives for the different functional areas.

A Balanced Scorecard (see Chapter 2) helps to develop and to monitor a well-balanced and systematic set of objectives and their respective KPIs to measure the performance

of the company or the area in the achievement of those objectives. Accordingly, the following objectives are divided into the four major perspectives of a Balanced Scorecard: finance, clients, processes, and personnel, learning and innovation. Table 4.2 is a Balanced Scorecard for the association as a whole, organizing the objectives derived from the vision statement and from the general strategic vision and adding additional supporting and complementing objectives. Furthermore, it defines the KPIs that should be used for each objective. The values achieved for all the different KPIs should be observed in the first year of the implementation of this plan to take these values as a starting point.

Balanced Scorecard of the Association of Dry Bean Producers in Las Palmas

Per-spec-tive	Objective	KPI	Unit
Finance	Reach and maintain profitability	Gross Margin (%)	%
		EBIT	$MXP
	Increase revenue	Net sales growth p.a.	%
	Build up savings for investments	Amount of annual savings	$MXP
Clients	Customer satisfaction	Repurchases (loyal clients)	%
	Increase share in the regional market	Market share	%
	Diversify customer base	Amount of customers types	No.
	Create positive impact on the community	Amount of support projects/donations p.a.	No.
Processes	Increase productivity	Cultivation cost	$MXP / hectare
		Crop quantity	Kg / hectare
		Average field size	Hectare
	Increase crop quality	Quantity of organic crop	Kg
		Quantity of crop for seeds (excellent quality)	Kg
	Improve commercialization	Amount of buyers	No.
		Selling price	$MXP / kg
		Storage facilities	m²
		Amount of pickups for transportation	No.
	Foster cooperation among the members of the association	Members participating in joint cultivation	%
		Members participating in joint commercialization	%
Learning and Growth	Innovation in production processes	Investment in new technology for cultivation and commercialization	$MXP
		Investment in fertilizers and improved seeds	$MXP
		Progress in construction of irrigation system	%
	Professional development of the members	Participation in agricultural forums	% of the members
		Members participating in trainings or with agricultural degree	% of the members

Table 4.2 Own Compilation

The defined objectives of the Balanced Scorecard use to be visualized in a strategic map. (see Figure 4.1) It is divided into the four perspectives and shows the causal relationship of the objectives, i.e. which objectives contribute to the achievement of another. The perspective Learning and Growth contributes in general to the achievement of the objectives and the perspective Processes contains a specific strategic theme which is Operational Excellence, i.e. two objectives are summarized under this topic and form a core part of the strategy.

Strategic Map of the Association of Dry Bean Producers

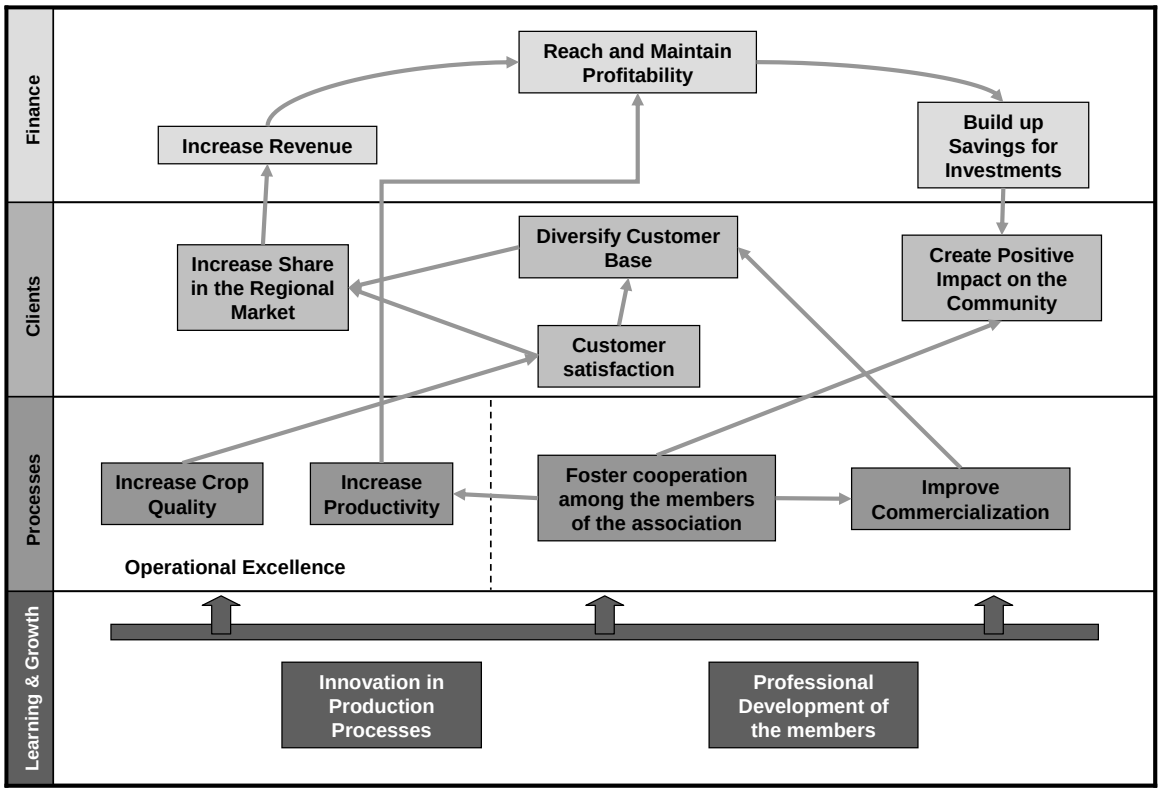

Figure 4.1 Own Compilation

Usually, companies determine how each functional area contributes to achieving those objectives applying additional, specific KPIs if it is necessary to measure performance appropriately. The association is small and not formally divided into functional areas; all of the basic functions of a company are realized in some way by the beans farmers: Marketing, Finance, Operations/Production and Human Resources. That is why the supporting objectives are already included in the BSC for the association as a whole.

The objectives defined in this section are now checked according to the requirements of effective objectives listed in Chapter 2:

1) Yes, the objectives defined here are challenging and require the commitment of the members of the organization. If the strategic plan counts with the support of the members, those objectives help to capitalize fully on the potential of the association and can trigger progress.
2) Yes, they help to convert the strategic vision into measurable indicators of the progress that has been made at achieving it.
3) Yes, once they have been fixed, the target values of the KPIs are going to have a deadline for achievement of one year and are going to be redefined each year (if necessary).
4) Yes, they are specific as they define clearly what needs to be accomplished and appropriate as they are directly derived from the strategic vision and from the mission statement.
5) And yes, they are realistic. Even though they are challenging, they can be achieved through joint effort of the association, if they make strategically wise decisions, taking advantage of their capabilities and of the opportunities of the environment.

Having completed this step of setting objectives, we can move on to the next phase of strategic planning.

4.3. Internal and External Analysis

In the next step of strategic planning, information about the disposable internal resources and competencies and about the environment is collected. The analysis is based on the precedent studies about dry bean production in Mexico, Puebla and in Las Palmas. The dates presented are a synopsis of the results of the studies mentioned in chapter 2, especially from the report UDLAP did in cooperation with PRODUCE. (Rodal Arciniega & Rodríguez Durán, 2010) From this report, additional information (mainly quantitative data) is used beyond the dates presented in chapter 2. The information is synthesized with the help of a SWOT Matrix and Porter's Five Forces Model.

4.3.1. SWOT Analysis

It analyses internal strengths and weaknesses of the association and external opportunities and threats (probably) affecting its business, and summarizes those four dimensions in a SWOT Matrix.

Strengths:

- They have a lot of experience in dry bean cultivation.
- The small-scale local production of each of the members reduces their costs of subsistence as they (and their families) do not have to acquire this basic aliment at the market. (auto-consumption)
- They have different kinds of clients, i.e. they sell to big wholesalers, agricultural associations and small local clients, such as relatives, friends and acquaintances.
- One of the producers has already made experiences with selling in cooperation with other producers and describes it positively as a cooperative business relationship. Furthermore, the producers in general (81.25%) have a positive attitude towards selling in conjunction.
- The producers are already formally organized as an association.
- They consider their current storage room big enough for their individual needs.
- Two producers already have pick-ups to transport crop.
- The producers do not depend completely on selling beans, as it makes up only between 25% and 50% of their income.

Weaknesses:

- The association produces low-quality crops. That is why it is hard for them to meet the requirements of the clients. Low quality is due to little use of improved varieties (it seems like they cannot afford them), deficient or missing harvesting, cleaning and sifting technology and infrastructure, low quantity of seeds per hectare, which fosters the growth of weed, usually only one weeding even though it would be necessary regularly, and no cleaning of the beans.
- They can only reach low selling prices.
- The majority of producers has long years of experience. Over 80% of them have been cultivating beans for at least 20 years. For this reason, they have already developed strong habits of how to do things and a resistance to change. The young generation is underrepresented.
- The association does not really work as there is little or no cooperation at the moment and there is a lack of well-developed organization structures.
- Their production has a low yield: 400kg/hectare while the state average of Puebla is 450kg/hectare. Reasons are bad quality seeds as they use what was left of the harvest from the previous year and what they buy on the market (usually from other

regions with different soil and climatic conditions), no use of improved varieties, no irrigation system, no technological support equipment, little and/or inadequate use of fertilizers and no use of pesticides.

- 93% if them only cultivate 1 to 3 hectares, i.e. they farm small-holdings which have lower productivity, e.g. as the use of technology there is difficult and hardly profitable.
- Nearly 70% of the producers state that just cover their costs or even lose money. Cultivation costs are 4500 MXP/hectare, so at the price of 2008, which was 10MXP/kg they would need a yield of 450kg/hectare to break even, but the average is 400kg/hectare.
- They just have few clients; more than two thirds of the producers have only one client, the rest has two clients or did not sell at all in the relevant years. They highly depend on wholesale traders (69.75% sell to them), only 6.35% sell to agricultural associations and 12.4% to local clients. They also have difficulties to get favorable clients.
- The member of the association only harvest small amounts. Even the 16 producers altogether do not reach considerable amounts (see Table 4.3) compared to what the bigger supply centers and the processing companies operating at national level use to buy.

Dry Bean Production of the Association by Variety

Type of Dry Beans	2008	2009
Negro	3320	1345
Bayo	400	851
Flor de Mayo	0	0
Amarillo	620	320
Mantequilla	0	75
Criollo	0	116
Parraleño	750	260
Pinto Saltillo	600	200
TOTAL	**5690**	**3167**

Table 4.3 Based on a table in the study of Rodríguez Durán & Rodal Arciniega (2010). Translation and final sum by the author.

- In years with little rain they harvest much less, e.g. in 2009 they only obtained 56% of crop (compared to the previous year) because there were almost no rainfalls. Thus, that year they did hardly sell any beans at all.
- 56% of the producers consume the major part of their harvest and only sell the smaller part. Two producers did not sell at all in the year in question.
- They only have little room for crop storage, more than 50% of them store it in their house and only two of them have vehicles for crop transportation that at the moment cannot be used by every member. These two facts are not favorable for their negotiating position with buyers as they are not flexible in terms of time and place of selling.
- The members are not motivated to go with their president to forums where better conditions for the association are negotiated. They have little entrepreneurial spirit.

Opportunities:

- There are several government support programs that apply for dry bean production: PROCAMPO grants payments per hectare and supports a considerably high percentage of Mexican bean sowings. There are programs to improve commercialization, the Program of Induction and Development of Rural Financing for producers wanting to sell crops stored in storage houses, and the Program for the Sustainable Use of Natural Resources in Primary Production which fosters the use of improved seeds and reconversion. Furthermore, there is PROMAF (Strategic Project of Support for the Productive Chain of Corn and Bean Producers) that finances investments, strengthens of organizations and newly graduated professionals, and supports the implementation of technological packages. It usually results in higher yields and lower production costs per ton.
- Wholesalers have signalized that intermediaries should be abolished to offer better prices to producers.
- Irrigation has a high potential of improving yield, even though there were other adverse conditions.
- There are any investigation and rural development projects to improve the situation of agricultural producers.
- There are examples of successful implementations of projects in other regions and in the same region to improve dry bean cultivation and yield, e.g. done by INIFAP and PRODUCE.

- The region received support from the government of Puebla, e.g. money to build storage houses for beans and donations of seeds.
- Processing companies interviewed that might be possible clients buy mainly the variety the association cultivates most, called Negro.

Threats:

- North American dry bean producers have access to an attractive commercialization structure. They are highly competitive and more attractive for Mexican traders because they offer low prices and excellent payment facilities. This competitive pressure has been intensified since the NAFTA took effect.
- The missing self-invoicing system for Mexican producers hinders the abolishment of intermediaries.
- The climatic conditions are unfavorable: There are water deficits, precipitation is unsteadily distributed, and there are droughts. This means a big constraint for the producers, affecting heavily there amount of harvest and by this their income. Experts state, that rainfalls can hardly be forecasted and that they are cyclical. A study for sinking a well would cost about 4-5 million MXP.
- The beans suffer from plagues and diseases as they are a quite vulnerable crop.
- It is hard to establish the link between theory and practice, i.e. between the results of research and their implementation. Additionally, there is a considerable difference between the theory taught at universities and the reality on the field.
- Dry bean prices in Mexico are fluctuant, so that there is high price insecurity.
- Fields suffer from erosion because of inadequate cultivation methods and climatic change.
- Demand for dry beans is decreasing in the Mexican market.
- The commercial structure of dry beans is thin: There are many producers but only few big buyers and traders. Government supports only benefits some producers, and it uses to be less effective than in the USA.
- The business practices of processing companies in general are not opportune for the association. The following examples are the companies that were interviewed in the UDLA-study because they were considered possible clients of the association:
    - Sabormex/La Sierra (Mexico City): They want the crop to be delivered at their plants and buy huge amounts (20 thousand tons p.a.). They prefer to buy from other states, require cleaned crops and pay 12/13 MXP/kg.

    - La Morena (Huamantla): This company also prefers to buy from other states offering better prices and bigger harvests. They only pay 7 MXP/kg and the crop has to be delivered to their plant. They buy 50 tons of Negro and 90 tons of Flor de Mayo, but the latter one is not used to be cultivated by the association.
    - Grupo Corvi/Abarrotes Sahuayo (Mexico City): Beans need to be delivered at their plant, as well. Suppliers have to contact them. They buy all over the country.
    - Tienda CROM (Cholula): This is a smaller company; it only buys 20 tons a year. It requires packed beans, delivered to their store.
- Thus, packing companies use to buy much higher amounts. The producers would need to transport the beans to their clients' plants and fulfill certain periods of delivery because not all companies buy throughout the whole year. Furthermore, the state of Puebla is not well positioned as a dry bean deliverer compared to other Mexican states.
- Experts estimate that it is very difficult to sell directly to the urban supply centers as they send out their own teams to the villages to buy. For the producers it is not very promising to contact them directly on their own initiative.

Summary and Conclusion:

The results of the analysis are summarized in a SWOT Matrix. (see Table 4.4)

SWOT Matrix for the Association of Bean Producers in Las Palmas

	Strengths	Weaknesses
Internal	- Experience in dry bean cultivation - Reduction of living costs by auto-consumption (basic aliment) - Different kinds of clients - Positive attitude towards selling in conjunction - Already organized as an association - Current storage room big enough - Two pick-up trucks to transport crop - No complete dependence on selling beans	- Low crop quality - Low selling prices - Resistance to change - Association not working - Low yield below state average - Small-holdings (less productive) - Mostly not profitable - One or two clients per producer - Dependency on wholesale traders - Difficulties to get favorable clients - Small total amounts of harvest - Strongly affected by missing rainfalls - Significant part of auto-consumption - Inflexible in terms of time and place of selling - Little entrepreneurial spirit.
	Opportunities	**Threats**
External	- Several government support programs - Wholesalers signalized possibility of abolishing intermediaries - High improvement potential of irrigation - Many investigations and rural development projects - Examples of successful project implementations - Support from the government to the region - Processing companies mainly the variety the association cultivates most (Negro)	- Highly competitive North American dry bean - Missing self-invoicing system - Unfavorable climatic conditions - Rainfalls hard to forecast - High costs of sinking a well - Vulnerable crop - Gap between theory and practice - High price insecurity - Erosion - Decreasing demand for dry beans - Thin commercial structure of dry beans - Business practices of processing companies and urban supply centers not opportune for the association

Table 4.4 Own Compilation

The association of dry bean producers of Las Palmas has a list of different abilities and resources that it applies to produce and to commercialize its beans. Their experience, basic equipment, organization and their economic diversification form the base of operation. Though, their production and commercialization processes are not that strong in terms of productivity, yield, flexibility and reliability.

Several external factors challenge the business of the bean farmers, from climatic conditions, market deficiencies and inconvenient commercialization conditions, to competitive pressure and little efficiency of development programs. Nevertheless, a variety of official support program are available, the fact that investigations and improvement projects have proved to have a considerably high potential and opportunities in the commercialization channels, offer them possibilities of growth and stability.

Strategic approaches need to take advantage and develop the strengths of the association, eliminate the weaknesses or at least reduce their impact. This should be done taking advantage of the opportunities and developing defense against the negative external factors that threaten the existence and the success of the bean famers' business.

4.3.2. Analysis of Porter's Five Forces

To complement the analysis of the internal conditions and external factors provided by the SWOT Matrix another analysis is applied in this section. The SWOT analysis focuses on the general environment of the business, i.e. sociocultural, political, demographic and political/legal and global elements. The analysis of the Five Forces provides a picture of the major forces taking effect in the industry environment and affecting the opportunities of the companies in the industry of making profits.

In this case, we talk about the industry of dry bean production, principally in Mexico but also in the United States as the producers their also impact the competitive pressures. In general, the information for the evaluation of the strength of each force originates from the precedent studies described in Chapter 2. Additional information from other sources has references.

1st Force: Strength of rivalry

The following aspects determine the strength of rivalry in an industry, which is the strongest of the Five Forces in terms of its impact on the performance of a company.

- Number of companies in the industry: In the industry of dry beans there are many producers all over the country and as well in the United States. Agriculture is an important sector of the Mexican economy and dry beans are one of most important crops in the country. In rural areas, a great number of farmers cultivate it for auto-consumption and for commercialization.

  Conclusion: This aspect increases the level of rivalry.
- Similarity of characteristics of competitors: The majority of the bean farmers sell to a few big wholesalers and processing or packing companies. Only a small portion goes to other clients like agricultural associations or direct clients at local markets and communities. In operations there are some differences in the amount of technical and chemical equipment applied but in general the process of sowing, attending, harvesting, and threshing. In the further post-harvesting treatment, there are differences in the amount of value added by the producers; possibilities are e.g. cleaning, packing, processing, storage, transportation. The resources may also differ, such as soil quality, climatic conditions, equipment, experience and level of organization.

  Conclusion: This aspect increases the level of rivalry (moderately).
- Standardization of the product: Dry beans are a commodity; they have a very low level of differentiation.

  Conclusion: This aspect increases the level of rivalry.
- Growth rate of the market: The market contract slowly as demand for dry beans is decreasing.

  Conclusion: This aspect increases the level of rivalry.
- Fix costs: They are10% higher than the market average if producers do not use illegal pesticides and fertilizers. (García Bueno S. , 2011)

  Conclusion: This aspect increases the level of rivalry.
- Leaving the industry: There are moderately high barriers to exit for the producers in the industry. Tradition and the fact that their long-year experience is limited to this crop keep them from leaving. They could not easily change to a completely different industry due to a lack of skills, knowledge and resources, but they may have the chance of staying in the agricultural business and changing crops.

  Conclusion: This aspect increases the level of rivalry moderately.
- Strategic activities to gain competitive advantage: The majority of the producers are farmers in rural areas with a relatively low level of organization. They are not that

experienced and skilled in marketing. What they do is trying to improve crop quality and service (e.g. transportation) which can provide them with competitive advantage.

Conclusion: This aspect does not affect the level of rivalry considerably.

- Switching costs and customer loyalty: Buyers can easily switch providers without incurring considerable costs as there are lots of producers and dry beans are a commodity. For the same reason there is low customer loyalty; bean farmers do not have brands.

  Conclusion: This aspect increases the level of rivalry.

From the above mentioned aspects concludes that the overall level of rivalry in the market is high.

2nd Force: Threat of new entrants

- Number of potential entrants and their capacity to be successful: The number of possible new entrants to the dry bean industry is low. The rural areas are already divided between the farmers; experience is necessary to be successful. Possible entrants would be farmers that cultivate other crops at the moment but because of the low bean prices, the great number of current producers, and adverse climatic conditions, switching crops is not that attractive.

  Conclusion: This aspect reduces the threat of new entrants.

- Differentiation of the product: The product is highly standardized as it is a commodity.

  Conclusion: This aspect increases the threat of entrants moderately.

- Required initial investment/capital: Compared to the required investments in the processing industries, initial investments in agriculture are relatively low because land prices in rural areas are low, the investment in technical equipment, e.g. tractors, depends on the size and the desired level of technification. Some additional investment may be necessary for storage houses and vehicles for crop transportation.

  Conclusion: This aspect neither reduces nor increases the threat of new entrants.

- Brand preferences and customer loyalty: Both are low as the farmers have no brands that would create higher customer loyalty.
- Conclusion: This aspect increases the threat of new entrants.

- Access to distribution channels: For dry bean producers it is somewhat difficult as the wholesalers and processing companies usually already have their clients and preferred regions. They have certain requirements but for a well-organized and normally equipped enterprise they should be achievable.

  Conclusion: This aspect decreases the threat of new entrants moderately.
- Switching costs: Switching costs for buyers are low as dry beans are a commodity; there are many producers, hardly any price differences and contractual obligations.

  Conclusion: This aspect increases the threat of new entrants.
- Demand: The demand of dry beans is decreasing in the Mexican market.

  Conclusion: This aspect decreases the threat of new entrants.

From the above mentioned aspects concludes that the threat of new entrants to the industry is moderate.

3rd Force: Substitute products

- Existence or possibility of substitutes: There are several aliments that could substitute dry beans, such as rice, lentils, potatoes and meat.

  Conclusion: This aspect increases the threat of substitute products.
- Satisfaction of needs: The mentioned aliments satisfy the nearly the same needs as dry beans. As filling side dishes, one can eat rice, lentils and potatoes. To ingest similar amounts of proteins, dry beans can be substituted by tuna, veal and chicken. The positive affects dry beans have on the skin can hardly be substituted by a similar aliment. (Pamplona Roger, 1999)

  Conclusion: This aspect increases the threat of substitute products moderately.
- Price attractiveness: Rice, lentils and potatoes have a similar price, while meat is more expensive than dry beans. Neither of both groups of substitutes satisfies both of the most important needs satisfied by dry beans. Thus, combining both groups to reach the same effect would be more expensive. The mentioned substitutes need less time of preparation so that energy and time consumption would be less, which reduces the disadvantages of the higher purchasing price.

  Conclusion: This aspect neither increases nor decreases the threat of substitutes.
- Switching costs: There are hardly any switching costs, besides the more complex storage of potatoes, fish and meat, and the shorter storage life which causes more frequent purchases.
- Conclusion: This aspect decreases moderately the threat of substitutes.

From the above mentioned aspects concludes that the threat of substitute products is moderate.

4th Force: Bargaining Power of Suppliers

- Suppliers of dry bean producers are all the companies that provide the necessary inputs, such as seeds, fertilizers, pesticides, agricultural tools and vehicles.
- Number of suppliers: There is a great numbers available in the bigger cities of the state, especially in its capital Puebla.

  Conclusion: This aspect decreases the bargaining power of suppliers.
- Standardization of the product and switching costs: The products are to a certain extend standardized, especially fertilizers and pesticides; seeds are only standardized within the same region, as their adjustment to geographic and climatic conditions differentiates from one region to another, even for the same variety. Switching costs are moderate as there are no contractual obligations and little price differences. Total acquisition costs may be somewhat higher if producers switch from a regional supplier to a one that is farer away (trip, transportation)

  Conclusion: This aspect moderately decreases the bargaining power of suppliers.
- Existence of substitutes: Substitutes for seeds do not exist, unless producers would like to switch crops. Chemical fertilizers may be substituted by organic ones, though they are less effective. For pesticides there are no real substitutes, except for some more expensive, improved and resistant varieties.

  Conclusion: This aspect increases moderately the bargaining power of the suppliers.
- Capacity of industry members to produce their own inputs: Dry bean producers can produce their own seeds but they will not reach the same quality as a professional, specialized seed manufacturer. Producing agrochemicals themselves is hardly possible.

  Conclusion: This aspect moderately increases the bargaining power of suppliers.
- Amount of purchase from suppliers: The amount of purchase of each of the members of the dry bean industry depends on the size of its fields and on the quantity of seeds sown per hectare. The typical small producer does not buy considerably high amounts.

  Conclusion: This aspect increases the bargaining power of suppliers.
- Portion of total supplier production: Which portion of the suppliers' production the dry bean producers buy, depends on the size of both of them. Though, dry bean

producers tend to be small while seed manufacturers and producers of agrochemical tend to be bigger because of their level of specialization and the economies of scale.

Conclusion: This aspect increases the bargaining power of suppliers.

From the above mentioned aspects concludes that the bargaining power of suppliers is high.

5th Force: Bargaining Power of Clients

- Clients of dry bean producers are principally wholesale traders or processing companies, and to a smaller extend also consumers.
- Level of information of clients: The clients are usually well-informed about products, prices and costs, as beans are a commodity, and as they specialize in trading this crop (wholesalers, processing companies) or as it is one of their basic aliments (consumers).

  Conclusion: This aspect increases the bargaining power of the clients.
- Importance of crop quality for final product quality: Crop quality is important for final quality but there are many producers, and many have the potential of delivering good quality so that buyers can switch producers if one of them cannot offer the required characteristics.

  Conclusion: This aspect increases the bargaining power of the clients.
- Capacity of clients of taking control of the companies: There are only some buyers and they are big so that they have the potential of taking control over producers, either completely, by acquiring farm land and hiring experienced farmers or partially, by closing contracts that bind producers under certain conditions that may be nearly completely dictated by the powerful buyers.

  Conclusion: This aspect increases the bargaining power of the clients.
- Switching cost: Switching costs for buyers are low because the usually do not have contracts with producers or only for the following harvest. Prices are very similar and there are many producers.

  Conclusion: This aspect increases the bargaining power of the clients.
- Purchase volume compared to total production: Buyers use to buy big amounts as many of them are volume wholesalers or big processing companies.

  Conclusion: This aspect increases the bargaining power of the clients.

- Flexibility of clients in purchasing decision (place and time): Buyers can determine when they want to buy the beans and where they want to pick them up or where they want them to be delivered.

  Conclusion: This increases the bargaining power of the clients.
- Standardization of product: The product is a commodity and for this reason largely standardized. Though, producers can differentiate themselves by quality and value added (treatment, storage, packing, transportation).

  Conclusion: This aspect neither increases nor decreases the bargaining power of the clients.
- Development of demand: Demand for dry beans in the Mexican market is decreasing.

  Conclusion: This aspect increases the bargaining power of the clients.

From the above mentioned aspects concludes that the bargaining power of clients is high.

Final Conclusion

The interaction of the Five Forces determines the attractiveness and the possible profitability of the industry of dry bean production. The competitive forces affecting the producers of dry beans are quite strong. (see Table 4.5)

Porter's Five Forces in the Industry of Dry Bean Production

Force	**Intensity**	**Attractiveness**
Strength of rivalry	Strong	Low
Threat of new entrants	Moderate	Moderate
Substitute products	Moderate	Moderate
Bargaining power of suppliers	Strong	Low
Bargaining power of clients	Strong	Low
Collective impact of the forces	**(Rather) strong**	**(Rather) unattractive**

Table 4.5 Own Compilation

Thus, it is hard for the industry members to earn attractive profits. Those strong forces may drive some enterprises to leaving the industry. For the strategy making of the

companies that decide to stay in the industry, this analysis provides useful information that promotes sound decision about how to match the strategy of the association in Las Palmas to the particular competitive pressures and conditions: by protecting the association as much as possible from the existing competitive pressures and by taking actions to shift the competitive battle in favor of those bean producers and to put more pressure on rivals.

4.4. CRAFTING A STRATEGY

The previous steps are the base for developing a concept of the general strategic approach of the association and the concrete measures to take in order to realize the strategy: The aim is achieving the objectives defined in the BSC, operating according to the mission, and getting constantly closer to the vision. The theoretical fundaments have been explained in Chapter 2.

4.4.1. CORPORATE STRATEGY: GENERAL STRATEGIC APPROACH

The general strategic approach defines the overall strategic direction of the association of dry bean producers in Las Palmas.

Generally, there are four levels of strategy, each of the lower levels contributing to the achievement of the respective upper level. In the case of the association, the first two levels corporate strategy and business-line strategy are the same as the business only consists of one business line: dry bean production. Functional and operational level are also merged as the association hardly has hierarchical levels, and does not even have a formal functional division. Nevertheless, all the functional level such as finance, marketing, operation, etc. are realized somehow. That is why strategies for the functional levels yet should be developed. Though, extending strategies further, i.e. to the operational level, is not necessary, due to the mentioned simple organizational structure.

Porter's generic strategies describe the general strategic orientation of a company. They are defined by two basic dimensions: the size of the target market (broad or narrow) and the basis for competitive advantage (low cost or differentiation).

Firstly, to decide whether to base competitive advantage on low cost or on differentiation, a list of required conditions that make any of them powerful was consulted. (Thompson et. al, 2006) The characteristics required for successful

differentiation are not fulfilled by the business environment of the dry bean association in Las Palmas. Yet, the requirements for a low cost approach are:

1) Price competition among rival sellers is especially vigorous: There are many sellers, the product is a commodity, and the buyers are powerful. Price pressure is the logical consequence.
2) The products of rival sellers are essentially identical, and supplies are readily available from any of several eager sellers: Dry beans are a commodity and there are many sellers, distributed in nearly every Mexican state and in the USA.
3) There are few ways to achieve product differentiation that have value to buyers: The crop is a commodity and the only slight opportunity of differentiation seems to be quality. Another chance would be organic production but at the moment this is not a major trend in the Mexican market, yet. All in all, buyers do not see many differences and for this reason search the market for best price.
4) Most buyers use the product in the same way: Beans are principally sold to packing or processing companies that pack them unprocessed in to plastic bags or processed into cans or bags. Final customers use beans as a basic aliment that fills the stomach and provides proteins and other important nutritive substances.
5) Buyers incur low costs in switching their purchases from one seller to another: There are many sellers, buyers have no contractual obligations (or max. for one year), and the offers are very similar.
6) Buyers are large and have significant power to bargain down prices: This is also true for the dry bean industry where buyers are principally high-volume wholesalers and big processing companies. Their pressure on price is significant.
7) Industry newcomers use introductory low prices to attract buyers and build a customer base: This condition is not fulfilled. There are hardly any newcomers and cutting down prices further would be difficult as they are already at a very low level.

Secondly, firms need to decide whether to focus on a niche or to target the market as a whole. The dry bean market does not offer considerably attractive niches. It is a national (and international) commodity market. The big buyers and processors are situated in the big cities, mainly in center of the country. Regional markets for consumption would be a niche but they do not demand the amounts the association wants to sell or it would require much more commercialization effort because of the spread/distribution of

markets and consumers and because of the small, individual amounts final customers use to buy.

Another basic strategic approach mentioned in Chapter 2 is forming alliances. Strategic alliances are arrangement for the cooperation of two or more companies where they join forces to achieve beneficial outcomes for each involved party. If the members of the association really cooperate and actually behave as one business and not as individual producers anymore, they can take advantage of the benefits strategic alliances provide. They need to decide in which activities it is beneficial to cooperate. The most important opportunities of bundling competencies and resources are cultivation and commercialization.

- Cultivation: Producers could join fields to have only one or two cultivation areas for each variety of beans. The viability of this option depends mainly on the geographic conditions. To take advantage of bigger cultivation areas by increasing productivity, better technical equipment is also required. Thus, this measure should not be taken before the association raises the necessary funds (by retained profits or by a support program) and acquires technical equipment for cultivation.
- Commercialization: Together they could sell a much bigger amount of crop than each of them separately. This gives the producers a stronger negotiating position. If they also create joint facilities of storage (for the expected higher total amount of crop because of increased productivity) and joint means of transportation they are more flexible in time and place of delivery which would additionally boost their negotiating position.

Another basic strategic is vertical integration, which means taking over control of the previous or the following element of the value chain. In the case of the dry bean producers of Las Palmas, forward integration, i.e. assuming responsibility of what their buyers have done for them until now, could improve their economic situation. Forward integration would mean omitting the services of intermediaries, such as wholesalers and selling directly to processing or packing companies. This would increase their participation in the revenues generated along the value chain. This strategy requires bigger total amounts of crop and means of transportation but in conjunction with the other strategic measures this should be achieved.

To conclude, the recommended general strategic approach of the association, defined in this section is

- being an overall low-cost provider,
- using strategic alliance,
- and forward integration.

Those strategies can be characterized as an offensive approach (and not defensive one) as they intend to increase the participation of the association in the market and to improve the conditions/benefits of their participation for them.

4.4.2. Functional Strategy: Package of Strategic Actions

For the successful execution of the corporate strategy, concrete strategic measures for the different corporate functions need to be defined. In this section, the package of those strategic actions divided into the functional areas (operations/production, marketing, finance, human resources) is described. Furthermore, to each of the measures the strategic objectives (defined earlier) it helps to achieve are assigned. These following strategic actions intend to take advantage of the external opportunities identified, to reinforce the strengths of the association, to avoid or to minimize the impact of the weaknesses and strength and to confront the competitive forces of the industry.

Operations/Production

Cooperation among the members of the association:

- Description: Joining capacities and resources in production offers the potential of increasing productivity. Principal actions to realize would be joint acquisition and use of equipment, exchange of experiences and even joint use of cultivation areas to work them more effectively using the acquired technology to help. The concrete conditions and the probably necessary gradual increase of the intensity of cooperation need to be discussed openly and defined in a contract. The experience of the producers and their positive attitude towards cooperation in general, will be helpful. The cooperation should not be limited to cultivation, but also cover joint efforts and use of equipment and facilities for handling of crop, storage and selling (including transportation/delivery). Again, the concrete scope and conditions of this collaboration need to be defined.

- Related BSC objectives: Foster cooperation among the members of the association, Higher productivity, Innovation

Use of modern agricultural methods:

- Description: To be able to increase the productivity of cultivation, which is necessary to increase sales and profitability, the acquisition of technical equipment, agrochemicals (fertilizers, pesticides) and improved, certified seeds are recommendable measures. This cannot be realized all at once, as the acquisitions need to be financed and the producers need to be trained. The conjunction of the strategic measures aims to increase production amount, sales and profits, so that savings for investments would be possible. As the methodological improvements are an important base for achieving this growth, capital for initial innovations would boost progress. The list of opportunities for support in Mexico should be revised (government programs, organizations for rural development, loans for agricultural programs etc.). Some simple improvements like regular weeding, crop cleaning, good selection of seeds and sowing more densely (kg/hectare) also improve productivity and quality without huge investments.
- Related BSC objectives: Productivity, Revenue growth, Increase crop quality, innovation, Savings for investments

Assure water supply:

- Description: Lack of water is a limiting factor for the whole operation s of the association in dry bean production. Measures to eliminate or to alleviate are crucial for stability and success of the association. The construction of an irrigation system lends itself to the achievement of this objective. The two principal technical solutions to get the necessary water would be (1) sinking a well or (2) using rain water collection tanks. Sinking a well is probably the more expensive option for the costs of preliminary studies and perforation but it may also be the more reliable one as it provides water constantly while tanks would have to be quite big to collect enough water for the whole season (In this region there is a rainy season when all the annual precipitation falls and a dry season when there use to be no rainfalls at all.) To compare the costs and the viability of each option in detail, professional studies need to be made and funds need to be raised. Irrigation systems have already been implemented successfully in different regions of Mexico, also in the state of

Puebla. Partly, they were supported by official programs and/or organizations which could also be an opportunity for the association in Las Palmas. The Mexican government CONAGUA is in charge of all issues concerning water and its use and could be a first contact point to get more information.

- Related BSC objectives: Innovation, Higher productivity, Increase crop quality, Profitability.

Take advantage of development projects:

- Description: In agriculture and especially in dry bean production, there has been and there is a number of investigation and development programs dedicated to fostering the progress of agricultural production and rural communities. One example is the project in cooperation between PRODUCE and UDLAP that has been started just in the village of Las Palmas. The expertise of the investigators and the dedication of time and resources by the organizations can be a valuable opportunity and a starting point for a better future of the association and the whole rural community it operates in.
- Related BSC objectives: Innovation, Profitability, Create positive impact in the community

Marketing

Marketing messages:

- Description: Being the first part of the value chain, the producers of the association would hardly benefit from a marketing campaign about the list of positive, healthy attributes of their product. This would be the task of processing companies and/or retailers. Though, they should be attentive to the development of the organic food trend. In Europe this trend has gained a lot of importance and allows producers complying with certain requirements concerning cultivation methods, especially the use of agrochemicals, to charge organic premium prices. Promoting this effectively would still be responsibility of the processing companies or retailer but the association could offer them the required organic quality. This would add value to their crop. As mentioned before, reaching low costs to increase the margin or to be able to lower prices would not be enough but companies need to offer attractive product features or attributes or other benefits to their customers. The producers in Las Palmas are well-prepared for organic production as most of them have long

years of experience in traditional bean cultivation without (or with very few) artificial supplements. When the organic trend gains importance in Mexico as well, they should react immediately and try to establish themselves as organic producers able to provide their buyers with the necessary product.

- Related BSC objectives: Profitability, Customer satisfaction, Revenue growth, Increase crop quality, Innovation, Increase share in the regional market

No intermediaries:

- Description: Using the advantages of joint commercialization opens up new opportunities. They can improve their margin by skipping one part of the value chain and selling directly to the processing and packing companies. The joint amount of crop is considerable and if they use the existing pick-ups or even other means of transportation they can deliver directly to the plants. To be able to sell directly they need to be registered as a company to be able to invoice. This requires some official proceedings but is worth the effort, as it is not expensive but provides them with more amply business opportunities.
- Related BSC objectives: Profitability, Revenue growth, Improve commercialization, Foster cooperation among the members of the association

Extend customer base:

- Description: Depending on one or two big buyers is not recommendable if there is no fundament for long-term business relationships, like a contract. They should try to gain direct clients (processing companies), additionally or instead of the wholesalers. In addition to the big buyers, the association needs to have stable business relationships with some regional buyers, like local markets and private customers. This builds a foundation for basic income, contributes to regional development (role model, well-priced) and diversifies the customer base.
- Related BSC objectives: Increase share in the regional market, Create positive impact on the community, Improve commercialization

Take advantage of development projects:

- Description: As well as in operations, the expertise, the systematic approach and the resources of investigators and organizations can have a significant share in realizing the different strategic measures in the area of marketing.

- Related BSC objectives: Improve commercialization , Innovation

Finance

Support programs:

- Description: Many of the recommended strategic measures require capital investment, especially at the beginning (acquisition) but also regularly (e.g. yearly seed purchase). To cover the necessary initial investments, funds need to be raised. The applying government programs applying to dry bean cultivation are listed in Chapter 2 (PROCAMPO, Program of Induction and Development of Rural Financing, Program for the Sustainable Use of Natural Resources in Primary Production, PROMAF). They focus on different aspects of cultivation and offer different types of support (subsidies, loans, technical and strategic consulting). The viability of the strategy will depend on the ability of the association (and of their consultants) to obtain the necessary financial means.
- Related BSC objectives: Profitability, Increase crop quality, Increase productivity, Innovation

Savings:

- Description: In addition to the initial investments, constant improvements but also regular costs (e.g. maintenance, seed) need to be covered. With the money from increased revenues and more constant and productive cultivation, a certain level of savings for covering these costs and as a cushion for unexpected expenses should be built and put into a savings account to take advantage of interest payments. In addition to investment, a part of the savings should be used to contribute to the progress of their own community. The created wealth should benefit the village as a whole. Yet, they may give donations (time, money, crop) to social projects, infrastructure improvement or to specific members of the rural community going through difficult situations, e.g. diseases or consequences of accidents.
- Related BSC objectives: Savings for investments, Profitability, Innovation

Human Resources

Training and workshops:

- Description: Increasing skills and knowledge of the producers can make a significant contribution in improving yield, processes, organization and financial results of the association. Recommendable topics are business basics (finance, marketing, strategy, organization) and agricultural knowledge (bean production, irrigation, fertilizers, improved seeds, innovation). This training can awake more consciousness and understanding of the areas of opportunity and thus, it can help to awake the entrepreneurial spirit which is essential for progress. External consultants and investigators can only support them and give advices but if the producers do not understand and support the strategy themselves, all efforts are in vain. This is why they need the skills and should to participate in the thinking process of strategic planning and business planning. A culture of continuous learning can also serve as a motivator for the younger generation to seek for opportunities of studying agriculture and bean cultivation more in detail, e.g. university studies in agriculture and/or business administration, or other courses about specific agricultural or business topics.
- Related BSC objectives: Professional development of the members, Innovation, Profitability, Increase crop quality, Higher productivity, Improve commercialization

Meetings and forums:

- Description: To cooperate effectively and to exchange experiences, opinions and information, the members of the association should schedule regular meetings. Getting together more frequently and being well-informed about what is going on will create a feeling of community, increase the trust of the members in the association as such and give them the opportunity of planning together and sharing a common vision. The agricultural forums where at the moment usually attends only the president of the association, are another plenum of sharing experiences and learning from others sharing theirs. Furthermore, they can establish contacts and create a network. Increased entrepreneurial spirit (workshops) contributes to increasing the motivation of the members of attending those events as well.
- Related BSC objectives: Professional development of the members, Innovation